ORTH AMERICAN REE TRADE AGREEMENT

CANADIAN ENVIRONMENTAL REVIEW

October 1992

Canada

NORTH AMERICAN FREE TRADE AGREEMENT

CANADIAN ENVIRONMENTAL REVIEW

October 1992

Également disponible en français
Cat. No.: E74-54/1992 E
ISBN: 0-662-20141-8
October 1992

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I. INTRODUCTION

On February 5, 1991 the Prime Minister of Canada and the Presidents of the United States and Mexico announced their intent to pursue a comprehensive and trade-liberalizing North American Free Trade Agreement (NAFTA). The NAFTA would define the rights, obligations and disciplines of Canada, the United States and Mexico with respect to investment and to trade in goods, services and intellectual property. Formal negotiations were launched when trade ministers from the three countries met in Toronto in June 1991. The trade ministers concluded the negotiations in Washington, D.C. in August 1992.

To ensure that the NAFTA would be consistent with Canada's commitment to the protection of the environment and to sustainable development, as set out in the Green Plan, a four-point plan was adopted to integrate environmental concerns into each element of the NAFTA decision-making process.

First, environmental representatives were appointed to the International Trade Advisory Committee (ITAC) and to eight of the Sectoral Advisory Groups on International Trade (SAGITs). These important trade advisory bodies, which include 311 representatives from business, environment, labour and academia, report directly to the Honourable Michael Wilson, Minister of Industry, Science and Technology and Minister for International Trade. The environmental representatives on these committees ensure that environmental considerations are taken into account when the ITAC and SAGITs prepare recommendations for the government.

In the months ahead, these trade advisory bodies will continue to provide input into the development of Canada's contributions to the work programs on the relationship between trade and the environment that are now under way through the Organization for Economic Co-operation and Development (OECD) and the General Agreement on Tariffs and Trade (GATT). The environmental innovations included in the NAFTA will set new benchmarks for the OECD and GATT processes. In turn, these will affect how environmental concerns are reflected in future trade agreements.

The second part of the plan was the inclusion of trade-related environmental issues as an integral component of all phases of the NAFTA negotiations. For example, one NAFTA negotiating group was specifically tasked with addressing trade-related environmental standards. Canada's standards negotiators were responsible for ensuring, among other objectives, the continuing right of governments in Canada to establish, to maintain and to enforce environmental standards that reflect Canadian conditions and Canadian priorities. The integration of environmental concerns in the negotiating process is a preventive approach. It sets a precedent that will be continued in future trade agreements.

Similarly, environmental matters were made an important aspect of the discussions in several other negotiating groups. Environmental objectives addressed during the negotiations included the identification of sustainable development and environmental protection and conservation as fundamental objectives of the NAFTA; the prevalence, in the event of inconsistency, of trade obligations set out in international environmental and

conservation agreements over the NAFTA trade disciplines; acceptance of a commitment that governments refrain from offering derogations from generally applicable environmental measures for the purpose of encouraging an investment; co-operation, on a continental basis, on the enhancement of environmental standards and their enforcement; and placement of the burden of proof in a dispute on any nation challenging an environmental standard of another country.

The third aspect of the plan involved the initiation of parallel discussions on environmental co-operation. The NAFTA negotiations served as an important catalyst for a marked expansion of the level of bilateral Canada-Mexico environmental co-operation as well as for agreement on the need for a new trilateral mechanism.

Canada-Mexico bilateral co-operation on the environment was significantly enhanced by the March 1992 announcement of a series of projects, valued at $1 million, that focus on environmental monitoring and enforcement capabilities. Combined with the $0.9 million previously allocated for environmental projects in Mexico, this increased total commitments under the 1990 Canada-Mexico Agreement on Environmental Co-operation to $1.9 million.

A new trilateral approach to addressing continental environmental issues was initiated on September 17, 1992 during an inaugural meeting of environment ministers from the three NAFTA countries. During their first meeting the ministers signed a Trilateral Memorandum of Understanding on Environmental Education and agreed that a formal North American Commission on Environmental Co-operation should be created.

The fourth aspect of the government's plan to bring environmental considerations into the NAFTA decision-making process was that the Agreement would undergo an environmental review. It is the first trade agreement to do so. The review includes an analysis of the potential environmental effects of the NAFTA on Canada's environment and on the right of Canadians to determine the level of environmental protection that would be most appropriate for Canada.

The review was conducted by the NAFTA Environmental Review Committee, comprising representatives from several government departments. The Review Committee was assigned two fundamental objectives. The first was to ensure that the potential environmental effects of the various negotiating options would be taken into account throughout the negotiations. The second objective was to document the potential effects of the Agreement.

In carrying out its functions the Committee assembled and reviewed reports and data from Canadian and foreign governmental and non-governmental sources; met regularly with members of Canada's negotiating team; exchanged information with U.S. and Mexican officials; consulted with members of the trade advisory committees; organized a workshop and two special briefing sessions on NAFTA and the Environment; and provided input for Memoranda to Cabinet.

This report presents the findings of the NAFTA Environmental Review Committee.

II. ENVIRONMENTAL REVIEW PROCESS AND METHOD

This chapter begins with an overview of the purpose of environmental policy review. The chapter then presents the Terms of Reference that were given to the NAFTA Environmental Review Committee and describes the activities that were undertaken to fulfil its mandate.

A. THE PURPOSE OF ENVIRONMENTAL POLICY REVIEW

As set out in Canada's Green Plan, the objective of sustainable development is "To secure, for current and future generations, a safe and healthy environment and a sound and prosperous economy."[1] The Green Plan outlines a strategy for achieving this objective identifying, as one priority, the need to accelerate actions to ensure environmentally responsible decision-making within the federal government. In particular, it affirms the commitment by the government to integrate environmental considerations into the policy-making process.

Environmental review has two principal objectives. The first is to improve decision-making by identifying opportunities to maximize environmental benefits and to avoid or minimize negative impacts. The second is to provide information on the environmental effects and related consequences of alternatives, so that environmentally responsible choices can be made from among the various options available. Long utilized as a means to improve planning and decision-making related to projects, environmental review is now recognized as an important tool for ensuring that environmental concerns are given early consideration in the formulation of government policies.

The nature and character of policies differ substantially from those of projects. Policies are frameworks that set guidelines or parameters within which subsequent project decisions are made and actions are taken. Policies can rarely be subjected to the same type of quantitative and predictive analyses that are associated with the assessment of projects, such as the construction of a dam, a mine or a factory. The potential environmental impacts of certain policies cannot be either appraised or fully anticipated in advance of their implementation. The environmental effects of the NAFTA will depend on the trade action and investment decisions taken as a result of the Agreement. However, while the environmental review of policies differs from that of projects, the fundamental purpose remains the same: to ensure the systematic consideration of environmental factors throughout the planning and decision-making stages.

The process of reviewing policies for their environmental implications is very much in its infancy. Canada is one of only a few countries that have such a process. Methodologies for the environmental review of policies are still being developed.

The NAFTA is the first trade agreement to be subjected to an environmental review. However, as demonstrated by this review, the policy appraisal process can provide both an awareness of the potential environmental impacts and a framework for addressing environmental concerns that may arise later. In other words, a primary benefit of an

1. Government of Canada, Canada's Green Plan.

environmental review is that it is preventive to the extent that the review anticipates and minimizes future environmental problems.

The NAFTA Environmental Review focuses on the environmental implications for Canada. Each of the NAFTA countries is responsible for its own environment and thus for undertaking its own review. Circumstances in the U.S. and Mexico were considered only as they related to transboundary issues.

B. FEDERAL ENVIRONMENTAL POLICY REVIEW

In June 1990, the Government of Canada announced a series of reforms to the federal Environmental Assessment and Review Process (EARP). The reform package included a new, non-legislated environmental impact examination process that would apply to policy and program initiatives submitted to the federal Cabinet for consideration.

The Honourable Michael Wilson, Minister of Industry, Science and Technology and Minister for International Trade, decided, prior to the commencement of formal negotiations, that the North American Free Trade Agreement would undergo an environmental review.

Canada's environmental review process requires that, prior to their final consideration by Cabinet, policy or program proposals be examined for environmental implications. In the event that a proposal could have environmental effects, a statement on these is included in the documentation prepared for consideration by ministers.

Sponsoring departments, in this case External Affairs and International Trade Canada, are responsible for ensuring the review of environmentally relevant policy and program proposals and, where appropriate, for issuing a public statement on the potential environmental implications of the initiative. Environment Canada provides guidance on the methods for conducting a review, and technical and scientific advice on the anticipated environmental impacts.

C. THE NAFTA ENVIRONMENTAL REVIEW COMMITTEE

Responsibility for conducting the environmental review was assigned to an interdepartmental working group including representatives from the departments of External Affairs and International Trade; Agriculture; Energy, Mines and Resources; Environment; Finance; Fisheries and Oceans; Forestry; Industry, Science and Technology; and Transport. The Committee was supported by a technical expert advisory group from Environment Canada.

Annex 1 sets out the Terms of Reference of the Committee. Its two primary objectives were to ensure that environmental considerations were taken into account during all stages of the negotiating process; and to conduct and document a review of the potential environmental effects of the NAFTA on Canada.

This dual-track approach, employed for the first time in the negotiation of a trade agreement, guaranteed that environmental issues were taken into consideration at all stages of the decision-making process. It proved useful in identifying potential areas of concern and, in certain instances, led to extensive deliberations on which negotiating option would best address these potential problem areas. The analyses contained in this

review have the benefit of input from negotiators, provincial representatives and environmental organizations.

As provided for in its mandate, Committee representatives met regularly with key members of the NAFTA negotiating team. These meetings had four principal objectives:

1. To obtain detailed information and analyses on the issues and options under negotiation;

2. To provide an initial screening for potential environmental implications of the Agreement;

3. To heighten the negotiators' awareness of environmental concerns; and

4. To discuss the potential environmental effects of the different negotiating options.

In addition, Committee members continuously reviewed the evolving draft of the NAFTA and provided comments for Memoranda to Cabinet on the environmental content of the negotiations.

The Committee met with officials responsible for drafting the Review of U.S.-Mexico Environmental Issues as well as with Mexico's Deputy Minister of the Environment. It collected and reviewed literature from both Canadian and foreign sources on the potential relationship between trade and the environment. Finally, it engaged in the consultative process described below.

D. CONSULTATION

The federal government established an extensive stakeholder consultation process for its trade-related activities. This process provided environmental input for the NAFTA negotiations and for the environmental review.

Federal and provincial ministers and officials met regularly to discuss the status of the NAFTA negotiations, including the environmental content of the discussions. The Chairperson of the NAFTA Environmental Review Committee was in frequent contact with provincial officials.

Representatives from industry, environmental organizations, labour and academia were consulted through the ITAC and the 15 SAGITs. The ITAC and SAGITs report directly to the Minister for International Trade. During the course of the negotiations, senior NAFTA negotiators provided these important trade advisory bodies with frequent status reports on the trilateral discussions, including information on their environmental content.

The NAFTA Environmental Review Committee undertook several specific initiatives to obtain input from non-government sources, including environmentalists, who made a positive and constructive contribution throughout the negotiations. All ITAC and SAGIT chairpersons and environmental representatives were invited to meet with the Chief Negotiator and senior negotiators on February 25, 1992. This meeting included presentations and discussions on the potential environmental content of the NAFTA and on the anticipated process and scope of the environmental review.

Non-government input was also sought during a workshop on NAFTA and the Environment on April 14, 1992. All ITAC and SAGIT representatives were invited to participate in the workshop as were several environmental organizations that were not members of the trade advisory bodies.

The workshop provided an opportunity for ITAC and SAGIT participants to review Canada's environmental priorities for the NAFTA with the negotiators and to discuss the status of the various environmental issues under consideration in the negotiations. The workshop also included exchanges on the nature and scope of the environmental review; the status and content of the parallel discussions; and initiatives on trade and the environment under way at the OECD, the GATT and the United Nations Conference on Environment and Development (UNCED).

In its conclusions the workshop recommended that (a.) the ITAC and SAGITs should remain the principal forums for government-private sector consultation on policies related to the linkages between trade and the environment; (b.) environmental representation on the ITAC and SAGITs should be strengthened; and (c.) the Terms of Reference of the environmental review should be made available to the public. All of these recommendations were accepted by the government.[2]

In April 1992 the Committee extended an invitation for individual or collective meetings to all ITAC and SAGIT environmental representatives. During the April 14 workshop the invitation was extended to all other ITAC and SAGIT members.

On September 16, 1992 an overview of the environmental provisions of the NAFTA and of the structure of the NAFTA Environmental Review was presented to a meeting of ITAC and SAGIT members, as well as to representatives of several non-member environmental organizations.

The Federal-Provincial Committee on the NAFTA (C-NAFTA), at both the ministerial and official levels, constituted the primary mechanism for consultation with the provinces. The Minister for International Trade, the Chief Negotiator, the Deputy Chief Negotiator and the senior negotiators met regularly with provincial ministers and officials, respectively, to discuss the status of the NAFTA negotiations, including their environmental content.

The Chairperson of the NAFTA Environmental Review Committee consulted with the provinces through the Federal-Provincial Committee. In addition, provincial officials frequently asked to discuss the environmental aspects of the negotiations and the scope and content of the environmental review.

Environmental organizations regularly contributed their views. The Committee considered comments submitted on trade and the environment from one province[3] and from the

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2. A report on the proceedings of the April 14, 1992 Workshop on NAFTA and the Environment is available, on request, from the Trade Communications Division, External Affairs and International Trade Canada, 125 Sussex Drive, Ottawa, Ontario, K1A 0C5.

3. Paul West and Paul Senez, Environmental Assessment of the North American Free Trade Agreement.

following Canadian environmental organizations: Pollution Probe;[4] Canadian Environmental Law Association;[5] West Coast Environmental Law Association;[6] and Action Canada Network, Canadian Centre for Policy Alternatives and Common Frontiers.[7] In addition, three joint submissions were received: one on behalf of four Canadian, nine Mexican and 10 U.S. environmental groups; the second from seven Canadian and four U.S. environmental groups; and the third from six Canadian, 28 Mexican and 17 U.S. environmental organizations.[8] The Committee also reviewed submissions prepared by certain U.S. environmental groups.[9]

The recommendations of the environmental organizations, as well as those of the many individual Canadians who wrote to the Minister for International Trade, assisted the Committee members in identifying environmental priorities for discussion with the NAFTA negotiators.

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4. Janine Ferretti, The Environmental Dimensions of Free Trade.

Janine Ferretti, Proposed Amendments to the Draft North American Free Trade Agreement.

Janine Ferretti, Statement of Janine H. Ferretti on Behalf of Pollution Probe.

Pollution Probe Foundation, Canadian Trade Negotiators Should Finish the Job.

Pollution Probe Foundation, Will North American Free Trade Pass the Green Test?

5. Michelle Swenarchuk, Notes for a paper presented at the Seventh Annual Conference on Canada and International Trade.

6. Chris Rolfe, Environmental Considerations Regarding a Possible Mexico-Canada Free Trade Agreement.

7. Action Canada Network, North American Free Trade Agreement: Draft Text: Preliminary Briefing Notes.

8. Binational Statement on Environmental Safeguards that Should be Included in the North American Free Trade Agreement (NAFTA). Endorsed by the following Canadian environmental groups: Canadian Nature Federation, Canadian Environmental Law Association, Sierra Club, Cultural Survival, Friends of the Earth, Rawson Academy of Aquatic Sciences, and Pollution Probe.

Common Declaration by Environmental Groups in Mexico, the United States and Canada Regarding the North American Free Trade Agreement. Endorsed by the following Canadian environmental groups: Pollution Probe, Canadian Arctic Resources Committee, Canadian Environmental Law Association, and the Rawson Academy of Aquatic Sciences.

Concerns of North American Environmental Organizations Regarding the Trade Agreement. Endorsed by the following Canadian environmental groups: Canadian Nature Federation, Cultural Survival, Friends of the Earth, Pollution Probe, Sierra Club, and the Rawson Academy of Aquatic Sciences.

9. Environmental Safeguards for the North American Free Trade Agreement. Endorsed by 13 U.S. non-governmental organizations.

National Wildlife Federation, Environmental Concerns Related to a United-States-Mexico-Canada Free Trade Agreement (Draft).

National Wildlife Federation, Trade and the Environment: Information Packet.

E. CONTENT OF THE REVIEW

The NAFTA Environmental Review Committee examined concerns related to the potential environmental effects of the Agreement from four perspectives. These are discussed in four individual chapters of the review:

- Chapter III, Environmental Provisions, examines the implications of the NAFTA provisions that are of particular relevance to environmental concerns;

- Chapter IV, Environmental Screening, assesses the potential impact of the NAFTA on Canada's environment;

- Chapter V, Industry Migration, analyses concerns that Canadian industry could leave Canada to take advantage of less stringent environmental regulations elsewhere; and

- Chapter VI, Follow-Up Mechanisms, identifies the mechanisms that will permit the relationship between trade and the environment to continue to be addressed following the signature of the NAFTA.

The conclusions of the NAFTA Environmental Review Committee are summarized in Chapter VII. Annexes 1-10 contain background information that assisted the Committee in developing its conclusions.

F. CHAPTER SUMMARY

Since 1990 the federal government has required that new policy or program initiatives having potentially significant environmental implications undergo an environmental review. Policies can rarely be subjected to the same type of quantitative and predictive analyses that are associated with the assessment of projects. However, the review process can be used to develop an understanding of the general nature of the possible environmental impacts of a policy, and to provide a framework for addressing environmental concerns that may arise at later stages.

Prior to the initiation of the negotiations, the Minister for International Trade decided that the proposed North American Free Trade Agreement would be subjected to such a review. The NAFTA thereby became the first proposed trade agreement to undergo an environmental review.

The work of the NAFTA Environmental Review Committee included detailed briefings and discussions with members of Canada's negotiating team to obtain information on the various provisions and options that were being considered; access to drafts of the NAFTA text as it evolved during the course of the negotiations; review and input into communications between the negotiating team and Cabinet; and discussions with environmental organizations, the provinces and individual Canadians on the major environmental concerns that needed to be addressed in the context of the NAFTA negotiations and in the environmental review.

Consultations were held through the Federal-Provincial Committee on the NAFTA, as well as through the International Trade Advisory Committee and the Sectoral Advisory Groups on International Trade. On several occasions during the negotiations, Committee

members discussed the environmental content of the negotiations and the scope, process and content of the review with provincial representatives.

Meetings focusing on the environmental dimension of the negotiations were held with ITAC and SAGIT representatives on February 25, April 14 and September 16, 1992. In April, individual invitations were extended to all ITAC and SAGIT environmental representatives to meet with the Committee. An open invitation to all other ITAC and SAGIT members to do likewise was extended during the April 14 workshop.

The second primary objective of the Committee was to prepare an environmental review of the Agreement for submission to Cabinet. The analytical content of the review focuses on an evaluation of the Agreement from four broad perspectives: the implications of those provisions of the NAFTA that are of particular relevance to environmental concerns; an environmental screening; the possibility that investment might migrate to areas characterized by different environmental practices; and mechanisms to ensure that the relationship between trade and the environment will be addressed after the completion of the negotiations.

III. ENVIRONMENTAL PROVISIONS

This chapter has three main functions. First, it addresses the question of extraterritoriality, an issue that is of fundamental importance in determining the choice of environmental policies. Second, the chapter identifies how environmental concerns have been incorporated into the text of the NAFTA. Finally, the chapter analyses certain environmental proposals that are not reflected in the Agreement.

A. CONTEXT OF THE CHAPTER

Although the NAFTA is a trade agreement, all three countries recognize that trade can affect the environment, both positively and negatively. At the beginning of the negotiating process, it was agreed that trade-related environmental issues would be treated as an integral component of the negotiations, while environmental issues that were not trade-related would be considered in parallel discussions. An overview of the latter is presented in Annex 7.

Many of the 22 chapters of the draft NAFTA contain provisions that could affect the environment. However, certain of these provisions would be of significantly greater relevance to the environment than would others. Oral and written comments received from the provinces, environmental organizations[10] and individual Canadians assisted the NAFTA Environmental Review Committee in identifying the most prevalent environmental concerns associated with the Agreement.

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10. Action Canada Network, North American Free Trade Agreement.

Binational Statement on Environmental Safeguards that Should be Included in the North American Free Trade Agreement.

Common Declaration by Environmental Groups in Mexico, the United States and Canada Regarding the North American Free Trade Agreement.

Concerns of North American Environmental Organizations Regarding the Trade Agreement.

Ferretti, The Environmental Dimensions of Free Trade.

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Ferretti, Statement of Janine H. Ferretti on Behalf of Pollution Probe.

Pollution Probe, Canadian Trade Negotiators Should Finish the Job.

Pollution Probe, Will North American Free Trade Pass the Green Test?

Rolfe, Environmental Considerations.

Swenarchuk, Notes for a paper presented at the Seventh Annual Conference on Canada and International Trade.

B. EXTRATERRITORIALITY

Extraterritoriality occurs when one country unilaterally attempts to extend, directly or indirectly, the reach of its policies into the jurisdiction of another country. A Canadian consensus on the advantages and disadvantages of extraterritoriality is a prerequisite to engaging in a meaningful discussion of certain of the recommendations that have been made in the context of the public debate on NAFTA and the environment.

With the exception of certain measures based on a broad international consensus to which it adheres, Canada has traditionally been a strong opponent of extraterritoriality. Two primary reasons underlie this position. The first is a fundamental belief in the sovereign right of nations to administer their internal affairs according to their own particular circumstances, priorities and beliefs. Canadians would not welcome the governments of other countries attempting to impose their policies or regulatory practices in this country and, in return, Canada respects the right of other nations to be treated in a similar manner.

The second reason for Canada's longstanding opposition to unilateral extraterritoriality is a recognition of the fact that the acceptance of such a policy could, in practice, tend to permit larger and less trade-dependent nations to have an undue influence on the values and regulations of smaller and more trade-dependent countries. As the smallest and most trade-dependent of the world's seven most industrialized economies, Canada's interests fall primarily among those of the latter group.

Some 88 per cent of Canada's exports are destined for the U.S., the European Community (EC) and Japan. Approximately 24 per cent of Canada's gross domestic product (GDP) is derived from exports compared to only 7 per cent for the U.S., 8 per cent for the EC and 9 per cent for Japan. Acceptance of unilateral extraterritoriality could place Canadians at a relative disadvantage and limit Canada's ability to regulate on the basis of Canadian values, Canadian circumstances and Canadian priorities.

The NAFTA Environmental Review Committee also examined the advantages and disadvantages of unilateral extraterritoriality in the more specific context of environmental policy. This topic was the subject of considerable discussion among the members of the Committee; between the members of the Committee and Canada's NAFTA negotiators, the provinces, and business and environmental representatives; and during the April 14, 1992 workshop on NAFTA and the Environment.

Some of the participants in the workshop felt that, provided prior bilateral and multilateral diplomatic efforts had failed to resolve a problem, the unilateral and extraterritorial application of environmental regulations should be permitted in cases of "transboundary" or "global commons" pollution. Otherwise, there would not be a definitive means of dealing with a recalcitrant transboundary or global commons polluter.

Others believed that, in spite of the attractiveness of extraterritoriality in certain circumstances, its risks would exceed its potential advantages. Three considerations were cited in support of this position.

First, Canada could jeopardize its sovereignty. There was a broad consensus that the highest environmental priority of Canada's NAFTA negotiators should be the retention of the ability of Canada's federal, provincial and local governments to determine the level of

environmental protection appropriate to their respective jurisdictions. Consequently, Canada could not, on the one hand, seek to force its policies and standards on another country while, on the other hand, expect to prohibit other countries from imposing their environmental policies and standards within Canadian jurisdictions.

Second, among the three NAFTA countries, there would be a major disparity in economic size and international influence. In these circumstances it would be easier, should unilateral extraterritoriality be allowed, for the larger and more influential of the three economies to have an undue impact on the environmental policies and standards of the smaller economies. In practice, the result would be a tendency toward the harmonization of environmental standards on the basis of those of the larger economy, regardless of whether those standards would best reflect Canadian values, Canadian conditions and Canadian priorities. Under this scenario, the ability of Canadians to determine their own environmental policies and standards could be circumscribed.

Third, it was recognized that the protectionist trade lobbies of Canada's NAFTA trade partners could seek to exploit environmental concerns in order to advance their own commercial interests. Protectionist actions cloaked in an environmental shroud would, over time, reduce support for legitimate environmental regulations and would not, therefore, be to the long-term advantage of either Canadian economic or environmental interests.

In light of the considerations outlined in this section, the concept of unilateral extraterritoriality to deal with an environmental problem beyond a country's own jurisdiction was not recommended by the NAFTA Environmental Review Committee. The Committee and the NAFTA negotiators concurred that the preferred method for addressing environmental issues of a transboundary or global commons nature would be through measures taken in the context of international environmental and conservation agreements that are open to signature by all interested parties. Conversely, it was agreed that countries should retain their current right under the GATT to use import trade measures to the extent that these would be necessary to ensure the effectiveness of domestic environmental measures.

Paragraph 103.1 of the NAFTA states that the parties affirm the provisions of the GATT. A recent GATT panel concluded that unilateral extraterritoriality is inconsistent with international trade law.

C. SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL PROTECTION

When it announced the Green Plan in December 1990, the Government of Canada formally committed itself to integrating the concept of sustainable development into its decision-making process.[11] Sustainable development is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[12]

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11. Government of Canada, Canada's Green Plan, p. 19.

12. World Commission on Environment and Development, Our Common Future, p. 43.

From the outset, Canada supported the inclusion of sustainable development and environmental protection provisions in the NAFTA. Discussions with the provinces during meetings of the Federal-Provincial Committee on the NAFTA confirmed the existence of a broad, national consensus on the objective of sustainable development. In their comments and submissions to the government, Canadian environmental organizations also placed a very high priority on an explicit commitment to sustainable development as a fundamental principle of the North American Free Trade Agreement.

The importance that was placed on sustainable development, and the related goals of environmental protection and conservation, is reflected by the incorporation of these concepts into several important chapters of the NAFTA. In the Preamble, the three countries make a commitment to "promote sustainable development" and to "strengthen the development and enforcement of environmental laws and regulations." Furthermore, it explicitly requires that all of the economic and commercial objectives of the Agreement be undertaken "in a manner consistent with environmental protection and conservation."

D. MULTILATERAL ENVIRONMENTAL AND CONSERVATION AGREEMENTS

A growing number of multilateral environmental and conservation agreements are being negotiated at the international level. Some of these agreements include trade obligations. A recent study undertaken through the GATT determined that 17 of the 127 international environmental agreements negotiated between 1933 and 1990 contain some trade-related obligations.[13]

Canada has signed several international environmental and conservation agreements that contain trade obligations. One of the most widely known examples of international environmental and conservation agreements that contain trade obligations is the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol). This agreement has as its objective the reduction and elimination of the production and consumption of ozone-depleting substances. Other well-known agreements include the 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (the Basel Convention). Although the U.S. has yet to complete its ratification of the Basel Convention, Canada, the U.S. and Mexico are all signatories to the three agreements.

Nevertheless, the three countries are not, in all cases, parties to the same multilateral environmental and conservation agreements. Among the reasons for participation in different agreements are variations in local conditions, geography and fauna of the three countries. For example, Mexico does not have an Arctic region while Canada does not have a tropical region.

During the NAFTA negotiations, all three countries expressed the wish to retain their existing rights and obligations under those multilateral environmental and conservation agreements to which they have chosen to belong. The retention of these rights was also assigned a high priority by the Canadian environmental organizations in both their written

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13. Secretariat of the General Agreement on Tariffs and Trade, "Trade and the Environment."

and oral submissions to the government. Canada has preserved these rights in the NAFTA.

Two different provisions of the NAFTA would explicitly recognize Canada's existing rights and obligations under all of the international agreements to which one or more of the NAFTA countries is a party. Paragraph 103.1 states that "the Parties affirm their existing rights and obligations with respect to each other under the General Agreement on Tariffs and Trade and other agreements to which such Parties are party." In addition, Article 903 of the chapter on Standards-Related Measures states that, "Further to Article 103 (Relation to Other Agreements), the Parties affirm with respect to each other their existing rights and obligations relating to standards-related measures under the GATT Agreement on Technical Barriers to Trade and all other international agreements, including environmental and conservation agreements, to which such Parties are party."

However, in certain instances, the NAFTA would go well beyond simply preserving existing rights with respect to environmental and conservation agreements. Article 104 of the Agreement states that "In the event of any inconsistency between this Agreement and the specific trade obligations set out in:" (a.) the CITES; (b.) the Montreal Protocol; (c.) the Basel Convention, upon its entry into force in all three parties; (d.) the Canada-U.S. agreement concerning the transboundary movements of hazardous waste; (e.) the Mexico-U.S. border area environment agreement; and (f.) any subsequent international environmental or conservation agreement that the parties agree shall be included, the international agreement will prevail. In other words, these international environmental or conservation agreements will take precedence over the NAFTA.

Collectively, the provisions identified above would ensure that the NAFTA parties would maintain all of their respective existing rights and obligations under those multilateral environmental and conservation agreements of which they are members. Furthermore, in the case of trade among the NAFTA countries, the specific trade obligations set out in the agreements identified in Article 104 would generally take precedence over the disciplines contained in the NAFTA.

In addition to the foregoing, should a disagreement arise concerning the interpretation or implementation of Article 104, Paragraph 2005.3 states that "the responding Party" could elect to have the dispute considered exclusively under the dispute settlement provisions of the NAFTA, rather than under the GATT, for example.

These provisions would constitute broad and significant exceptions to the existing international trade law for two reasons. First, because trade provisions in the named international environmental and conservation agreements would normally take precedence over the disciplines contained in an international trade agreement. Second, because the responding party, rather than the complaining party, would have the option of choosing the forum for resolving a dispute. Furthermore, should Canada adopt an environmental standard under these international agreements, the burden of proof would be with any country challenging the provision.

E. ENVIRONMENTAL EXCEPTIONS

Under certain conditions the GATT permits exceptions for environmental measures that would otherwise contravene its trade rules. The NAFTA provides greater clarity.

The General Agreement on Tariffs and Trade contains two exceptions that are of particular relevance to environmental concerns. Article XX (b) of the GATT provides an exception, from certain of its disciplines, for trade measures that are "necessary to protect human, animal or plant life or health." Article XX (g) provides a similar exception for trade measures "relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption."

Experts familiar with the GATT and international trade law jurisprudence advised the Committee that the combination of the existing GATT Articles XX (b) and XX (g) provide an exception for a broad range of environmental measures. Nevertheless, some environmental organizations recommended that this understanding be clarified in the NAFTA.

Paragraph 2101.1 of the NAFTA would incorporate GATT Articles XX (b) and XX (g) into the NAFTA. The same paragraph would confirm explicitly that, for the purposes of trade measures affecting goods, Article XX (b) would include "environmental measures necessary to protect human, animal or plant life or health" and that Article XX (g) would include "measures relating to the conservation of living and non-living exhaustible natural resources."

The incorporation of GATT Articles XX (b) and XX (g) into the NAFTA is significant from another perspective in that it would permit any disagreements involving the use of these exceptions to be considered under the terms of the NAFTA Dispute Settlement subchapter. Although a complaint under either the GATT or the NAFTA dispute settlement mechanisms should be judged according to very similar principles, the NAFTA, unlike current GATT practice, would permit a dispute settlement panel, with the concurrence of the parties, to meet directly with environmental experts or to establish a scientific review board to advise the panel on the factual matters related to an environmental issue. Hence, environmentalists could, for the first time, have an opportunity to present their views directly to a panel.

As noted in Annex 8, the environmental provisions of the GATT are currently being examined at the multilateral level. It is possible that this activity will result in a clarification of the applicability of GATT Articles XX (b) and XX (g) to the environment. Furthermore, the Government of Canada has indicated its support for a new round of multilateral trade negotiations once the Uruguay Round discussions have been completed. In Canada's view, environmental concerns would be a focal point of the new round. Article 2101 of the NAFTA would automatically incorporate into the NAFTA any future improvements to GATT Articles XX (b) or XX (g).

F. ENVIRONMENTAL STANDARDS[14]

Consultations between members of the NAFTA Environmental Review Committee and representatives of Canadian environmental organizations, the provinces and the NAFTA negotiators were unanimous in identifying, as the highest priority for Canada's standards negotiators, the retention of the ability of Canadian governments to determine environmental policy and environmental standards according to the environmental conditions and priorities of each jurisdiction. All other recommendations pertaining to standards-related measures were considered to be secondary to the preservation of this multilevel right to regulate. This right would be retained in the NAFTA.

Standards-related measures constitute a key element in the implementation of environmental policy. In view of both their critical importance and their complexity, standards-related measures are examined in relatively greater detail in this chapter than are other issues.

(i) Federal and Provincial Government Rights and Obligations

The basic rights and obligations of the NAFTA chapter on Standards-Related Measures would apply to federal governments. In addition, Article 902 of the Agreement would require each party to "seek" to ensure that provincial or state governments, as well as non-governmental standardizing bodies, also observe the primary rights and obligations set out in the chapter on Standards-Related Measures.

(ii) Right to Regulate on Behalf of the Environment

Under the NAFTA, governments in Canada would retain the explicit right to approve, and to enforce, standards-related measures for the purpose of environmental protection. Paragraph 904.1 of the Agreement would expressly affirm the basic right of each party to "adopt, maintain or apply any standards-related measure." This paragraph goes on to state that, to ensure compliance with their standards-related measures, countries could "prohibit the importation of a good of another Party or the provision of a service by a service provider of another Party that fails to comply with the applicable requirements of those measures or to complete the Party's approval procedures." By retaining the right to refuse entry to polluting products, Canada maintains control over its environment.

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14. In the interests of brevity the environmental review uses the common terminology "standards" when referring collectively to "technical regulations," "standards" or "conformity assessment procedures." In the NAFTA, technical regulations, standards and conformity assessment procedures are collectively referred to as "standards-related measures." In Canada, all three levels of government, as well as certain non-governmental organizations, may adopt and enforce standards-related measures.

As defined by Paragraph 915.1 of the NAFTA, a "standard" provides "rules, guidelines or characteristics for products, or related processes and production methods, or for services or related operating methods, with which compliance is not mandatory." A "technical regulation means a document which lays down product characteristics or their related processes and production methods, or for services or operating methods, including the applicable administrative provisions, with which compliance is mandatory." Standards and technical regulations also include provisions specifying terminology, symbols, packaging, marking or labelling requirements. A "conformity assessment procedure" is any procedure used to determine whether a relevant technical regulation or standard is fulfilled, "including sampling, testing, inspection, evaluation, verification, monitoring, auditing, assurance of conformity, accreditation, registration or approval used for such purpose."

When adopting and implementing their standards-related measures, NAFTA countries would be required to respect three fundamental disciplines. First, Paragraph 904.3 would require that a country refrain from discriminating between domestic manufacturers of goods or suppliers of services and manufacturers or suppliers from other NAFTA countries solely on the basis of the NAFTA country from which the manufacturer or supplier operated. This principle is frequently referred to as "national treatment." Second, the same paragraph would require that any preference extended to a non-NAFTA country also be made available to the NAFTA partners. This is the "most favoured nation" principle. Third, Paragraph 904.4 would require that standards-related measures not create an "unnecessary obstacle" to trade between the NAFTA parties.

Paragraph 904.4 goes on to clarify that an "unnecessary obstacle" to trade would not be created if the demonstrable purpose of the measure was to achieve a "legitimate objective" and if the measure did not exclude goods that met the legitimate objective. Paragraph 915.1 would identify both "protection of human, animal or plant life or health, the environment or consumers" and "sustainable development" as constituting legitimate objectives. These provisions would clearly sustain Canada's right to refuse entry to hazardous products.

These disciplines constitute measures of equality and fairness and would not prevent jurisdictions from adopting and enforcing measures to protect their respective environments.

(iii) Right to Choose the Level of Protection

The fundamental premise of the NAFTA chapter on Standards-Related Measures is that governments would retain the right to determine the level of environmental protection that they deem appropriate for their own particular circumstances and priorities. Paragraph 904.2 states categorically that "Notwithstanding any other provision of this Chapter, each Party may, in pursuing its legitimate objectives of safety or the protection of human, animal or plant life or health, the environment or consumers, establish the level of protection that it considers appropriate in accordance with Article 907. 2."

Paragraph 907.2 would be relevant only should the regulating party choose to conduct an assessment of risk. This paragraph is discussed below.

(iv) Assessment of Risk

Although risk assessment would not be mandatory, Article 907 would permit a party to conduct an assessment of risk in pursuing its legitimate objectives. Paragraph 907.1 explicitly identifies, inter alia, "processes or production, operating, inspection, sampling or testing methods" and "environmental conditions" as constituting factors that could be considered in conducting the assessment of risk.

If a government conducts an assessment of risk, Paragraph 907. 2 would require that measures implementing the selected level of protection not be applied in a manner that would constitute "arbitrary or unjustifiable discrimination" or a "disguised restriction" against the goods or services of other parties. Neither could the measures "discriminate between similar goods or services for the same use under the same conditions that pose the same level of risk and provide similar benefits."

Although highly qualified, the intention of these disciplines would be to ensure consistency between the treatment of domestic and imported goods and services. They would restrain the ability of governments to use environmental measures for primarily protectionist purposes. However, they would not limit the fundamental right of Canadian governments to choose the level of environmental protection that they would deem appropriate.

(v) Right to Adopt More Stringent Standards

Closely associated with maintaining the right of Canadians to adopt and to enforce their own environmental standards, and to choose the level of environmental protection appropriate to their own circumstances and priorities, is the right to adopt standards that are more stringent than those suggested by international standards-setting bodies. While the NAFTA would require the parties to consider international standards, they would also have the express right to adopt and to enforce environmental standards more stringent than those suggested at the international level.

The flexibility of a jurisdiction to exceed the level of environmental protection that would be conferred by the adoption of international standards is recognized in Article 905 of the NAFTA. Although Paragraph 905.1 begins by requiring that a party use international standards as the "basis" for its own standards-setting activities, the same paragraph would explicitly permit it to set aside international standards "where such standards would be an ineffective or inappropriate means to fulfil its legitimate objectives, for example because of ... the level of protection that the Party considers appropriate." The right to implement standards that would be more stringent than those suggested by international bodies is reconfirmed by Article 905.3 which states that a party may, in pursuing its legitimate objectives, adopt, maintain or apply "any standards-related measure that results in a higher level of protection than would be achieved if the measure were based on the relevant international standard."

(vi) Standards Harmonization

A concern frequently mentioned by environmental organizations, and by individual Canadians, was that the NAFTA might require "standards harmonization," that is, making Canada/Mexico/U.S. standards the same. This concern was not based on a fear that harmonization, per se, would be prejudicial to the environment, but rather that the NAFTA could result in environmental regulations being harmonized on the basis of either the lowest common denominator or the average level of protection. This was often referred to as "downward harmonization."

The NAFTA chapter on Standards-Related Measures does not prescribe "harmonization." Article 906 would, however, call on the three parties to work toward the related concepts of "compatibility" and "equivalence" among the standards of the three countries. Nevertheless, it is important to note that, while the NAFTA would oblige the parties to work toward the adoption of similar standards, the Agreement would prohibit a lowering of standards.

Paragraph 906.2 would require that, "to the greatest extent practicable," increased compatibility be sought among the standards-related measures of the parties, but "without reducing the level of safety or of protection of human, animal or plant life or health, the environment or consumers." The latter is significant as it would, in effect, establish the

highest current standard of the three parties as the floor from which the effort to seek increased compatibility would begin. In other words, not only would the NAFTA prohibit "downward harmonization," it would mandate "upward harmonization." The importance of this process is attested to by its inclusion in Paragraph 913.2 as one of the specific functions of the Committee on Standards-Related Measures. The Committee will be responsible for enhancing regulations and standards throughout North America.

Paragraph 906.4 states that the non-identical technical regulations of two parties would only be considered as "equivalent" where "the exporting Party, in co-operation with the importing Party, demonstrates to the satisfaction of the importing Party that its technical regulation adequately fulfils the importing Party's legitimate objectives." In other words, Canada would decide whether another country's regulations were equivalent to Canadian regulations.

A similar provision is contained in Paragraph 906.6 with respect to conformity assessment procedures. In the latter case, the importing party would have to be assured that the results of a conformity assessment procedure, conducted in the territory of the exporting party, "offers an assurance equivalent" to that provided by an acceptable procedure in its own territory. In other words, the importing party would, in both instances, have the right to decide whether a technical regulation or a conformity assessment procedure of another party provided a level of assurance similar to that provided by the technical regulation or the conformity assessment procedure of the importing party.

(vii) Standards Enhancement

NAFTA would not set specific standards (e.g., sulphur dioxide emission levels). Rather, it would establish a mechanism to ensure co-operation among the three countries. As already indicated, the NAFTA would do more than simply forbid the "downward harmonization" of standards-related measures. It would expressly obligate the parties to work toward increased stringency or "upward harmonization" of their standards.

Several provisions of the chapter on Standards-Related Measures are premised on the upward movement in the level of environmental protection throughout the NAFTA area. Paragraph 906.1 would require that the parties "work jointly to enhance the level of safety and of protection of human, animal and plant life and health, the environment and consumers." As noted previously, Paragraph 906.2 would require that standards-related measures be made compatible on the basis of the most stringent standards of the three countries.

Working together on common problems is the key to developing co-operation and a common understanding of the technical issues. These provisions would be reinforced by Paragraph 911.1 on Technical Co-operation, which would require that the parties, on mutually agreed terms, provide "technical advice, information and assistance" in order to "enhance" the standards-related measures, and related activities, processes and systems of another party. Under the terms of Paragraph 913.7, the Committee on Standards-Related Measures would be obligated to "facilitate" any requests for technical co-operation.

Finally, Subparagraph 913.2 (d) would obligate the parties to work together on "enhancing co-operation on the development, application and enforcement of standards-related

measures." In other words, the provisions of the chapter on Standards-Related Measures are precise and consistent in requiring an upward movement in the quality of standards.

(viii) Standards Enforcement

Some Canadians expressed a concern not only about the level of environmental protection provided by standards, but also with regard to the extent to which standards are respected and enforced. Two approaches for addressing this concern would be provided by the NAFTA.

First, the NAFTA would explicitly permit Canada to prohibit the importation of products that could be prejudicial to the environment of this country, or to the health of its people, animals or plants. This authority, as noted previously, would be provided by Paragraph 904.1 which states that a party could take measures "to prohibit the importation of a good of another Party or the provision of a service by a service provider of another Party that fails to comply with the applicable requirements of those measures or to complete the Party's approval procedures."

In other words, any product imported into Canada would have to meet Canada's product-related environmental standards. A product-related environmental standard is one that has a bearing on the safety or other characteristics of the product. If exporters in other NAFTA countries failed to respect Canada's product-related environmental standards, their goods would be denied access to the Canadian market.

Production processes were a concern of environmentalists. A process-related standard is one that pertains to the manner in which a product is produced, but that may not affect the characteristics or safety of the good. The NAFTA definition of a "standard," as presented in Article 915, includes "processes and production methods." Therefore, the Agreement would allow the parties, including the provinces and non-governmental standardizing bodies, to verify the observance, by foreign manufacturers, of voluntary process-related environmental standards. Compliance with process-related standards is an important element in the operation of voluntary labelling initiatives such as Canada's Environmental Choice program and of voluntary manufacturing initiatives such as the International Standards Organization ISO 9000 program.

Conversely, the Agreement would not provide for a direct verification of whether mandatory process-related environmental standards were being enforced in another country. The extraterritorial verification of the enforcement of technical standards would require the setting aside of the principal of sovereignty, including the sovereignty of Canada's federal, provincial and local governments. The potential implications of such a policy are discussed in the section above on extraterritoriality. At this time, there is not a consensus in this country in favour of permitting such a far-reaching derogation from Canada's sovereignty.

Second, although unilateral extraterritoriality was rejected by the NAFTA negotiators, the Agreement would not be silent on this issue. It would require that the parties address the enforcement of mandatory process-related environmental standards on a co-operative basis. Subparagraph 913.2 (d) would necessitate joint action by the Committee on Standards-Related Measures with respect to the "development, application and enforcement of standards-related measures." Paragraphs 913.4 and 913.5 would provide

for the formation of subcommittees or working groups to undertake co-operative initiatives in such areas as good manufacturing practices; good laboratory practices; packaging and labelling requirements; guidelines for the testing of chemicals; the development and implementation of a uniform chemical hazard classification and communication system; criteria for assessing the potential environmental hazards of goods; methodologies for the assessment of risk; product approval and post-market surveillance; principles for the accreditation and recognition of conformity assessment bodies; and enforcement programs, including training and inspections by regulatory, analytical and enforcement personnel. Furthermore, Paragraph 913.4 of the Agreement would explicitly permit these subcommittees or working groups to "include or consult with" non-governmental bodies, scientists and technical experts. Through this co-operation, the parties will be in a better position to understand the rules and approaches that other countries employ to solve environmental problems.

(ix) Standards Transparency

Canadians have become accustomed to an open regulatory system that offers an opportunity for public participation. The NAFTA provisions on inquiry points, notification and transparency would permit Canadians and Canadian environmental organizations to not only be informed of all proposals for new or modified environmental standards in Canada, Mexico or the U.S., but also to obtain drafts of the proposed measures, to submit written comments on them, to discuss these comments with the responsible regulatory agency, and to have their comments taken into account in the regulatory processes of all three countries.

Paragraphs 910.1 and 910.3 of the chapter on Standards-Related Measures would require that each of the parties maintain at least one inquiry point from which members of the public from the other NAFTA countries could obtain copies of any standards-related measure that is "proposed, adopted or maintained." Paragraph 909.1 would require that notice of a technical regulation be published "at least 60 days" prior to the adoption or modification of the regulation "in such a manner as to enable interested persons to become acquainted with the proposed measure."

The same paragraph would require that a copy of the proposed measure be provided "to any Party or interested person that so requests." It would also obligate the regulating party to "without discrimination, allow other Parties and interested persons to make comments in writing and ..., on request, discuss the comments and take the comments and the results of the discussions into account." Furthermore, as per Paragraph 909.6, "Where a Party allows non-governmental persons in its territory to be present during the process of development of standards-related measures, it shall also allow non-governmental persons from the territories of the other Parties to be present."

Considered collectively, the transparency and public participation provisions that would be contained in the chapter on Standards-Related Measures are significant. They would, in effect, provide all Canadians and Canadian environmental organizations with an opportunity to have a direct input into the future environmental standards and technical regulations, both product and process-related, of all NAFTA countries.

(x) Burden of Proof

When the parties to an international agreement arrive at an impasse on some aspect of the agreement, they may seek to resolve the disagreement using a formal dispute settlement mechanism. A high priority of environmental organizations was that, in any such proceeding, the party challenging an environmental measure would be required to prove the inconsistency of the measure with the terms of the agreement. Paragraph 914.4 would fully satisfy this objective by requiring that "a Party asserting that a standards-related measure of another Party is inconsistent with the provisions of this Chapter shall have the burden of establishing the inconsistency."

(xi) Dispute Settlement Forum

International trade law generally provides that, in the event of a disagreement, the complaining party has the right to choose the forum in which the dispute will be resolved. In the case of a disagreement raising factual issues concerning a measure adopted or maintained to protect its environment, Paragraph 2005.4 of the NAFTA would, on the other hand, permit "the responding Party" to elect that the dispute be subject to resolution solely under the NAFTA dispute settlement mechanism. In other words, Canada would have control over where disputes concerning its environment would be resolved.

The basic considerations that a panel would take into account should not vary materially between a dispute settlement panel established under the GATT and one established under the NAFTA. Nevertheless, the latter would offer two potential advantages: (1.) the possibility of direct meetings between the panel and environmental experts; and (2.) the possible creation of a scientific review board to review factual matters related to an environmental issue.

(xii) Co-operation and Follow-Up

The NAFTA chapter on Standards-Related Measures would provide a mechanism for ongoing tripartite co-operation on environmental monitoring, legislation, regulation and enforcement, as well as for consultation on disagreements involving environmental issues. It would also allow for the provinces, environmental organizations, and other interested persons to become involved in various follow-up activities.

Paragraph 913.1 would require that a Committee on Standards-Related Measures be created. The functions of this Committee, as identified in Paragraph 913.2, would include "monitoring the implementation and administration" of the provisions contained in the chapter; "facilitating the process by which the Parties make compatible their standards-related measures"; "providing a forum for the Parties to consult on issues relating to standards-related measures"; and "enhancing co-operation on the development, application and enforcement of standards-related measures." Should a question arise regarding a party's standards-related measure, Paragraphs 914.1 and 914.2 would require that the Committee, either directly or with the assistance of expert bodies, provide "technical advice or recommendations" to the parties.

The potential participation of "representatives of state or provincial governments in the activities of the Committee" would be provided for by Paragraph 913.6. Inasmuch as environmental standards and enforcement activities fall largely within the domain of

subnational governments in all three countries, the possibility of their direct involvement in the work of the Committee would be important to the fulfilment of its functions. Similarly, as per Paragraph 913.4 of the Agreement, subcommittees or working groups established by the Committee could "include or consult with" representatives of non-governmental bodies.

Considered collectively, these provisions would allow for the continuous and comprehensive consideration of environmental concerns on a continental basis. For example, Paragraph 913.5 would create an Automotive Standards Council. The activities of this Council could include, inter alia, "emissions from on-road and non-road mobile sources."

Paragraph 913.5 would also call for the establishment of a Land Transportation Standards Subcommittee. The work program of this Subcommittee would require that the parties make compatible, within three years, standards relating to "emissions and environmental pollution levels not covered by the Automotive Standards Council's work program." The same work program would require that the parties make compatible their respective standards-related measures for the transportation of dangerous goods within six years. As discussed previously, this could occur only through an upward movement in the stringency of the standards.

Other subcommittees and working groups could be created by the Committee on Standards-Related Measures following the implementation of the Agreement. The work assigned to these committees shows the positive role that they can play in enhancing continental environmental protection.

G. SANITARY AND PHYTOSANITARY MEASURES

Provisions to protect Canada's animal or plant life or health from foreign pests and diseases, and to protect Canada's human or animal life or health from risks arising from contaminants in imported foods, beverages or feedstuffs, are contained in Section B of the chapter on Agriculture and Sanitary and Phytosanitary Measures.

(i) Right to Protect Life and Health

Unlike Chapter 9, which deals with Standards-Related Measures, the Sanitary and Phytosanitary Measures (SPS) section does not explicitly refer to the environment. Nevertheless, some sanitary and phytosanitary measures have an incidental environmental dimension. The following represent two potential examples: whether the NAFTA could affect Canada's ability to protect its wild fauna and flora from foreign pests and diseases; and whether the Agreement could affect Canada's ability to regulate the use of pesticides in this country.

The former would be a concern should the NAFTA require Canada to allow the entry of livestock or plants carrying animal or plant pests or diseases that could be detrimental to the wild fauna or flora of this country. The latter would be a concern should the NAFTA require Canada to permit the use of a pesticide that it would otherwise have refused to approve, or if the Agreement required Canada to allow the use of a pesticide under circumstances, or at levels of concentration, that Canada would not otherwise have approved.

As drafted, the NAFTA would allow Canada to continue to adopt and to enforce sanitary and phytosanitary measures necessary to protect its domestic flora and fauna and to regulate the use of pesticides in Canada. Four related provisions of the Agreement would demonstrate Canada's continuing ability to effectively address environmental concerns related to sanitary and phytosanitary measures.

First, Canada would explicitly maintain the right to adopt its own sanitary and phytosanitary measures. Paragraph 712.1 states that "each Party may, in accordance with this Section, adopt, maintain or apply any sanitary or phytosanitary measure necessary for the protection of human, animal or plant life or health in its territory, including a measure more stringent than an international standard, guideline or recommendation." Other paragraphs of Article 712 would require that SPS measures have a scientific justification; be based on an assessment of risk, "as appropriate to the circumstances"; and be applied only to the extent necessary to achieve the desired level of protection. Furthermore, measures could not discriminate "arbitrarily or unjustifiably" against the goods of another party or constitute a "disguised restriction" to trade.

Second, Canada could select the level of protection that it considered appropriate for its own particular conditions and priorities. Article 724 defines an appropriate level of protection as being the "level of protection of human, animal or plant life or health in the territory of a Party that the Party considers appropriate."

The freedom of a party to select its own level of protection is reiterated in Paragraph 712.2 which states that, "Notwithstanding any other provision of this Section, each Party may, in protecting human, animal or plant life or health, establish its appropriate level of protection in accordance with Article 715."

Article 715 would obligate the parties, when conducting a risk assessment, to take a series of technical and economic factors into account. These would include "relevant ecological and other environmental conditions." This article would also require that the parties avoid differences in levels of protection, should these result in "arbitrary or unjustifiable discrimination against a good of another Party or constitute a disguised restriction on trade between the Parties."

Third, notwithstanding the goal of basing SPS measures on international guidelines, Canada would retain the right to adopt sanitary and phytosanitary measures that would be more stringent than those recommended by international bodies. Although stated initially in Paragraph 712.1, Paragraph 713.3 reiterates that a party may adopt, maintain or apply a "sanitary or phytosanitary measure that is more stringent than the relevant international standard, guideline or recommendation."

Fourth, notwithstanding the goal of greater equivalence among the SPS measures of the parties, Canada would not be required to lower the level of sanitary or phytosanitary protection that it would consider appropriate for Canadian conditions. While Paragraph 714.1 would require that the parties pursue equivalence "to the greatest extent practicable," it also states explicitly that this process could not result in "reducing the level of protection of human, animal or plant life or health." Similarly, Paragraph 714.2 would require that the parties accept the measures of other parties as "equivalent," but only if it could be demonstrated objectively that "the importing Party's appropriate level of protection" would be achieved.

In addition to the foregoing, Canada could maintain its national approval procedure for food additives and contaminants. Paragraph 717.4 would permit a party to "require its approval for the use of an additive, or its establishment of a tolerance for a contaminant, in a food, beverage or feedstuff ... prior to granting access to its domestic market for a food, beverage or feedstuff containing that additive or contaminant." In other words, such goods would not be permitted to enter Canada unless prior approval had been obtained.

In summary, the NAFTA would allow Canada to choose the level of sanitary or phytosanitary protection that it would consider appropriate. Canada would retain the choice of either adopting sanitary and phytosanitary measures that have been suggested by international bodies, or of developing its own measures.

(ii) Codex Alimentarius

In its consideration of sanitary and phytosanitary measures, the Environmental Review Committee was cognizant of perceptions by some that (a.) environmental organizations are unable to become aware of, and to comment on, recommendations being developed by international standards organizations; and (b.) the standards recommended by international organizations are less stringent than Canadian standards. These concerns were expressed with particular reference to the Codex Alimentarius Commission. Therefore, using the Codex Alimentarius Commission as an example, the following paragraphs examine these concerns.

The Codex Alimentarius Commission is an international body that is jointly funded by the World Health Organization and the Food and Agriculture Organization of the United Nations. Its membership comprises over 100 governments from around the world, including Canada. The Commission establishes recommended food safety and nutritional standards, including the development of suggested maximum residue limits for contaminants, such as pesticide residues, in foods.

Canada's participation in the Codex Alimentarius Commission is co-ordinated by Health and Welfare Canada. The department consults with any Canadian organization wishing to contribute to the development of Canada's position on recommendations proposed by the Commission. Organizations wishing to participate in the consultative process receive documentation from Health and Welfare Canada on the maximum residue limits being proposed by the Commission. Moreover, interested organizations may also attend meetings of the Codex Alimentarius Commission with the Canadian delegation.

In light of the foregoing, the first concern about the Codex Alimentarius Commission is not founded. Commission recommendations are transparent and interested environmental organizations have an opportunity to not only participate actively in preparing Canada's positions on these recommendations, but also to attend meetings during which the recommendations are considered.

The Environmental Review Committee obtained a comparison of Canadian and Codex maximum residue limits. This comparison included a total of 451 matching data points. Of the 451 data points, Codex and Canadian maximum residue limits were equal in 171 instances; Codex limits were more stringent than Canadian limits in 104 cases; and Canadian limits were more stringent than Codex limits in 176 instances. A similar review

was undertaken using 941 U.S. and Codex data points. This analysis revealed that the maximum residue limits were equal in 398 instances; the Codex was more stringent in 382 cases; and the U.S. limits were more stringent than Codex for 161 data points.

A similar study was undertaken by the U.S. Consumers Union. The conclusion of that study was that "many international standards are higher than U.S. standards. Thus, harmonization could improve some, and perhaps many, U.S. standards. This is especially true regarding pesticide Maximum Residue Levels for food commodities."[15]

Therefore, the allegation that maximum residue limits recommended by the Codex Alimentarius Commission are generally less stringent than those of Canada or the U.S. is unfounded. Some are less stringent, others are more stringent.

One of the reasons for the differences in Canadian and Codex maximum residue limits is that Canada maintains its own national approvals process. Canada does not automatically adopt maximum residue limits recommended by the Codex, or by any other country. In each and every case, Canada completes an independent review of the scientific data. Once sufficient data has been obtained on which to base proposed maximum residue limits, the government must then fulfil the notification and transparency steps that are a part of Canada's regulatory policy. This policy requires that Canadians, particularly those most likely to be affected by a proposed regulation, be informed of it and have an opportunity to participate in its development.

(iii) Transparency

The SPS transparency provisions would allow Canadian environmental organizations, or individual Canadians, to influence the standards that would be adopted by all three countries. These provisions would, for example, permit Canadian environmental organizations to provide comments on the level of pesticide residues that would be permitted on U.S. and Mexican fruits and vegetables, regardless of whether or not these products would be intended for domestic consumption, or for export to Canada. We could not, however, enforce our standards on others, or vice versa.

As in the chapter on Standards-Related Measures, the parties would be obligated to publish a notice 60 days prior to the proposed adoption or modification of a sanitary or phytosanitary measure. Paragraph 718.1 would also require that copies be made available to "any Party or interested person that so requests." Moreover, it would be mandatory that the regulating party "without discrimination, allow other Parties and interested persons to make comments in writing and ..., on request, discuss the comments and take the comments and the results of the discussions into account."

(iv) Dispute Settlement

Paragraph 2005.4 of the NAFTA would provide that, in the event of a disagreement raising "factual issues concerning the environment, health, safety or conservation," the party having adopted a measure "to protect its human, animal or plant life or health, or to protect its environment" would have the option of electing to have the dispute considered

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15. United States Consumers Union, Understanding GATT.

exclusively according to the NAFTA dispute settlement mechanism. This election would offer the same advantages as those identified in the case of standards-related measures.

H. ENVIRONMENTAL GOODS AND SERVICES

The NAFTA contains a number of provisions that would facilitate trade in environmental goods and services. In recent years Mexico has been placing increasing emphasis on environmental monitoring and enforcement. Its market for environmental equipment is expected to amount to an estimated $300 million in 1992. Imported products should account for $36 million (12 per cent) of the total. Annex 302.2 of the NAFTA would require the elimination of duties within 10 years on all environmental equipment.

Canadian environmental equipment and service capabilities are widely recognized around the world. Canadian export interests in Mexico could include solid waste disposal technology, hazardous and non-hazardous waste consulting, engineering consulting, sewage treatment, waste-water treatment, environmental rehabilitation, and equipment for filtering and purification.

Annex 602.3 would provide for cross-border trade in natural gas and electricity. The same annex would allow Canadian investors to produce electricity in Mexico for their own use or for sale to that country's electric utility. Article 605 (which would be applicable to Canada and the U.S.) would permit a producing party to impose restrictions, proportional to the importing party's traditional purchases of the total supply, on the sale of energy to another party.

Another provision of the NAFTA could have an immediate positive effect on the environment. Annex 300-A would obligate Mexico to eliminate its autotransportation decree upon entry into force of the NAFTA. This would allow Mexican companies to immediately begin renewing their aging truck and bus fleets with less polluting equipment manufactured in Canada. Article 2201 (Annex 1) would permit Mexican companies to begin providing truck services into Canada six years after the entry into force of the NAFTA. Paragraph 904.1 would allow Canada to verify that any transportation equipment entering Canada complies with this country's environmental standards.

Annex 1603 would require that business persons and professionals providing environmental equipment or services be granted temporary entry privileges to other NAFTA countries. The same access would be accorded to scientists and to tourism personnel, including those promoting eco-tourism.

Under Article 401 of the NAFTA, expenditures to meet environmental abatement requirements would be eligible costs when calculating the North American content of goods. In certain cases, a calculation of the regional content would be necessary to determine whether the goods qualify for NAFTA tariff treatment. Therefore, companies that incur heavy expenditures on the environment would have these reflected in their regional content calculation.

I. INVESTMENT

A concern expressed by some Canadians was that companies might relocate to the NAFTA country with the lowest environmental standards, or the least stringent environmental enforcement of its standards. There are a number of provisions in the NAFTA, particularly in the chapters on Investment and on Standards-Related Measures, that would have the effect of mitigating the likelihood of a significant relocation by businesses because of any differences in environmental standards or their enforcement. Chapter V presents empirical evidence on the likelihood of pollution haven investment.

Five provisions of the NAFTA Investment chapter would have a direct impact on the relationship between environmental considerations and new investment. First, Paragraph 1114.1 would allow a party to adopt, and to enforce, measures that "it considers appropriate to ensure that investment activity in its territory is undertaken in a manner sensitive to environmental concerns." This provision would permit NAFTA countries to associate environmental conditions, such as an environmental assessment, with any new investment within their respective territories.

Second, referring to "domestic health, safety or environmental measures," Paragraph 1114.2 states that "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." Should one country believe that another had either offered or provided such encouragement, it would be permitted to demand consultations "with a view to avoiding any such encouragement."

This provision would establish an important new benchmark for international investment. By agreeing formally that it would not be appropriate to derogate from environmental standards to attract an investment, the three NAFTA governments have created a new principle for trade agreements from which there would be no turning back.

Third, Paragraph 1106.2 would accord precedence to health, safety and environmental measures over a NAFTA prohibition on performance requirements related to the transfer of technology. In other words, this provision recognizes that meeting necessary environmental measures may have the indirect effect of requiring that an investment be accompanied by a specific technology.

Fourth, and closely related to the previous exception, is Paragraph 1106.6. It would accord precedence to environmental measures over certain NAFTA performance requirement prohibitions related to the purchase of domestic goods or to the import or export of goods. In other words, this provision recognizes that meeting necessary environmental or conservation measures may have the indirect effect of favouring domestic goods.

Fifth, Articles 1116 and 1117 of the Investment chapter would permit the settlement, by international arbitration, of a dispute between a party and an investor of another party. In the event of such a dispute, Article 1133 of the NAFTA would explicitly provide that the international tribunal could, "at the request of a disputing party or, unless the disputing parties disapprove, on its own initiative, ... appoint one or more experts to report to it in writing on any factual issue concerning environmental, health, safety or other scientific

matters raised by a disputing party in a proceeding, subject to such terms and conditions as the disputing parties may agree." The intention of this paragraph would be to ensure that the international tribunal would have an opportunity to take environmental considerations into account prior to rendering a decision on a dispute between an investor and a government.

Five provisions of the chapter on Standards-Related Measures could also be relevant to any consideration of the relationship between environmental issues and investment. As noted previously, Paragraph 909 of that chapter would allow the governments and citizens of one NAFTA country to influence the standards-setting activities of other NAFTA countries. Paragraphs 906.1 and 906.2 would require that the NAFTA countries work toward the enhancement and upward harmonization of their standards-related measures. Considered collectively, these provisions would permit the parties to address any concerns about the levels of their respective environmental standards, and should result in a narrowing of differences among the standards of the three NAFTA partners.

Moreover, Paragraph 913.2 of the NAFTA would require that the member countries co-operate on the "development, application and enforcement" of environmental standards. In addition, Paragraph 913.5 of the Agreement would provide for the establishment of subcommittees and working groups to address such matters as "enforcement programs, including training and inspections by regulatory, analytical and enforcement personnel." Considered together, these provisions would permit the parties to address any concerns about the enforcement practices of their NAFTA partners.

J. PATENTS

The NAFTA patent provisions would be consistent with Canada's current legislation on both patents and plant breeders' rights.

Patents accord a conditional and time-limited right of ownership to the developers of new inventions. The ability to patent new inventions encourages individuals, universities, research institutes and companies to maintain scientific and technical research by conferring a potential monetary benefit on the inventor. Subject to three exceptions of relevance to the environment, Paragraph 1709.1 of the NAFTA would require that patents be available "for any inventions, whether products or processes, in all fields of technology, provided that such inventions are new, result from an inventive step and are capable of industrial application."

The first exception to this requirement, contained in Paragraph 1709.2, states that a party could exclude certain inventions from patentability, should that be necessary "to protect ordre public or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to nature or the environment, provided that the exclusion is not based solely on the ground that the Party prohibits commercial exploitation in its territory of the subject matter of the patent."

The second and third exceptions, contained in Paragraph 1709.3, would permit a party to exclude from patentability "plants and animals other than microorganisms" and "essentially biological processes for the production of plants or animals, other than non-biological and microbiological processes for such production."

K. DISPUTE SETTLEMENT

Along with environmental standards, dispute settlement was of concern to environmentalists. NAFTA institutional arrangements and dispute settlement procedures would be governed by the provisions of Chapter 20 of the Agreement. A disagreement would, typically, arise between a company, or a group of companies, in an exporting country and an administrative agency in an importing country.

Should the disagreement develop into a controversy respecting the interpretation or application of the Agreement, the governments of both the exporting and importing countries could become involved. At this point the disagreement could assume the characteristics of an official government-to-government dispute. If it could not be resolved through government-to-government consultations, one government would become the complainant and the other the respondent under the terms of the dispute settlement mechanism. After hearing the arguments of both governments, a dispute settlement panel would issue its findings and recommendations. Both parties would be expected to abide by the recommendations of the panel.

(i) Panelists

Paragraph 2009.1 of the NAFTA would require the appointment, by consensus, of a standing trilateral roster of up to 30 potential panelists. In the event of a dispute, the services of five of these individuals would normally be called upon. Paragraph 2009.2 would require that the roster members "be chosen strictly on the basis of objectivity, reliability and sound judgement."

The NAFTA would neither preclude nor require that individual members of the roster have environmental expertise. Similarly, it would neither require nor preclude panelists with expertise in other specialized areas, such as agriculture, energy, fisheries, forestry, mining, manufacturing or services. They would "have expertise or experience in law, international trade, other matters covered by this Agreement or the resolution of disputes arising under international trade agreements."

(ii) Environmental Submissions

The NAFTA would provide three avenues for bringing environmental concerns to the attention of a dispute settlement panel: environmental considerations could be included in disputing party submissions; a panel could seek technical expert testimony from any person or body; and a panel could request a written report of a scientific review board on any factual issues concerning environmental matters.

The first, and traditional method, would be for the parties to include argumentation on the relevant environmental considerations in their respective submissions to the panel.

In addition to the traditional method, the NAFTA would provide two new mechanisms for presenting the environmental aspects of a disagreement to a dispute settlement panel. Article 2014 would permit a panel, at the request of a disputing party, or on its own initiative, to "seek information and technical advice from any person or body that it deems appropriate, provided that the disputing Parties so agree and subject to such terms and conditions as such Parties may agree."

Paragraph 2015.1 would allow a dispute settlement panel, at the request of a disputing party or on its own initiative, to "request a written report of a scientific review board on any factual issue concerning environmental, health, safety or other scientific matters raised by a disputing Party in a proceeding, subject to such terms and conditions as such Parties may agree." Paragraph 2015.2 specifies that the members of a scientific review board "shall be selected by the panel from among highly qualified, independent experts in the scientific matters, after consultations with the disputing Parties and the scientific bodies set out in the Model Rules of Procedure."

These provisions would permit a panel to seek a broad spectrum of information on the environmental implications of a dispute. They would not, however, encompass the submission of unsolicited briefs directly to a dispute settlement panel. This position reflects three considerations. First, the role of dispute settlement panels would be to resolve disagreements between governments. Second, the acceptance of unsolicited briefs from any interested person or organization in any of the NAFTA countries could have the effect of burdening the dispute settlement process without adding new information. Third, the technical expert and scientific review board provisions would allow a dispute settlement panel to seek any information from any source that would assist it in making a determination.

(iii) Panel Procedures

Paragraph 2012.1 would require that "The panel's hearings, deliberations and initial report, and all written submissions to and communications with the panel shall be confidential." At the same time, Paragraph 2017.4 would require that "Unless the Commission decides otherwise, the final report of the panel shall be published 15 days after it is transmitted to the Commission." The final report would include the findings of facts and recommendations of a panel, and would be available to the public.

L. PUBLICATION AND PUBLIC COMMENT

Environmental issues have a continental effect. Canadians want to be aware of decisions made in other countries that might affect our environment. Publication, notification and transparency provisions would be contained in several chapters of the NAFTA. Reference has been made previously to the specific provisions pertaining to Standards-Related Measures (Article 909), and Sanitary and Phytosanitary Measures (Article 718). Another example would include Annex 803 of the Emergency Action chapter which would require that petitions for emergency action "promptly be made available for public inspection" and that the investigating authority "publish notice of the institution of the proceeding," "hold a public hearing," and "publish promptly a report" of its findings and reasoned conclusions on all pertinent issues. Article 1306 of the Telecommunications chapter would require that "each Party ... make publicly available its measures relating to access to and use of public telecommunications transport networks or services."

Paragraph 1802.1 would be a generic NAFTA provision requiring that each party's "laws, regulations, procedures, and administrative rulings of general application respecting any matter covered by this Agreement are promptly published or otherwise made available in such a manner as to enable interested persons and Parties to become acquainted with them." Paragraph 1802.2 would require that, "To the extent possible, each Party ... :

(a) publish in advance any such measure that it proposes to adopt; and (b) provide interested persons and Parties a reasonable opportunity for comment on such proposed measures."

These provisions would ensure that interested persons would have an opportunity to be informed of any existing Canadian, U.S. or Mexican measures related to the application of any matter covered by the NAFTA. To the extent possible, each party would also be required to provide an opportunity for interested persons in any of the NAFTA countries, to learn, in advance, of all new measures being proposed and to submit comments on the draft new measures to the appropriate regulatory agency. Hence, interested Canadians, Canadian environmental organizations or Canadian business associations would have an opportunity to review and to comment on any new measures being considered by any NAFTA country under any chapter of the Agreement.

M. ACCESSION

Paragraph 2204.1 of the Agreement states that "Any country or group of countries may accede to this Agreement subject to such terms and conditions as may be agreed between such country or countries and the Commission and following approval in accordance with the applicable legal procedures of each country." This paragraph would allow other countries to become parties to the Agreement without requiring a renegotiation of its provisions. In other words, any new member country would be expected to accept and to respect the existing provisions of the NAFTA, including its environmental provisions.

N. ENVIRONMENTAL DUTIES AND TARIFFS

In the context of the NAFTA consultations, environmental organizations made proposals concerning environmental duties and tariffs from three very different perspectives. The first related to the treatment of government subsidies for environmental reasons, incurred on behalf of companies by Canada's federal, provincial or local governments. The second related to the treatment of goods produced by a company in a country whose environmental standards were lower or whose enforcement of its environmental standards was less stringent than in Canada. The third related to the funding of environmental protection and enforcement programs. For the various reasons identified below, these proposals were not adopted by the NAFTA.

(i) Environmental Subsidies

The NAFTA does not include provisions applicable to subsidies and countervailing duties generally, or to environmental subsidies particularly. Article 103 of the Agreement affirms the "existing rights and obligations" of the parties under the General Agreement on Tariffs and Trade. Therefore, subsidy/countervail rules applicable to trade among the NAFTA parties would continue to be those contained in the GATT Subsidies Code.

According to the GATT, a countervail complaint would normally be initiated if there is sufficient evidence of (a.) a subsidy, (b.) injury and (c.) a causal link between the subsidized imports and the alleged injury. Provided that the three conditions were met, the importing country could impose a "countervailing duty" intended to offset the injury caused by the subsidy. The countervailing duty could not exceed the per unit value of the

foreign government subsidy and could only be applied to the subsidized goods imported from the subsidizing country.

An environmental subsidy that is "generally available" to all companies in a country is usually considered not to be countervailable. Thus, the Government of Canada could offer either a direct subsidy or a tax deduction to all Canadian companies for investment in environmental abatement technology or equipment with little risk of triggering a countervail investigation. However, if it were to offer such a program to a specific company, or to a specific group of companies, producers in another country could request that its government initiate a countervail investigation if they believed that imports from the subsidizing country were causing injury.

In the multilateral trade negotiations (MTN) currently under way, efforts are being made to provide a special exception from countervail action for certain government assistance for research. If accepted, this special "carve-out" would ensure that, subject to certain conditions, government subsidies to promote research for environmental purposes would not be countervailable. Furthermore, by disciplining subsidy practices that could be considered as impeding adjustment in pricing to reflect environmental costs, the proposed MTN subsidies text would reinforce the OECD "Polluter Pays" principle.

(ii) Environmental Countervailing Duty

Some environmental and business representatives believe that lower environmental standards, or the lack of enforcement of environmental standards, should be subject to the imposition of an "environmental countervailing duty." An environmental countervailing duty would be intended to result in an equalization of the costs of environmental protection incurred by companies located in different NAFTA countries.

The economic significance of different levels of environmental standards and enforcement is presented in the chapter on Industry Migration. This section addresses the concept of an environmental countervailing duty from a policy perspective.

According to its proponents, an equalization of environmental costs arising from different standards, or different levels of enforcement, could have a threefold benefit. First, the likelihood of industry pressure, for competitive reasons, to lower environmental standards to the lowest common denominator of the NAFTA countries could be reduced. Second, the economic incentive to relocate production to the NAFTA country with the lowest environmental standards, or the least stringent enforcement of its standards, could be mitigated. Third, by encouraging all companies to implement similar pollution abatement practices, the adoption of policies favouring the full "internalization" of environmental costs could be facilitated.

An environmental countervailing duty could also have several disadvantages. First, there can be legitimate reasons for differences in environmental standards, both between countries and between regions within a country. A standard that is appropriate for one NAFTA party may not be appropriate for another because of such factors as local environmental conditions, different environmental priorities and particular socio-economic preferences. For example, climatic conditions as diverse as those of the Canadian Arctic,

the desert-like regions of the southwestern U.S., and the humid forests of southern Mexico each have their own specific environmental sensitivities.

Second, there would be the question of who should select the standards for environmental protection in North America. Mandatory continental standards would constrain the right to regulate at the national, provincial and local levels. An environmental countervailing duty could be used as a tool for a large country to impose its environmental policies on a smaller partner.

A country may have very stringent environmental standards for certain pollutants and less stringent standards for others. Who would decide which combination would be the most appropriate?

Third, since it would apply only to goods traded among the NAFTA partners, an environmental countervailing duty could be ineffective in encouraging better environmental policies and practices. Goods destined for the domestic market or for non-NAFTA countries would not be affected. Furthermore, the exporting company could choose to pay the environmental countervailing duty rather than modify its environmental practices.

In light of the potential disadvantages associated with an environmental countervailing duty, the unilateral and extraterritorial imposition of environmental standards, and their enforcement, was not pursued in the context of the NAFTA negotiations.

Nevertheless, differences in environmental standards and enforcement are of concern to Canadians and to Canadian companies. The preferred route is for Canada to co-operate with Mexico and the U.S. to upgrade environmental standards and enforcement, on a continental basis, through both the NAFTA Committee on Standards-Related Measures and a North American Commission on Environmental Co-operation.

(iii) Environmental Duty

A challenge facing the governments of the NAFTA countries is the identification of sufficient resources to meet their respective needs for environmental prevention, environmental abatement and environmental enforcement initiatives. Some environmental organizations suggested that this challenge could be met by imposing a tax on intra-NAFTA trade.

Several drawbacks were noted with respect to this proposal. For example, the purpose of a free trade area is to eliminate barriers to trade between the parties. An environmental duty would substitute one set of import duties for another set. Second, over two-thirds of Mexico's exports now enter Canada duty-free. As a result of the 1989 Canada-U.S. Free Trade Agreement (FTA), trade between Canada and the U.S. will be largely duty-free by 1993. The imposition of an environmental duty on intra-NAFTA trade could disadvantage the three countries in comparison to the status quo and, in some cases, could favour non-NAFTA suppliers. Third, companies producing for domestic markets also generate pollutants. These companies should also be expected to contribute to environmental programs. In light of these reasons, rather than limit the support of environmental programs to those companies that export, it was considered preferable that all businesses should contribute to environmental protection and abatement programs.

0. CHAPTER SUMMARY

Prior to the formal initiation of the negotiations, it was agreed by the three NAFTA partners that the Agreement would address trade-related environmental issues. The decision to integrate environmental considerations into the NAFTA is apparent in several environmentally significant areas of the Agreement.

Examples of provisions of priority interest, from an environmental perspective, would include:

- The Preamble to the NAFTA specifically identifies environmental protection and conservation as a primary objective of the Agreement. The Preamble also names as goals the promotion of sustainable development, and the strengthening of the development and enforcement of environmental laws and regulations.

- Chapter 1 (Objectives) includes a broad exception for specific trade obligations set out in certain international and bilateral environmental and conservation agreements.

- Chapter 3 (National Treatment and Market Access for Goods) would require the elimination of duties on all environmental goods and equipment within 10 years.

- Chapter 7, Section B (Sanitary and Phytosanitary Measures) would permit NAFTA countries to establish the level of protection that they consider appropriate to protect human, animal or plant life or health within their respective territories.

- Chapter 9 (Standards-Related Measures) would protect the right of Canadian governments to determine the level of environmental protection that they consider appropriate for their own circumstances. It would require that the three countries work jointly on enhancing the level of environmental protection and would prohibit downward harmonization. The chapter would require the creation of a committee to, inter alia, ensure follow-up on issues such as the development, application and enforcement of standards-related measures.

- Chapter 11 (Investment) contains an important precedent-setting provision that would formally discourage a government from lowering its own environmental standards for the purpose of encouraging an investment. This provision would establish a principle from which there would be no turning back in future trade agreements. Moreover, under certain conditions, environmental measures would take precedence over investment disciplines.

- Chapter 16 (Temporary Entry for Business Persons) would require that business persons, tourism personnel or scientists associated with environmental initiatives be granted temporary entry privileges to the other NAFTA countries.

- Chapter 17 (Intellectual Property) would allow the parties to exclude plants and animals from patentability.

- Chapter 18 (Publication, Notification and Administration of Laws), supported by more specific provisions in other chapters, would permit individual Canadians and Canadian

environmental organizations to influence measures being proposed by any NAFTA member government under any provision of the Agreement.

- Chapter 20 (Institutional Arrangements and Dispute Settlement Procedures) would provide two new mechanisms for the submission of environmental concerns to dispute settlement panels and would require the panels to take such concerns into account in making their decisions.

- Chapter 20 would also allow a responding party to require that any disagreement pertaining to a named international environmental or conservation agreement, or any standards-related measure affecting its environment be considered exclusively under the NAFTA dispute settlement mechanism.

- Chapter 21 (Exceptions) would incorporate GATT Articles XX (b) and XX (g). The former would be interpreted to encompass environmental measures necessary to protect human, animal or plant life or health. The latter would be interpreted to encompass measures relating to the conservation of living and non-living exhaustible natural resources.

The NAFTA would not include provisions that would permit unilateral extraterritoriality; exempt from the threat of countervail, environmental subsidies that were not generally available; or provide for the imposition of an environmental countervailing duty or an environmental duty. It was concluded that unilateral extraterritoriality would not be to the long-term advantage of either Canada's economic or environmental interests. For reasons unrelated to the environment, the NAFTA would not include provisions on subsidies generally, or environmental subsidies particularly. The chapter discusses a number of considerations that argue against an environmental countervailing duty or an environmental duty on imports.

IV. ENVIRONMENTAL SCREENING

This chapter presents an environmental screening of the NAFTA. An environmental screening considers the potential effects of a proposed policy, program or project on the different environmental media (e.g., air, land, water) as well as the possible socio-economic impact. The various issues addressed by the chapter are grouped under four general headings: global and atmospheric issues; air and water issues; renewable and non-renewable resources; and toxic substances and waste management.

A. CONTEXT OF THE SCREENING

The NAFTA is a trade policy framework that defines the respective rights, obligations and disciplines that would govern future relations among its member countries with respect to investment and to trade in products, services and intellectual property. The NAFTA is the first trade agreement to undergo an environmental review.

Although the analytical tools necessary for reviewing the environmental implications of policies are still being developed, it is possible, when the estimated changes in economic activity and trade patterns are known, to anticipate the trend line of environmental effects attributable to a trade agreement. However, it is difficult to estimate quantitatively the likely environmental effects of the NAFTA since (1.) the nature of the relationship between increased trade and economic activity and the environmental effects which may result is uncertain; (2.) NAFTA-induced economic effects on Canada could be modest in comparison to Canada's total GDP; and (3.) necessary baseline data on the environment are often unavailable. For these reasons, the review is directional or qualitative rather than quantitative.

This section of the review consists, therefore, of a qualitative environmental screening or checklist. It considers the potential impacts of the NAFTA on the quality of Canada's environment, with a focus on global and atmospheric issues, air and water quality, renewable and non-renewable resources, and toxic substances and waste management. Socio-economic impacts were considered only if there was a cause-and-effect linkage with the anticipated environmental effects.

When assessing potential environmental impacts, anticipated changes must be considered against a baseline scenario. In reviewing the NAFTA, the Committee compared the possible impacts of a tripartite agreement, that would expand the Canada-U.S. Free Trade Agreement to include Mexico, to what has been referred to as a "hub and spoke" trading arrangement. In a "hub and spoke" arrangement Mexico would enter into an agreement with the U.S., without the participation of Canada. Canada and Mexico, the "spokes," would have separate trade agreements with the U.S., the "hub." Under the "hub and spoke" approach, businesses located in Canada and Mexico would each have enhanced access to the U.S. market. Only businesses located in the U.S. would have enhanced access to all three markets.

Compared with Canada's total output, exports and imports, current trade with Mexico is modest. In 1991, Canada's GDP reached $680 billion, of which exports were responsible for some $145 billion (24 per cent). During the same year, Canadian exports to Mexico

mounted to $543 million,[16] accounting for 0.4 per cent of total exports and 0.1 per cent of Canada's GDP. Of Canada's $135 billion total imports during the same period, just under $2.6 billion (2 per cent) were from Mexico.[17]

Exports to Mexico that amounted to $10 million or more in 1991 included motor vehicle and engine parts; iron and steel products; newsprint; wheat; telecommunications equipment and parts; sulphur; aircraft and parts; paper products; petroleum oils; asbestos; wood pulp; milk powder; live cattle; and office and data-processing equipment. During the same year imports that amounted to $10 million or more included automotive parts and accessories; automotive vehicles; engines and engine parts; radio, telephone and audio equipment and parts; data-processing machines and parts; ignition wiring sets; petroleum oils; fruits, coffee and nuts; air conditioners, fans and parts; vegetables; carpets, fabrics and yarn; small kitchen appliances; alcoholic beverages; iron and steel springs; and toys.

The average tariff on Canadian imports from Mexico in 1991 was 2.3 per cent. Over 70 per cent of Mexico's exports to Canada already entered this country duty-free last year. It is unlikely, therefore, that the NAFTA would result in a surge of Mexican products entering Canada. However, Mexican tariff and non-tariff barriers against Canadian exports are significant, and their removal could result in important gains for some Canadian exporters. While it is difficult to predict with precision the eventual economic and trade effects of the NAFTA, the Agreement is expected to have a modest, but positive impact on Canada's total production and exports. Even a 10-fold increase in exports to Mexico would not be sufficient to have a significant effect on Canada's environment.

The U.S. released a report on U.S.-Mexico environmental relations on February 25, 1992. The U.S. review included an examination of the possible environmental implications of the NAFTA, particularly along the U.S.-Mexico border.[18] The U.S. analysis concluded that while the NAFTA would likely increase the production of pollutants in the U.S.-Mexico corridor, the environmental impact of this increase would be less with the NAFTA than without the NAFTA. On the same date, the two countries jointly released an integrated environmental border plan that presents a plan for addressing the issues identified in the U.S. review.[19] Executive summaries of the U.S. review and the joint border plan are presented in Annexes 9 and 10, respectively.

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16. Statistics Canada, Merchandise Trade Statistics. See Annex 2 for product values.

17. Ibid. See Annex 3 for product values.

18. Office of the U.S. Trade Representative, Review of U.S.-Mexico Environmental Issues.

19. United States Environmental Protection Agency and the Mexican Secretaria de Desarrollo y Ecologia, Integrated Environmental Plan.

B. GLOBAL AND ATMOSPHERIC ISSUES

(i) Ozone Depletion

Depletion of the stratospheric ozone layer is caused by a complex chemical process resulting from the emission of long-lived chlorine and bromine compounds into the atmosphere. The most important ozone-depleting substances, chlorofluorocarbons (CFCs), halons and carbon tetrachloride, survive intact in the atmosphere for many years. It is believed that CFC emissions are responsible for more than 80 per cent of total ozone depletion. Over the past 50 years, CFCs have been employed in a wide variety of applications, including refrigeration and air conditioning, cleaning, foam production and aerosol propellants.

The pattern of ozone depletion around the world is marked by two distinct phenomena: (1.) a very significant loss of ozone over the Antarctic, according to some estimates as much as 60 per cent as the sun returns to the region in the spring, as well as similar, but much less dramatic losses in the Arctic; and (2.) a small general decline in global ozone, of less than 0.3 per cent per year, over the past decade. Data collected from the Global Ozone Observing System for Canada suggest a decline in total ozone over Canada of 0.8-2.5 per cent per decade during the period from 1965 to 1986, with substantial losses occurring in the winter at middle and high latitudes.

Canada is accelerating its research and monitoring efforts to determine more clearly the nature of Arctic ozone depletion and its influence on ozone levels over the rest of Canada. This effort is part of a global network, co-ordinated by the World Meteorological Organization, a UN agency.

Twenty-five countries produce CFCs, but just five of them, of which the U.S. and the U.K. are the most important, account for 75 per cent of the world's production. Canada accounts for less than 3 per cent, while Mexico's output represents less than 1 per cent. North America, principally the U.S., and Western Europe are the largest consumers of CFCs, accounting for almost 70 per cent of global use.

The NAFTA is unlikely to have any significant impact on global production, consumption or release of CFCs or other ozone-depleting substances. All three NAFTA countries are signatories to the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer. This multilateral agreement restricts the amount of "controlled substances" that a party can consume. Consumption is defined as production plus imports minus exports. Article 104 of the NAFTA would provide an explicit exception, from the disciplines of the NAFTA, for specific trade obligations set out in the Montreal Protocol.

For the month of June 1991, Canada's consumption of CFCs was 45 per cent less than during the same month of 1986. Canada is committed to a complete ban of new CFCs by the end of 1995, and of methyl chloroform by the year 2000. Both targets are earlier than required by the Montreal Protocol. The NAFTA would not affect Canada's decision to advance the dates of these bans. Article 904 of the NAFTA would safeguard Canada's ability to adopt and to apply measures to protect our environment.

As a developing country, Mexico is entitled to a 10-year deferral of the developed country phase-out schedule for ozone-depleting substances under the Montreal Protocol. However,

Mexico has announced, unilaterally, its intention to phase out its use of ozone-depleting substances on the developed country schedule.

(ii) Climate Change

The greenhouse effect is largely sustained by the presence of carbon dioxide and water vapour in the atmosphere. Other natural gases that contribute to the greenhouse effect include methane, nitrous oxide and tropospheric ozone. Studies indicate that concentrations of these greenhouse gases and the emissions of synthetic gases (i.e., CFCs) are increasing significantly. Carbon dioxide and methane concentrations in the global atmosphere are believed to have reached their highest values in many thousands of years. The rising concentrations, due largely to human activities such as the burning of fossil fuels, various industrial processes, and changing land uses, are predicted to enhance the natural greenhouse effect, resulting in climate change and related environmental effects.

Of all the greenhouse gases being added to the atmosphere by human activity, carbon dioxide is the most important. It alone is responsible for about 60 per cent of the additional greenhouse effect. Other greenhouse gases are more powerful absorbers of infrared radiation than carbon dioxide, but because they exist in much smaller quantities in the atmosphere, their overall impact is less. For example, methane traps 25-30 times more infrared radiation per molecule than does carbon dioxide.

Canada is responsible for about 2 per cent of global carbon dioxide emissions, although it has one of the highest per capita emission rates in the world. The U.S. is the single largest source of global emissions, accounting for approximately 24 per cent of the total. Mexico accounts for less than 2 per cent.

The growth of economic activity in Canada that would likely be generated by the NAFTA should not result in a significant increase in the use of transportation or in the burning of fossil fuels in this country. Furthermore, Paragraph 904.1 of the NAFTA would permit Canada to deny entry to this country to foreign transportation vehicles that failed to meet Canadian environmental standards. It is unlikely, therefore, that the NAFTA would cause a significant increase in the production of greenhouse gases in Canada.

The extent to which the NAFTA could affect global greenhouse gas emissions is less clear. On the one hand, it is possible that a NAFTA-induced increase in greenhouse gas emissions could result from additional economic growth in North America, particularly in Mexico. Conversely, the NAFTA could contribute to a more rapid conversion to cleaner or non-fossil fuel burning technologies, thereby resulting in lower emissions of greenhouse gases per unit of output than would otherwise be the case.

Domestic and international efforts are currently under way to control greenhouse gas emissions. Domestically, Canada is committed to a national goal of stabilizing emissions of CO_2 and other greenhouse gases (not controlled under the Montreal Protocol) at 1990 levels by the year 2000. As part of its undertaking to deal with this problem, Canada has established a National Action Strategy on Global Warming to serve as a framework for actions taken to achieve this goal. Internationally, like the U.S. and Mexico, Canada is a signatory to the UN Framework Convention on Climate Change, which commits member countries to take action to limit their emissions of greenhouse gases and to report on these

actions. Articles 902 and 904 of the NAFTA would ensure that Canadian federal and provincial governments would retain the flexibility to adopt and to enforce standards that are necessary to limit greenhouse gas emissions.

There are still many uncertainties concerning the implications of rising greenhouse gases. This makes it difficult to predict the environmental effects of incremental emissions of greenhouse gases, either globally or within Canada. Nonetheless, since any incremental greenhouse emissions are likely to be small, compared to expected trends in global totals, the environmental effects of the NAFTA are likely to be relatively insignificant, even in a worst-case scenario.

(iii) Long-Range Transport of Airborne Pollutants

The federal government, based on recommendations of the Federal-Provincial Advisory Committee on Air Quality, establishes national ambient air quality objectives (NAAQOs). NAAQOs exist for five common airborne pollutants: sulphur dioxide, suspended particulate matter, ozone, carbon monoxide and nitrogen dioxide. These pollutants are monitored continuously at National Air Pollution Surveillance sites.

NAAQOs are target levels that afford specified protection for humans, other life forms, soil and water, etc. The levels are three-tiered: "maximum desirable levels," "maximum acceptable levels," and "maximum tolerable levels." Paragraph 904.2 of the NAFTA explicitly permits a party to establish the level of environmental protection that it considers appropriate. The Agreement would, therefore, not affect Canada's ability to adopt and to maintain NAAQOs.

Transboundary effects of these common pollutants are felt along Canada's southern border. With or without the NAFTA, industrialization along the Canada-U.S. border is likely to continue. This industrial growth will place additional stress on regional air quality and will require continued monitoring and follow-up.

Current, but preliminary, information indicates that any substantial transport of these common air pollutants from Mexico to Canada would be exceptional. The southwesterly flow of air required for this type of transport is usually accompanied by rain and significant deposits of particulate pollutants. Most of the material from Mexico would be washed out before reaching Canada.

Unlike the more regional distribution of common airborne pollutants, there is evidence that the long-range transport of such persistent pollutants as organochlorines may be influencing their air concentrations in the Great Lakes region. If picked up by the winds, persistent pollutants can be carried long distances and fall to the soil and water far from their original source. As they are very insoluble in rain they are not likely to be washed out of the atmosphere readily.

Organochlorines are a large class of chemicals that include industrial organics, such as polychlorinated biphenyls (PCBs); agricultural organics, such as hexachlorobenzene (HCB), DDT/DDE, chlordane, toxaphene and aldrin; by-products of anthropogenic activities, such as dioxins and furans; and chemical transformation products, such as dieldrin from the oxidation of aldrin. Organochlorine compounds can be released into the environment during their use as pesticides or as a result of the leakage, spillage or disposal of industrial

chemical products. They can also be released as unwanted, secondary products, formed both as contaminants in the manufacture of chemical products and as a result of incomplete combustion during incineration.

Organochlorines are important environmental contaminants because of their high stability and persistence in the environment, high bio-accumulation capability, potential for high chronic toxicity, and as a result of the large quantities that have been released into the environment. Although the use and production of some of these compounds has either ceased or has been restricted in some countries, many are still widely used around the world.

For example, researchers have found toxaphene, an insecticide used on cotton crops in the southeastern U.S., in fish as far away as Lake Superior. Chemicals, such as DDT, that fall on the Great Lakes are believed to come from at least as far away as Mexico and the Caribbean.[20] In Ontario, air concentrations of toxaphene, lindane, DDT and other persistent organics have been shown to increase significantly during favourable transport conditions from the southern U.S., Mexico and the Caribbean. The sources of these chemicals have yet to be pinpointed and it is still not clear whether their presence is due to current usage or to evaporation following past usage. In the case of PCBs, for example, it has been estimated that 31 per cent of the total world production was released into the global environment prior to the imposition of restrictions on their use.

The International Joint Commission (IJC) has been reporting regularly on progress under the 1972 and 1978 Great Lakes Water Quality Agreements, as well as under the 1987 Protocol to the 1978 Agreement. In 1985, 11 of the most persistent and widespread toxic contaminants, of which eight are organochlorine compounds, were identified as critical Great Lakes pollutants by the IJC.[21]

The 1987 Protocol called for the creation of a surveillance network to gather accurate information on the nature and amount of toxic substances entering the Great Lakes from the atmosphere, as well as for the identification and control of emission sources. An Implementation Plan for the Integrated Atmospheric Deposition Network was signed on June 14, 1990. Studies through this binational network will enable Canada and the U.S. to determine the atmospheric loadings of toxic substances, and to adopt appropriate pollution prevention and control measures.

In addition, the UN Economic Commission for Europe has established a task force on persistent organic pollutants. The mandate of this group, co-chaired by Canada and Sweden, is to develop a protocol for the international control of organic pollutants by 1994.

The extent to which Canada's participation in the NAFTA could affect the production and use of these organic pollutants in the free trade area would likely be limited. However, their potential for reaching Canada from production or use sites in the southern U.S. or Mexico sets them apart from the common pollutants discussed earlier. Additional

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20. Water Quality Board, Cleaning Up Our Great Lakes, p. 19.

21. Canada, Departments of Environment, Fisheries and Oceans, and Health and Welfare, Toxic Chemicals in the Great Lakes and Associated Effects, p. 4.

scientific study and analysis of the long-range transport of organochlorines would facilitate a better understanding of the potential environmental effects of the NAFTA in Canada. International monitoring and co-operative action now under way on this issue should help to provide some of the missing information.

Regardless of the potential for airborne transportation of pollutants, the NAFTA contains several provisions that would permit Canada to influence the production and use of organochlorines in Mexico and the U.S. For example, the Agreement would allow a country to prohibit the importation of products that contain residue levels in excess of those allowed by the importing country (Article 904); necessitate the publication of proposed standards so that they could be commented on by the governments or nationals of the other member countries (Article 909); require the development of enhanced environmental standards (Article 906); and provide for the creation of a working group on environmental standards and enforcement (Article 913).

(iv) The Arctic

The Arctic plays a vital role in the global climate, acting as a planetary thermostat or "heat sink," cooling the air and absorbing the warmth transported north from the tropics via the world's air currents. Because of the integrated nature of these planetary processes, the global climate would change if the Arctic's existing capacity to regulate temperature were to change.

Virtually all organochlorines detected at southern latitudes have also been found in the Arctic. These contaminants reach the Arctic environment following long-range transport via rivers and air and ocean currents from more industrialized centres, particularly in Asia, Europe and North America.[22] Chemical contaminants, such as PCBs and DDT, are present in the air, water, plants, wildlife and humans of the Arctic. However, there are limited scientific data on levels of contaminants in the Arctic environment and on their pathways; hence, few data are presently available to either determine the origin of pollutants or to identify long-term trends.

As a part of the Arctic Environmental Strategy[23] on contaminants, the government is working on a plan that will attempt to identify contaminant sources and their means of transport to the North. The government will then undertake to reduce or eliminate the long-range transport of pollutants by engaging in international negotiations to control and restrict contaminant release.

Canada is currently a signatory to several multilateral and bilateral agreements and conventions, including the Declaration on the Protection of the Arctic Environment that was signed by all eight circumpolar countries in June 1991. Canada and Sweden are leading a UN Economic Commission for Europe task force on persistent organic pollutants. The controls recommended by the task force will be implemented under the Convention on Long-Range Transboundary Air Pollution. The NAFTA would not affect Canada's involvement in these international environmental or conservation agreements since they do not contain trade obligations.

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22. Government of Canada, State of the Arctic Environment, p. i.

23. Canada, Department of Indian and Northern Affairs, The Arctic Environmental Strategy, p. 5.

It is difficult to assess the extent to which the NAFTA could impact negatively on the Arctic. Any increased production or use of these pollutants in Canada as a result of the NAFTA would be expected to be minimal, given the likely incremental economic effects of the NAFTA in this country and Cánada's existing legislative and regulatory requirements. The impact of any increased transboundary movement of persistent chemical contaminants from other countries would be less certain. There is currently a lack of comprehensive data on organochlorine contaminants in the Arctic, and insufficient information on their sources, sinks and pathways. Canada will continue its research and monitoring in this area. The increased bilateral and trilateral environmental co-operation being developed in conjunction with the NAFTA will complement ongoing international efforts to address these issues.

C. AIR AND WATER ISSUES

(i) Acid Rain

In Canada, acid rain is caused primarily by emissions of sulphur dioxide, a common airborne pollutant. Most sulphur dioxide emissions result from the burning of sulphur-containing coal and the processing of sulphur-containing ore. The sulphur dioxide may remain aloft for many days, during which time it oxidizes to form sulphates that may combine with water in the air, forming sulphuric acid. Much of this returns to the earth in precipitation. Even when the sulphate particles do not combine with water, they may fall to earth and form sulphuric acid in the surface waters. Nitrogen oxides, which may react with water in the atmosphere to form nitric acid, are a further source of acidic deposition. These oxides are emitted by all combustion sources, notably automobiles and coal-burning power facilities.

It is often assumed that economic growth and environmental protection are incompatible. Canada's progress in reducing sulphur dioxide emissions demonstrates that economic growth and environmental protection can go hand in hand. As a result of co-operative government-industry efforts, sulphur dioxide emissions have decreased significantly in Canada, from a high of 6.9 million tonnes per year in 1970, to 4.6 million tonnes in 1980, and to 3.7 million tonnes in 1990.[24] Emissions decreased despite growth in the Canadian economy. By 1994, agreements are to be negotiated with all provinces to permanently cap national emissions at 3.2 million tonnes, beginning in the year 2000. The NAFTA would not be expected to promote sufficient incremental growth in smelting or in fossil fuel consumption in Canada to lead to a significant increase in domestic emissions.

It is estimated that more than half of the acid rain deposition in eastern Canada is caused by emissions produced in the U.S. The vast majority of acid rain-causing emissions from the U.S. originate from coal and oil-fired electrical generating stations located in eastern and mid-western states, within about 500 kilometres of the Canada-U.S. border. It is unlikely that this region of the U.S. would be the primary beneficiary of freer trade with Mexico. Furthermore, any increased economic activity that could take place in this area would occur with or without Canada's participation in the free trade agreement.

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24. Government of Canada and Government of the United States of America, Canada-United States Air Quality Agreement Progress Report, p. 13.

On March 13, 1991 Prime Minister Mulroney and President Bush signed a Canada-U.S. agreement on air quality. Under the terms of the Air Quality Accord, Canada and the U.S. pledge to control air pollution that flows across the international boundary. The U.S. is scheduled to decrease annual sulphur dioxide emissions by 9.1 million tonnes, 40 per cent below the 1980 level, by the year 2000.[25] As the Accord does not contain trade provisions, it would not be affected by the NAFTA.

(ii) Ground-Level Ozone (Smog)

Ground-level ozone is produced by the reaction between nitrogen oxides (NO_x) and volatile organic compounds (VOCs). Since this reaction is related to temperature and to the amount of sunlight, ozone problems are particularly prevalent during hot summer days.

NO_x are formed primarily by burning fossil fuels. VOCs are released during combustion, from various industrial processes, and from the evaporation of liquid fuels, solvents and organic chemicals. Motor vehicle emissions are the largest single source of smog-causing emissions.

Most merchandise trade between Canada and Mexico moves by truck transport. However, this movement represents less than 2 per cent of Canada-U.S. trade. Under the NAFTA, growth in merchandise trade between Canada and Mexico would be expected to increase gradually, and should not have a significant impact on Canada's transportation infrastructure.

Federal and provincial governments in Canada are stepping up actions to address smog problems. In October 1988, the Canadian Council of Ministers of the Environment agreed to develop a comprehensive, 10-year, federal-provincial management plan to control smog-causing emissions in problem areas. One feature of this management plan is the adoption of a comprehensive package of tighter emission standards, beginning in 1994, for new motor vehicles, other transportation sources and transportation fuels. Article 904 of the NAFTA would protect Canada's ability to establish and to enforce these standards.

Annex 300-A of the Agreement would provide for an accelerated phase-out, beginning in 1994, of Mexico's restrictions on the importation of trucks and buses. Giving Mexican companies early access to trucks manufactured in Canada and the U.S. would help to ensure that the aging Mexican fleet more quickly meets the higher emission and safety standards required of trucks operating in Canada and the U.S. Until they complied with Canadian environmental standards, Article 904 of the NAFTA would allow Canada to prohibit non-complying motor vehicles from moving goods into or from this country.

Furthermore, the NAFTA would result in continuing pressure to upgrade vehicle emission standards throughout the continent. Article 906 and Annexes 913.5.a1 and 913.5.a3 of the NAFTA would require that motor carrier emission standards be made compatible, to the greatest extent practicable, through an upward harmonization of emissions. Paragraph 906.2 of the Agreement would prohibit a downward harmonization of automotive emission standards.

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25. Ibid.

(iii) Water Quality

Environmental stresses on aquatic ecosystems can arise from the use of water as a sink for the wastes of human activity, or from the withdrawal of water to meet municipal, industrial, agricultural and other demands. Such stresses are particularly evident in the Great Lakes and St. Lawrence River Basin, as well as in the Fraser River.

One of Canada's most serious water quality problems is the existence of persistent toxic substances in many of its freshwater ecosystems. Originating mainly from industrial sources, these substances have been accumulating in Canada's aquatic ecosystems for many years. According to a 1991 report, persistent toxic chemicals and heavy metals are present in many Great Lakes ecosystems in concentrations that threaten the survival of some wildlife species.[26] Although the exact risk to humans is difficult to assess, it is becoming clear that, in some areas of the Great Lakes Basin, elevated levels of contaminants do pose a threat to human health.

Nevertheless, as the overall economic and sectoral impacts of the NAFTA, in comparison with total GDP, would be expected to be modest, it is unlikely that the Agreement would significantly accelerate urban, industrial or other water-intensive development in Canada beyond that which would take place in the absence of the NAFTA. Legislative and regulatory actions, pursuant to the Canadian Environmental Protection Act, provide protection for Canada's waterways. Article 904 of the NAFTA would allow Canada to continue to adopt and to enforce measures to protect its aquatic ecosystems.

Canada and the U.S. share several large river basin systems, including the Great Lakes and St. Lawrence River Basin, the largest freshwater system in the world, and home to over 39 million people. However, since most of any new NAFTA-induced economic growth in the U.S. would likely occur further south, it would be unlikely that the NAFTA would significantly accelerate water-intensive development by the U.S. in these shared river basins.

Water is a major route for transportation and, as such, can be affected by increased traffic and risk of oil spills. Canada imports a small volume of crude oil from Mexico (less than 2 per cent of total oil imports). Since this already enters duty-free, imports would not be expected to increase significantly as a result of the NAFTA. Increased risk of oil spills and incremental pollution from refinery operations would not, therefore, be expected.

(iv) Water Exports

The large-scale movement of water was neither raised nor negotiated during the NAFTA negotiations. The NAFTA would not, therefore, modify the status quo with respect to this country's sovereign right to manage its water resources, in the national interest and in an environmentally sound manner.

Any large-scale international diversion of water would be contrary to Canada's 1987 Federal Water Policy. The Canada-U.S. Free Trade Agreement enabling legislation stated clearly that it did not apply to water, except in the case of water packaged as a beverage

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26. Canada, Departments of Environment, Fisheries and Oceans, and Health and Welfare, Toxic Chemicals in the Great Lakes, p. 21.

or in tanks. Canada's NAFTA implementing legislation will include an FTA-like reaffirmation of the exclusion of large-scale transfers of water from the terms of the NAFTA.

D. RENEWABLE AND NON-RENEWABLE RESOURCES

(i) Agriculture

In 1990, Canadian agri-food exports to Mexico totalled $115 million, while imports amounted to $162 million. These represented 1.1 per cent and 2 per cent of Canada's total agri-food exports and imports, respectively. Currently, over 80 per cent of agri-food imports from Mexico enter this country duty-free. A large proportion of these imports are also complementary in that they consist of products that are not grown in Canada (i.e., oranges, bananas, avocados), or they enter Canada during its off-season.

In the context of the NAFTA, two specific issues were identified as being of potential concern from an environmental perspective: the possible impact of the NAFTA on Canada's soil and water resources; and the NAFTA's potential effect on Canada's ability to regulate the use of pesticides.

(a.) Soil and Water Resources

One potential concern is that increased agri-food export opportunities could be an incentive to expand Canada's agricultural land base at the expense of marginal lands and wetlands.

Although it would eliminate or reduce Mexican tariff and non-tariff barriers on imports of Canadian agri-food products, the NAFTA would be unlikely to have a significant effect on agricultural production patterns in Canada for two primary reasons. First, Mexico's agri-food exports to Canada are already largely duty-free and a major proportion of this trade is complementary to Canadian production. Second, although Canadian exports of such commodities as grains, oilseeds and red meats to Mexico are likely to increase, their volume is likely to remain modest relative to total Canadian production.

(b.) Regulation of Pesticides

In Canada, the approval and use of pest control products are subject to regulations issued under a formidable number of acts. At the federal level, these include the Pest Control Products Act; the Food and Drug Act; the Canadian Environmental Protection Act; the Fisheries Act; the Northern Inland Waters Act; the Arctic Waters Pollution Prevention Act; the Transportation of Dangerous Goods Act; the Canadian Water Act; and the Migratory Birds Convention Act.

The Minister of Agriculture is responsible for the registration of pesticides, on the advice of the departments of Health and Welfare, Environment, and Forestry. The decision to register a product is based upon an assessment of potential risks relating to public health and environmental safety, as well as of the value of the product. A qualitative evaluation of all scientific evidence is undertaken prior to making a decision on whether a product should be registered for use in Canada.

The government has accepted the principal suggestions contained in a recent review of the pesticides regulatory system. This review recommended the creation of a system that is more open, transparent and predictable, in order to enhance the competitiveness of the resource sectors, while maintaining a balance among health, economic and environmental concerns. These reforms are currently in the process of being implemented.

As explained in detail in the chapter on Environmental Safeguards, the NAFTA objective of, where appropriate, taking into account risk assessment techniques developed by international standardizing organizations (Article 715), would not be a prescription for lower standards, or for harmonization on the basis of the standards of the largest economic actor. Articles 712 and 713 would explicitly permit Canada to choose the level of protection appropriate to its own circumstances and to adopt measures that are more stringent than international guidelines.

Another concern arises with respect to the potential importation, from Mexico or the U.S., of agricultural products that may have been produced using a pest control product that is not registered for use in Canada. The importation of such agricultural products into Canada is not unusual, especially in Canada's trade with countries that have different climates, different pests and different products. Pesticides are registered for specific combinations of crops and pests. Mexico and the U.S. both produce different crops, and have different pests, than those found in Canada. Consequently, pesticides registered in Mexico or the U.S. are not necessarily registered in Canada.

In the case of imported food products, the factor of primary importance, from a Canadian perspective, is the safety of the product for human consumption. Canada, like other countries, has adopted the principle of maximum residue limits as the basis for regulating pesticide residues on foods. Health and Welfare Canada, under the Food and Drug Act and Regulations, establishes a maximum residue limit for each pest control product that may be found on food products. Any product exceeding the maximum residue limit is prohibited entry into Canada.

Article 717 of the NAFTA would protect Canada's ability to establish and to enforce its own maximum residue limits on either domestic or imported food products. Furthermore, the chapter on Environmental Safeguards outlines how, under the notification and transparency provisions of the NAFTA, Canadians could influence the process of pesticide registration and the establishment of maximum residue limits in all three NAFTA countries.

(ii) Fisheries

Canada's long coastline and abundant freshwater systems have given Canadians access to significant fish stocks. Although the fishing industry represents less than 1 per cent of Canada's gross domestic product, commercial fishing is essential to regional economies. In addition, for many of Canada's aboriginal people, the fishery is both a prime source of food and livelihood, as well as an important part of their culture. Many species of wildlife and mammals also depend on healthy fish stocks.

Over the last two decades, fish stocks in Canada have come under various pressures such as foreign overfishing and habitat destruction. Habitat destruction can be caused by a variety of sources including agriculture, mining, forestry, transportation, energy development, urban growth and industrial activity. The long-term sustainability of

Canada's fisheries depends upon sound harvesting practices and upon healthy and productive fish habitat.

(a.) Habitat Management

The federal policy for the management of fish habitat and the existing Canadian regulatory framework should ensure that any changes in industrial activity that could result from the NAFTA would not have a deleterious effect on fish habitat. Articles 754 and 904 of the NAFTA would ensure Canada's continuing ability to establish its own policies and regulations.

(b.) Operations

In the areas of licensing, investment and ownership of fisheries, Mexican and U.S. practices are similar to those of Canada. As does the Canada-U.S. Free Trade Agreement, the NAFTA (Annex I, Schedule of Canada) would allow Canada to retain its current policies dealing with such issues as commercial fisheries licensing policies and foreign participation in Canadian fisheries. Paragraph 301.3 of the NAFTA would provide a specific exception for controls on the export of unprocessed fish that are maintained by Canada's five most eastern provinces.

While the number of vessels involved has been small, fishing boats from the U.S. and Mexico have, from time to time in the past, operated outside Canada's 200-mile limit off the east coast. Fishing in these international waters is regulated by the Northwest Atlantic Fisheries Organization (NAFO). Neither Mexico nor the U.S. is presently a member of NAFO. The NAFTA would not affect the status quo with respect to fishing in NAFO-regulated waters.

(c.) Control of Disease and Impacts of Introductions and Transfers

The definition of "animal" in the Sanitary and Phytosanitary Measures chapter of the NAFTA (Article 724) specifically includes fish and wild fauna. No changes to Canada's existing regulatory and policy framework for the protection of cultured and wild stocks of fish would be required as a result of the NAFTA.

(iii) Forests

Canada has a comparative advantage over Mexico in producing forest products and presently supplies about 10 per cent of Mexico's imports of wood and paper products. Currently, these shipments represent about 0.5 per cent of total Canadian forest product exports. It would be reasonable to expect that the phasing out of all tariffs and many non-tariff barriers in the NAFTA could result in an increase in Canadian exports of forest products to Mexico, and a marginal increase in Canadian production.

Effective rates of tariff protection in Mexico are, at present, greatest for particle board and newsprint (66 and 32 per cent, respectively). These two products could, therefore, be expected to experience the largest proportional increases in exports to Mexico. However, Mexico currently represents a small market for Canadian exports of these products and any NAFTA-induced increase in the foreseeable future would be expected to be modest.

In addition, two factors would mitigate the environmental impact of increased Canadian exports of forest products to Mexico.

First, particle board uses residual wood chips as its wood input. Increased particle board production and exports would not directly increase roundwood harvesting. Instead, excess residual wood chips would be utilized. This, in turn, would reduce environmental problems associated with the disposal of waste wood chips in Canada.

Second, due to shifts in comparative advantage, Canadian newsprint is being, and will continue to be, displaced from the U.S. market. Thus, increased exports of newsprint to Mexico would not result in a significant incremental increase in current Canadian newsprint production for the North American market. Instead, newsprint displaced from the U.S. market would, under the NAFTA, likely be redirected to the emerging Mexican market. In addition, Canada's pulp and paper industry input mix is about 60 per cent wood residues (i.e., chips, sawdust, etc.) and 40 per cent virgin fibre. Increases in the production of pulp and paper would have a larger impact on the consumption of wood residue than on virgin fibre consumption.

Given the currently modest role that Mexico plays in Canada's export of forest products, the probable redirection of existing newsprint exports from the U.S. to Mexico, and the fact that any increased production of particle board and newsprint would mostly utilize wood residues, the potential incremental environmental impact of the NAFTA on Canada's forests would be marginal.

(iv) Wildlife and Wildlife Habitat

Canada, the U.S. and Mexico share more than 70 wildlife species, including birds, insects, fish and marine mammals. Several species, such as the eskimo curlew, the mountain plover, the peregrine falcon, the whooping crane, the blue whale, the fin whale, the humpback whale and the pacific sardine are at risk. A change in the conditions in any one country could have implications for the populations of these species in all three of the NAFTA countries.

For example, monarch butterflies migrate from Canada to Mexico each fall. Long-term habitat degradation from activities such as logging and agriculture could cause irreparable damage, leading to the endangerment of both this and other shared species, as well as to the further endangerment of those already at risk.

The section above on agriculture concluded that the NAFTA would not be expected to significantly increase pressures to convert Canada's environmentally sensitive lands, such as wildlife habitat, to agricultural uses. The NAFTA would not change the market access provisions of the Canada-U.S Free Trade Agreement, and agri-food trade with Mexico should remain limited, in comparison to total Canadian production and consumption.

Forestry management and harvesting practices can have significant implications for both the quantity and diversity of wildlife present in a given area. First, wildlife can be affected by the manner in which a stand is harvested, particularly with respect to the residual stand and residue left behind. Current harvesting practices are designed to minimize this short-term impact. Second, wildlife can be affected, in the long-term, by the silvicultural effort

and by the regeneration of forests. The types of trees that are regenerated, and their density, will affect the longer-term presence of different wildlife species.

Overall, the forestry implications of the NAFTA for wildlife would be expected to be very small for two reasons. First, as indicated in the section on forests, trade in forest products between Mexico and Canada is relatively small, and it is unlikely that the NAFTA would significantly increase the harvesting of Canadian virgin forests. Second, Canadian harvesting and silvicultural practices would not be altered by the NAFTA.

Canada and Mexico have signed a number of international agreements on environmental issues affecting wildlife, including the Convention on International Trade in Endangered Species of Wild Fauna and Flora; the Convention on Wetlands of International Importance -- especially as Waterfowl Habitat (RAMSAR); the Convention Concerning the Protection of the World Cultural and Natural Heritage; and the International Convention for the Protection of Pollution from Ships. In addition, several bilateral and trilateral agreements exist, including the North American Waterfowl Management Plan, a Canada-U.S.-Mexico Memorandum of Understanding on Migratory Birds and their North American Habitats, and the Canada-Mexico Agreement on Environmental Co-operation. These conventions and agreements provide ongoing forums in which to address these issues.

The NAFTA (Article 104) contains an explicit exception for the specific trade obligations set out in the CITES. Environmental agreements and conventions that do not contain trade obligations would not be affected by the NAFTA.

(v) Protected Areas

Canada's rich biological diversity represents a significant portion of the world's biodiversity, provides millions of Canadians with recreational opportunities, and forms the basis of many subsistence and recreation-based economies. Currently, about 6.9 per cent of Canada's land and freshwater area has been protected through the combined efforts of the country's different jurisdictions and conservation agencies.

Canada conserves wildlife habitat sites through such mechanisms as national parks, national marine parks, national wildlife areas, migratory bird sanctuaries and RAMSAR Convention wetlands. Other habitat areas are conserved through provincial and territorial parks and protected areas as well as through private stewardship arrangements. Indirect protection of habitats is achieved through the federal policy on wetland conservation and land management. The federal government's long-term goal is to set aside, as protected space, 12 per cent of the country. The NAFTA would not impair Canada's ability to meet this goal.

(vi) Energy

Canada and Mexico share a common interest as energy suppliers. Canada imports a small volume of crude oil from Mexico (less than 2 per cent of total oil imports). The Mexican crude, destined for Montreal and Atlantic refineries, is heavy crude and is not in strong demand. Since it already enters duty-free, imports of crude oil should not increase significantly as a result of the NAFTA. Consequently, it would not be expected that the NAFTA would result in an increased risk of oil spills, or that it would cause incremental pollution from refinery operations.

Oil refineries are typically located close to their markets. Canadian refineries formulate products for the domestic market and, to a lesser extent, for export to the U.S. The NAFTA is not expected to affect Canadian trade in refined petroleum products, particularly as the cost of long-distance transportation would be prohibitive. This factor would apply as much to the prospect of trade between Mexican refineries and those U.S. market areas that are presently served by Canadian refineries as it would to the prospect of trade between Mexican refineries and Canada. Therefore, it is not anticipated that the NAFTA would change the status quo for Canadian refineries.

A recent change in gas pricing policy by Mexico's national petroleum company, PEMEX, makes it more cost-effective for Mexico to import natural gas for its northern industrial zone, while the south, being in close proximity to Mexico's own gas fields, is supplied locally. Mexico has also introduced legislation requiring the substitution of natural gas for high-sulphur fuel oil, used in industry and for a major portion of electricity generation. Annex 602.3 of the Energy and Basic Petrochemicals chapter would bind the opening of the Mexican market to natural gas imports from the U.S. and Canada.

Canadian natural gas exports to Mexico are a distinct possibility and several Canadian firms are actively exploring this route, including one proposing pipeline construction by a trinational consortium. Such gas exports would displace industrial use of high-sulphur fuel oil in Mexico. Should they occur, these exports would not be expected to cause an unmitigable environmental impact in Canada.

The possibility of direct exports of electricity from Canada to Mexico is limited by considerations related to distance. It is possible, nevertheless, that the NAFTA could encourage co-operation between Canada and Mexico on the use of such technologies and practices as the co-generation of non-utility electricity in that country.

E. TOXIC SUBSTANCES AND WASTE MANAGEMENT

(i) Toxic Substances

While chemical substances offer significant benefits, they may also pose risks to the environment if not handled properly. Chemical substances can enter the environment in many different ways, and can originate from point and non-point sources including the smokestacks of factories; generating stations; waste incinerators; motor vehicles; applications of pesticides and herbicides; evaporation resulting from paint and solvent use; municipal sewage; and seepage from landfills. Pinpointing the source of pollutants, however, is often very difficult. For example, 90 per cent of the PCBs, DDT and lead in Lake Superior is believed to come from atmospheric deposition.

In Canada, the chemical and chemical products industry ranks fifth among Canadian manufacturing sectors. Canadian chemical exports to Mexico amounted to $9 million in 1991. Although the level of these exports would be expected to increase moderately in the coming years, exports to Mexico should remain small, when compared with total Canadian production. Therefore, the NAFTA would not be expected to have a significant impact on the production, transportation, use or disposal of toxic chemicals within Canada.

The NAFTA (Articles 904 and 905) would ensure that governments in Canada would retain the right to set high standards and to control the development, manufacture, transportation, use and disposal of chemical substances. For example, the provisions and regulations of the Canadian Environmental Protection Act, the Pest Control Products Act, and the Fisheries Act would remain unaffected by the NAFTA. In particular, the roles of scientific analysis and risk assessment would not be affected. On the other hand, Article 906 and Annex 913.5.a1 of the NAFTA would require that the three countries co-operate on the upward harmonization of regulations, such as those maintained under Canada's Transportation of Dangerous Goods Act.

(ii) Waste Management

Canada, Mexico and the U.S. have signed the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; Mexico and Canada have already ratified the Convention; the U.S. is expected to do so. The Basel Convention specifies that notice must be given between governments, and consent obtained, before waste exports proceed. It also establishes the principle of "environmentally sound management" as the basis for all movements. In 1986, Canada and the U.S. signed the Basel-consistent Agreement Between the Government of Canada and the Government of the United States of America Concerning the Transboundary Movement of Hazardous Waste. NAFTA Article 104 and Annex 104.1, respectively, would protect the specific trade obligations set out in the Convention and the Agreement.

Furthermore, as noted in Annex 7 below, the management of hazardous wastes is one of six areas identified for co-operation under the Canada-Mexico Agreement on Environmental Co-operation. Canadian expertise has been sought to provide codes of practice and a technical safety standard for the management of hazardous substances. Two related projects will provide codes of practice for hazardous waste in the paint industry and for the recycling of hazardous waste.

Canada has a national goal to reduce the generation of waste by 50 per cent by the year 2000. The provisions of Chapter 9 (Standards-Related Measures) of the NAFTA would ensure that Canada would retain the right to establish packaging or recycling requirements necessary to meet this goal.

F. CHAPTER SUMMARY

The NAFTA is a trade agreement. It defines the respective rights, obligations and disciplines that would govern future relations among its member countries with respect to investment and to trade in products, services and intellectual property. In considering the potential environmental effects of the NAFTA, the Committee examined the possible impacts of a tripartite agreement that would expand the Canada-U.S. Free Trade Agreement to include Mexico, compared to a "hub and spoke" trading arrangement.

Since the inter-relationships between economic activity, trade and the environment are not precise, a quantitative determination of the potential environmental effects of a trade agreement is difficult. This problem is magnified when, as in the case of the NAFTA, any adjustments to production would likely be modest in comparison to total output. In these circumstances a qualitative, rather than quantitative, approach is required.

Even a 10-fold increase in Canada's exports to Mexico would not be sufficient to have a significant effect on Canada's environment. The NAFTA would not significantly increase stresses on Canadian air quality nor would initiatives to combat acid rain and smog be affected. Similarly, it would not lead to a lowering of water quality standards in Canada or to a weakening of remedial actions and efforts to strengthen the protection of Canada's water resources. The NAFTA would not affect international agreements and mechanisms for the protection of such cross-boundary waterways as the Great Lakes.

Canadian involvement in the NAFTA would have only a nominal environmental impact on Canada's renewable and non-renewable resources. It is not expected that the NAFTA would give rise to a significant increase in the generation of wastes in Canada. Nor would it result in a relaxation of either Canada's toxic and hazardous waste standards or the enforcement of its toxic and hazardous waste regulations. In light of the anticipated nominal environmental effects of the NAFTA, subsequent socio-economic impacts were not identified.

It is unlikely that Canada's involvement in the NAFTA would result in significantly increased pressure on the global environment. However, Canada shares a continent with the U.S. and Mexico, and there are important transboundary and global issues that will continue to exist, whether or not there is a NAFTA. These include the long-range transport of persistent organic chemicals, and the management of wildlife and wildlife habitat.

The impact that the NAFTA could have on transboundary problems can not be predicted accurately. Notwithstanding the nominal effect that the NAFTA would likely have on Canada's environment, the bilateral and trilateral co-operation on environmental research and monitoring should be continued.

V. INDUSTRY MIGRATION

A company's decision about where to locate a new investment is normally based on a comprehensive analysis of a multitude of factors. These factors may include such considerations as the proximity of markets, the availability of inputs, the cost of capital, the presence of skilled labour, the reliability of transportation and communication networks, and the stability of investment laws. Some companies may also include environmental abatement costs among the factors that are taken into consideration in an investment decision. This chapter reviews a number of empirical studies that address the relative importance of environmental considerations in the investment decision.

A. CONTEXT OF THE CONCERN

Some Canadians were concerned that, under the NAFTA, businesses could be encouraged to move to the jurisdiction with the lowest environmental standards or the least stringent enforcement of those standards. Should it occur, such a migration could have two negative repercussions on the North American environment.

First, it could lead to greater environmental degradation in the country with the lower standards or the least stringent enforcement. Second, so that companies located in their territories would not be placed at a competitive disadvantage, it could discourage governments from increasing their environmental standards or from strengthening their environmental enforcement activities. The fundamental question underlying both of these possibilities is whether the costs of environmental compliance are such that differences in environmental standards and enforcement would provide sufficient incentive to cause firms to direct investment to the country or region with the lower standards or the least stringent enforcement.

Two opposing views exist regarding the potential impact of international trade on the quality of the natural environment.[27] One is that unrestricted trade is harmful to the environment, especially when a country's environmental standards and enforcement are weak. The second is that expanding trade is a source of increased wealth and diffusion of technology, both of which enhance a country's ability to protect and to upgrade its environment.

In their discussions with members of the Environmental Review Committee, ITAC and SAGIT business representatives expressed considerable interest in ensuring that the NAFTA would address environmental concerns in a comprehensive manner. The business persons noted that environmental concerns are now an important consideration in the decision-making process and that it is in the interest of companies to be environmentally sensitive. In today's environment, good environmental policy is also good business policy.

This issue has been addressed by a number of theoretical and empirical studies. A report by Porter suggested that stringent standards for product performance, product safety, and environmental impact can contribute to creating and upgrading competitive advantage.[28]

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27. Secretariat of the GATT, "Trade and the Environment."

28. Michael Porter, Canada at the Crossroads, p. 95.

In Porter's view, high standards encourage firms to improve quality, upgrade technology, and provide features in areas of important customer concerns.

Porter's view is that stringent regulations that successfully anticipate the future direction of international standards provide the innovative businesses of the regulating country with a head start in developing products and services that will be valued in international markets. In support of his theory Porter describes how strict environmental regulations in Japan, Sweden and Denmark have resulted in product innovations that are now being exported to world markets.

After reviewing the theoretical relationship between environmental regulations and trade patterns, a number of other authors reached a different conclusion.[29] They suggest that strict environmental standards weaken a country's competitive position in pollution-intensive industries and diminish its exports of the products of such sectors. Conversely, countries that fail to regulate industrial pollution increase their specialization in activities that damage the environment.

Several studies have examined whether these theoretical shifts have actually taken place. They have generally concluded that there is little or no aggregate evidence of industrial relocation to take advantage of environmental compliance cost differences.[30] The cross-country variation in the costs of meeting environmental controls is not so large as to be a major factor in the determination of a nation's comparative advantage.[31]

This part of the review references seven empirical studies that have been undertaken on either the cost of pollution abatement or the relationship between environmental standards and enforcement and industry migration.

B. TRADE AND THE ENVIRONMENT: A SURVEY OF THE LITERATURE

Dean surveyed the existing literature regarding the impact of environmental regulation on trade and the impact of trade policy on the environment.[32] Her review tested the hypothesis that more stringent regulations result in the loss of competitiveness, industrial flight and the development of pollution havens. She concluded that there is no empirical evidence to support this hypothesis.[33]

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29. Judith M. Dean, "Trade and the Environment," p. 16.

Gene M. Grossman and Alan B. Krueger, Environmental Impacts of a North American Free Trade Agreement, p. 21.

30. Dean, "Trade and the Environment," p. 27.

Office of the United States Trade Representative, Review of U.S.-Mexico Environmental Issues, p. 162-63.

31. Grossman and Krueger, Environmental Impacts, p. 21.

32. Dean, "Trade and the Environment," p. 15-28.

33. Ibid., p. 27.

C. DO "DIRTY" INDUSTRIES MIGRATE?

Low and Yeats used trade flow data as an indicator of shifts in the pattern of international industrial location in order to determine the extent to which environmentally "dirty" industries migrated between 1965 and 1988.[34]

Environmentally "dirty" industries were defined as those incurring the highest level of pollution abatement and control expenditures in the U.S. The sectors incurring pollution abatement and control costs of approximately 1 per cent or more of the value of their total sales in 1988 included ferrous metals, non-ferrous metals, metal manufactures, pulp and paper products, organic chemicals, inorganic chemicals, radio-active materials, mineral tars and petroleum chemicals, manufactured fertilizers, paper and board, paper articles, plywood and improved wood, wood manufactures, refined petroleum, agricultural chemicals and cement. The weighted average for all U.S. industry was 0.54 per cent.

Low and Yeats found that, between 1965 and 1988, the share of "dirty" industries in world trade dropped from 19 per cent to about 15 per cent. Ferrous and non-ferrous metals were responsible for about three-quarters of this decline.

During the period under study a shift occurred in the origin of "dirty" industry trade, with a 3.5 per cent share of the total moving from industrial to non-industrial countries (mainly from North America to Southeast Asia). Nevertheless, at 15-16 per cent, the shares of "dirty" industry products in the exports of both industrial and other countries were roughly the same in 1988. Furthermore, industrial countries accounted for some 75 per cent of all "dirty" industry trade in that year.

Of the 25 largest exporters of "dirty" industry products in 1988, 17 were OECD countries. The European Community alone was responsible for nearly 40 per cent, the largest single world exporter being the Federal Republic of Germany, which accounted for almost 12 per cent. In second place, and accounting for 7 per cent of the global total, was the U.S.

The authors observed that many of the "dirty" industries were basic industries, associated with the early stages of industrialization. They noted that factor intensity, natural resource intensity and technological characteristics could all be part of the explanation for "dirty" industry migration.

Low and Yeats were unable to dismiss the possibility that environmental policies might have influenced locational decisions. Nevertheless, they concluded that the available evidence of the actual cost of compliance with environmental standards suggested that this was probably not a significant part of the explanation for the migration of "dirty" industry.[35]

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34. Patrick Low and Alexander Yeats, "Do 'Dirty' Industries Migrate?"

35. Ibid. A conclusion presented in the abstract.

D. OPENNESS REDUCES INDUSTRIAL POLLUTION IN LATIN AMERICA: THE MISSING POLLUTION HAVEN EFFECT

Birdsall and Wheeler addressed the question of whether, among the countries of Latin America, greater "openness," defined in terms of less strictly regulated markets, has been associated with increased industrial pollution.[36]

They found that, during the 1970s, openness did not appear to have either increased or decreased the effect of income growth on pollution intensity. Conversely, in the 1980s, the results suggested that the effect of income growth on pollution intensity was greater in the case of more closed economies.

Although exploratory, the empirical evidence also indicated that over the last two decades the more open economies have been characterized by a "cleaner" set of industries. This is consistent with the growing literature suggesting it is capital and materials-intensive industries that have been both the most highly protected and the heaviest polluters.[37]

Birdsall and Wheeler remarked that, at the lower average levels of income in developing countries, growth is associated with a shift out of agriculture and into industry. This is accompanied by rapid urban growth and heavy investment in urban infrastructure. Growth and structural change in these economies are thus more likely to imply increasing levels of pollution for each unit of output. Conversely, in developed countries, growth is associated with a shift out of industry into services, and thus with decreasing levels of pollution for each unit of output. They concluded that these structural differences are consistent with differences in comparative advantage and would be reinforced by free trade.

E. ENVIRONMENTAL IMPACTS OF A NORTH AMERICAN FREE TRADE AGREEMENT

A study by Grossman and Krueger of Princeton University used empirical evidence to assess the potential environmental impact of trade liberalization in Mexico.[38] The study was based on data collected by the Global Environmental Monitoring System (GEMS). The GEMS project, a joint venture of the World Health Organization and the United Nations Environment Program, has monitored air quality in urban areas throughout both the developed and developing regions of the world since 1976.

Analysis of the data related the levels of pollutants to the level of per capita GDP in the country in which the city was located and to various characteristics of the sites and cities. These characteristics included such factors as whether the site was situated in the city centre or in the suburbs, whether or not the city was situated on a coast, and the population density of the city.

The authors focused their analyses on three measures of air quality: sulphur dioxide, dark matter (smoke), and the mass of suspended particles (dust). They found that ambient levels of both sulphur dioxide and dark matter increased with per capita GDP at low levels

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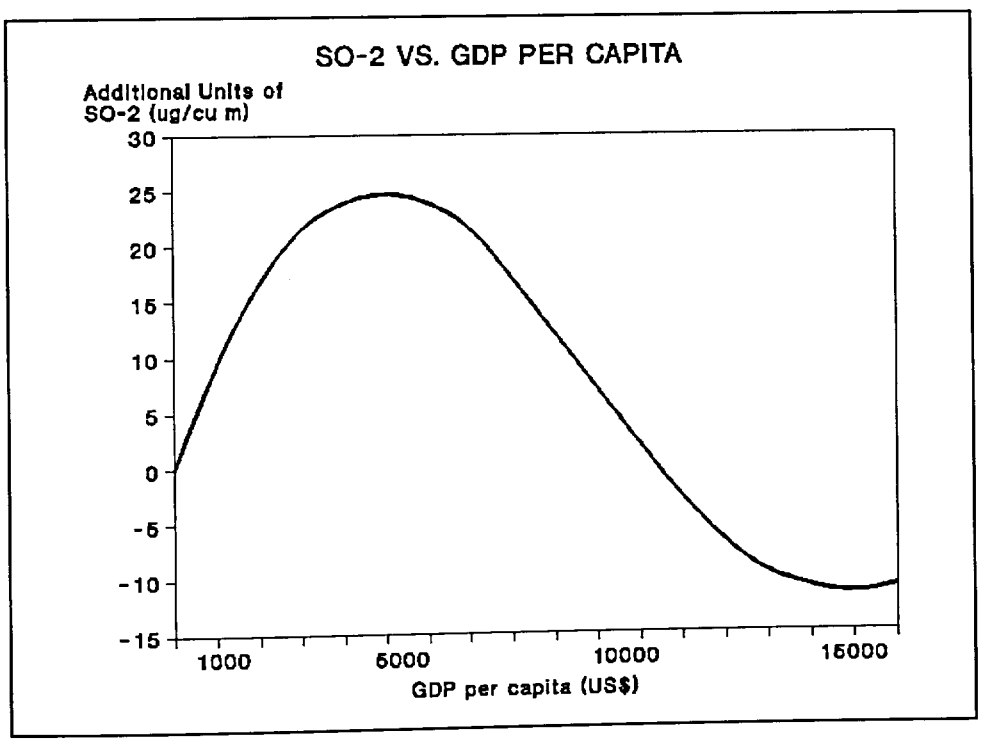
36. Nancy Birdsall and David Wheeler, "Trade Policy and Industrial Pollution in Latin America," p. 159-67.

37. Ibid., p. 167.

38. Grossman and Krueger, Environmental Impacts.

of national income, but decreased with per capita GDP at higher levels of income. Unlike the other two pollutants, the mass of suspended particles in a given volume of air appeared to decrease monotonically in response to increases in per capita GDP at low levels of economic development.

The chart below, depicting the variation in sulphur dioxide pollution attributable to variation in per capita income across countries and time, is also representative of the study's findings for smoke pollution. The analyses demonstrated that concentrations of SO_2 rose with income at low levels of per capita GDP, fell with income at higher levels of per capita GDP, and eventually levelled off in the more advanced economies. In 1988 the estimated turning point was at about US$5,000.



F. U.S.-MEXICO TRADE: A CASE STUDY

A U.S. General Accounting Office (GAO) case study examined whether wood furniture manufacturers had relocated from the Los Angeles area to Mexico to avoid stringent California air pollution control standards.[39] The study concluded that while there was relocation from Los Angeles, the majority of the relocation was to other regions of the U.S., not to Mexico.

The Los Angeles area is considered to have the most severe ozone problem in the U.S. Ozone is formed when emissions of volatile organic compounds combine with nitrogen oxides in the presence of heat and sunlight. Wood furniture operations that apply paint coatings and solvents to improve a product's appearance and durability release volatile organic compounds into the air.

In August 1988 four deadlines were set for the progressive implementation of more stringent standards for the release of volatile organic compounds by wood furniture operations. As a result of these new standards, the release of volatile organic compounds from wood coating operations would have to be reduced from 22.1 tons per day in 1988 to 1.6 tons per day in 1996. Wood product manufacturers were not certain, even if they reformulated their paint coatings, that they could meet the new standard.

The GAO study determined that, of the estimated 1,237 wood furniture manufacturers in the Los Angeles area, it was likely that 18 had relocated to Mexico between January 1988 and December 1990. As of December 1990, Mexico had not established standards to regulate air pollution resulting from the use of paint coatings and solvents by wood furniture manufacturers. During the same period, it was likely that 41 manufacturers had relocated from the Los Angeles area to other regions, such as Georgia, Michigan and northern California, within the U.S.

Higher labour costs and more stringent air pollution control standards in the Los Angeles area were cited among the reasons for moving. However, the study was unable to produce a reliable comparison of the significance of the major reasons for relocating. Neither did it compare the new Los Angeles standards to those of northern California and other states.

G. REVIEW OF U.S.-MEXICO ENVIRONMENTAL ISSUES

In its review of bilateral environmental relations with Mexico, the U.S. also addressed the question of whether, under the NAFTA, differences in environmental regulation and enforcement would be likely to lead to significant pollution haven investment by U.S., Canadian or foreign firms in Mexico.[40]

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39. United States General Accounting Office, U.S.-Mexico Trade.

40. Office of the United States Trade Representative, Review of U.S.-Mexico Environmental Issues.

The U.S. review noted that for the NAFTA to have a significant investment effect due to differences in environmental standards, four conditions would be required:

- environmental compliance costs would represent a significant portion of total operating costs;
- there would be a significant change in relocation incentives;
- the cost of relocating an industry or of creating new capacity would be less than the savings in environmental compliance costs; and
- there would be a significant difference in environmental compliance costs between the alternate jurisdictions.

In its consideration of the first condition, the U.S. compared the pollution abatement expenditures to value added for 445 individual manufacturing industries. This analysis revealed that pollution abatement expenditures make up a small share of costs for most industries. The pollution abatement costs of most industries were bunched around 1 per cent of value added. Of course, individual industries may be higher than 1 per cent. While 62 of the 445 industries were found to have pollution abatement costs of 2 per cent or more of value added, 86 per cent of the total experienced pollution abatement expenditures of less than 2 per cent of value added.

For the NAFTA to have an effect on industry migration, it would have to change the locational opportunities open to firms, making available options that do not already exist. Therefore, the U.S. study then compared the 62 industries with comparatively high pollution abatement costs to those industries that are currently shielded by quantitative restrictions or tariffs of 2 per cent or higher. This comparison demonstrated that only 11 of the 445 industries were characterized by both relatively high pollution abatement costs and significant import tariffs or quantitative restrictions.

The third step was to compare the 11 industries that were candidates for relocation against the costs associated with relocation. This exercise revealed that industries with high pollution abatement costs and significant existing trade barriers are also highly capital intensive industries, with high costs of shutting down existing facilities to re-open in a new location. In the case of completely new investments, it was noted that the economic plant size of these industries is large relative to the size of the industry and that they are also industries where substantial or excess world capacity exists. The study concluded that it was unlikely that a new investment in these industries would be profitable.

The authors of the U.S. review observed that the real issue is not the actual cost of pollution abatement. Rather, the significant factor is the cost in one location compared to the anticipated cost in another location. They stressed that "Mexican environmental standards are comparable to those of the United States and Canada, and in some cases may exceed the standards of those two countries."[41]

Noting that concerns had been raised about Mexico's past record on environmental enforcement, the U.S. reviewers then commented that "it is not past practice that is

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41. Ibid., p. 170.

controlling for an investment decision, but the expected compliance costs over the life of the contemplated investment."[42] A firm contemplating an investment would have to take into account Mexico's avowed intention to strengthen its environmental standards and enforcement.[43]

On the potential for industry migration, the U.S. review concluded that:

> "Although relocation of investment to avoid stricter environmental restrictions may be a plausible outcome of differences in environmental standards and enforcement, and such movement has taken place in some instances, the phenomenon does not appear too widespread, nor is it likely to characterize the formation of a NAFTA. This is because relatively few firms meet all of the conditions required for profitable pollution haven investment: high environmental compliance costs, a big change in locational incentives as a result of removal of trade barriers, low costs associated with new investment, and actual differences in environmental compliance costs."[44]

H. MARKET SURVEY OF ENVIRONMENTAL EXPENDITURES BY CANADIAN BUSINESS

In 1990 Environment Canada awarded a contract to Dun & Bradstreet Canada (D & B) to conduct a large-scale survey of Canadian business to ascertain the cost and impact of current and future environmental protection measures.[45] The D & B data base included approximately 670,000 Canadian businesses divided into 74 industry sectors according to the Standard Industrial Classification (SIC) system.

Of the 74 industry sectors, 21 were included in the D & B study. Sectors were chosen on the basis of being the most affected by environmental regulations. Therefore, the findings that follow exclude the experience of the 53 industry sectors with lower environmental protection and abatement costs.

Participating companies were also divided into those with less than 50 employees and those with more than 50 employees. Of the surveyed companies with less than 50 employees, the average expenditure for pollution control in 1989 was determined to be just under $20,000. This was split equally between capital costs and operating costs. Of the surveyed companies with more than 50 employees, the average for pollution expenditure in 1989 was found to total almost $1 million. Approximately 53 per cent of this amount was spent on capital costs and 47 per cent on operating costs.

The D & B survey indicated that 80 per cent of the companies surveyed spent between 0 per cent and 2 per cent of their budgets on environmental protection operating costs in the 1989/90 fiscal year. In the same year, 86 per cent of the companies surveyed spent between 0 and 2 per cent of their budgets on environmental protection capital costs.

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42. Ibid.

43. A review of Mexico's environmental legislation, regulations and enforcement is presented in Annex 4.

44. Office of the United States Trade Representative, Review of U.S.-Mexico Environmental Issues, p. 171.

45. Dun & Bradstreet Canada, Market Survey of Environmental Expenditures.

Commenting on the relationship between environmental expenditures and competitiveness, the D & B study concluded that "Overall, current environmental regulations do not appear to be adversely affecting the competitive position of business within Canada. Almost six in ten companies surveyed stated that current environmental regulations are having a neutral effect on their Canadian competitive position. Twenty-eight per cent stated that environmental regulations are having a positive effect on their Canadian competitive position."[46]

From an international perspective, "A third indicated that they do not export, while another third stated that current regulations are having a neutral effect. However, on an international basis, twice as many businesses [14 per cent] feel that current standards are having a negative effect than a positive effect [7 per cent]."[47] Looking toward the future, 23 per cent of respondents anticipated that environmental standards would have a negative effect on their overall competitive position, 40 per cent believed that they would have a neutral effect and 31 per cent expected that environmental standards would have a positive effect.[48]

I. CHAPTER SUMMARY

Some Canadians were concerned that low environmental standards, or the lax enforcement of environmental standards, could result in the migration of industries toward a "pollution haven." Should this occur, it could result in greater environmental degradation in the receiving country and discourage the source country from increasing its standards or enforcement.

In their discussions with members of the Environmental Review Committee, business representatives noted that environmental concerns are now an integral part of their decision-making processes. Good environmental policy is good business policy.

To date, empirical studies have been virtually unanimous in their determination that there is little evidence of industrial relocation because of differences in environmental abatement expenditures. The proportion of "dirty" industry exports between industrial and non-industrial economies was approximately equal at 15-16 per cent in 1988. In that year industrial countries were responsible for some 75 per cent of world trade in the products of "dirty" industries.

When per capita GDP increases, the amount of suspended particulate matter (dust) per unit of output was shown to decrease. Sulphur dioxide and dark matter (smoke) per unit of output increase until per capita GDP reaches about US$5,000 after which both begin to decrease. As openness to foreign trade and investment increases, there is a corresponding decrease in the amount of pollution per unit of output. As the degree of development increases, countries reduce their dependence on the production of industrial goods and increase their reliance on the less polluting services sector.

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46. Ibid., p. 117.

47. Ibid., p. 118.

48. Ibid., p. 131.

Stringent new volatile organic emission standards were cited among the reasons that approximately 1.5 per cent of the Los Angeles area wood furniture manufacturers decided to move to Mexico. However, more than twice the number that moved to Mexico chose to relocate elsewhere in the U.S., including to northern California.

Profitable pollution haven investment as a result of the NAFTA would necessitate the fulfilment of four conditions: high environmental compliance costs; a significant change in locational incentives; low start-up costs for new investment; and a real difference in projected environmental compliance costs between the old and new locations. Few business sectors would meet all of these conditions.

The cost of pollution abatement is around 1 per cent of value added for most industries. Existing tariff and non-tariff barriers are not high for many of the industries with the highest pollution abatement expenditures. Where these barriers are important, the significant capital costs associated with a new investment would usually discourage relocation.

A Canadian study determined that, among those companies incurring the greatest pollution prevention and abatement costs, 71 per cent believe future environmental standards will have either a neutral (40 per cent) or positive (31 per cent) effect on their overall competitive position. Conversely, 23 per cent anticipate a negative effect.

In view of the research and the environmental provisions contained in the NAFTA, there is likely to be minimal, or no, relocation of Canadian industry due to the projected differences in pollution abatement costs.

VI. FOLLOW-UP MECHANISMS

Follow-up is an important element of an environmental review process. This chapter identifies the various mechanisms that will be in place to ensure that the relationship between trade and the environment continues to be addressed in the future.

A. CONTEXT OF THE ISSUE

A very active discussion of the relationship between trade and the environment characterized the entire 14-month duration of the NAFTA negotiations. These linkages were addressed concurrently in the NAFTA negotiations, in the parallel discussions, and in international forums. The importance of ensuring that progress would be continued in all three forums following the signature of the NAFTA was emphasized by environmental organizations. The following paragraphs identify how this objective will be accomplished in each area.

B. NAFTA MECHANISMS

As noted in the above chapter on Environmental Provisions, the NAFTA would include mechanisms to ensure both the respect of the environmental principles of the Agreement and the continued enhancement of environmental standards and enforcement in all three countries. These mechanisms would remain in place for the duration of the NAFTA.

Article 2001 of the Agreement would assign primary responsibility for its implementation to the Free Trade Commission, comprised of Cabinet-level representatives of the parties or their designees. In fulfilling its day-to-day functions, the Commission would be assisted by several institutional mechanisms created by the NAFTA. Among these would be the important Committee on Standards-Related Measures that would be created under Article 913 of the Agreement. This Committee would be responsible, inter alia, for "enhancing co-operation on the development, application and enforcement of standards-related measures," including environmental standards.

Other articles of the NAFTA would provide for the ongoing consideration of the environmental aspects of such matters as investment and dispute settlement. Article 1114 on Investment would provide for official consultations with a view to ending the enticement, should one party believe that another had derogated, or offered to derogate, from its environmental standards for the purpose of attracting an investment. The dispute settlement mechanism would provide a legal mechanism for resolving any disagreements that might occur concerning either the interpretation or implementation of the Agreement. Articles 2014 and 2015 would make it possible for dispute settlement panels to seek the views of environmentalists, either directly or through a scientific review board that would provide a written report on factual issues concerning environmental matters.

The chapter above on Environmental Review Process and Method noted that the NAFTA constituted a trade policy framework. The Agreement would be implemented over several years through many project-type decisions by individual Canadians. Paragraph 1114.1 of

the NAFTA Investment chapter would ensure that a country could require, as a condition of investment, environmental assessments of these projects.

C. PARALLEL PROCESS MECHANISMS

Government-to-government discussions, outside the NAFTA, on the relationship between trade and the environment were known as the parallel process. The NAFTA negotiations became an important catalyst for significantly enhanced bilateral and trilateral environmental co-operation. As indicated in Annex 7, bilateral environmental co-operation between Canada and Mexico was formalized in 1990 following the signature of the Canada-Mexico Agreement on Environmental Co-operation. Under the aegis of the bilateral agreement, the Canadian International Development Agency (CIDA) has invested, to date, over $900,000 in studies by Canadian private sector companies on municipal and industrial waste management in the state of Veracruz. Environment Canada scientists have collaborated with their Mexican counterparts on the protection and rehabilitation of the Lerma-Chapala watershed in the state of Jalisco. Canada has provided funding to the Mexican organization Monarca for the preservation of the North American wintering grounds of the monarch butterfly in the state of Michoacan.

A major intensification of bilateral environmental co-operation was announced on March 18, 1992. On that date, Canada and Mexico reached agreement on a series of co-operative projects valued at $1 million to reinforce environmental monitoring and enforcement in Mexico. The 1990 agreement, under which Canada has now allocated $1.9 million, provides a formal mechanism for the continuing development of additional bilateral initiatives in the coming years.

The U.S. and Mexico have also implemented an intensive program of bilateral environmental co-operation along both sides of their common border. On February 25, 1992 the two governments announced an Integrated Environmental Plan for the Mexican-U.S. Border Area.[49] The U.S. is committed to spending $240 million on border environmental projects during its 1993 fiscal year. Mexico has allocated $460 million for the three years 1992-94. Priority projects on the Mexican side of the border include sewage systems and waste-water treatment plants; systems for the collection, treatment and disposal of solid waste; improvements to the public transportation network; and the acquisition of land. The combined expenditures of the two countries under Phase 1 of the Plan could approximate US$1 billion.

Trilateral co-operation on the environment began in 1988 with the signature of a trilateral Memorandum of Understanding on Migratory Birds and their North American Habitats. A new era in trilateral environmental co-operation began on September 17, 1992 when environment ministers of the three NAFTA countries met together for the first time. During their inaugural meeting, the three ministers signed a Trilateral Memorandum of Understanding on Environmental Education and agreed that a more formal mechanism for environmental co-operation should be created. The Canadian government will consult with environmentalists to ensure their effective and ongoing participation in the planning process.

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49. United States Environmental Protection Agency and the Mexican Secretaria de Desarrollo Urbano y Ecologia, Integrated Environmental Plan.

The ministers will meet for the second time early in 1993, at which time they will consider a series of proposals, particularly the creation of a North American Commission on Environmental Co-operation. It is anticipated that one of the functions of this Commission will be to support the activities of the NAFTA Free Trade Commission.

D. INTERNATIONAL FORUMS

Canada's environmental concerns will also continue to be discussed in international forums. Canada is currently participating actively in three separate forums in discussions pertaining to the relationship between trade and the environment. These are the UN, the OECD and the GATT.[50]

The recently concluded UN Conference on Environment and Development is one example of a UN-sponsored initiative. During that event, new international conventions were signed on climate change and on biodiversity. Canadian preparations for the UNCED included extensive consultations between the government and non-government sectors.

The lessons learned from the NAFTA environmental consultations will be used to enhance environmental input to other international discussions. The International Trade Advisory Committee and the Sectoral Advisory Groups on International Trade act as consultative bodies on the positions that will be adopted and defended by Canadian officials during such initiatives as the Multilateral Trade Negotiations (MTN), the NAFTA negotiations and the discussion of the linkages between trade and the environment that are currently under way through both the OECD and the GATT. The OECD studies are expected to result in a consensus on "guidelines" for incorporating environmental and trade principles into trade and environmental agreements. Although it is still too early to predict the outcome of the activity in the GATT, this could result in clarifications or modifications of the General Agreement on Tariffs and Trade. The innovative environmental provisions contained in the NAFTA will provide a new benchmark for the OECD and GATT initiatives.

E. CHAPTER SUMMARY

An intensive discussion of the linkages between trade and the environment characterized the entire period during which the NAFTA was being negotiated. Following the signature of the NAFTA, discussions on the linkages between trade and the environment would continue to take place under the aegis of the Agreement, the parallel process and at least three international organizations.

The NAFTA contains several provisions that would ensure that environmental considerations remain an important issue during the life of the Agreement. Three of these are particularly relevant. First, a Committee on Standards-Related Measures would be responsible for enhancing co-operation on the development, application and enforcement of environmental standards. Second, a party would be obligated to engage in consultations if another party believed that there had been a derogation of environmental measures for the purpose of attracting an investment. Third, a new mechanism would allow dispute settlement panels to obtain information directly from environmental experts.

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50. The activities of these organizations are presented in greater detail in Annex 8.

The 1990 Canada-Mexico Agreement on Environmental Co-operation provides a vehicle for bilateral co-operation on the environment. Currently, the two countries are co-operating on projects valued at $1 million. These are focused on environmental monitoring and compliance, and bring Canada's total commitment under the 1990 Agreement to $1.9 million.

A new impetus to trilateral environmental co-operation was set in motion on September 17, 1992. This initiative is expected to result in the creation, early in 1993, of a formal North American Commission on Environmental Co-operation.

Canada is actively involved in ongoing activities on trade and the environment in the GATT, the UN and the OECD. These institutions will all be active in the coming months and years in maintaining a multilateral focus on discussions pertaining to the relationship between trade and the environment.

In summary, formal mechanisms currently in place at the bilateral and multilateral levels will ensure that the linkages between trade and the environment continue to be actively addressed in the future. Implementation of the NAFTA, and creation of a North American Commission on Environmental Co-operation, would add two new mechanisms at the trilateral level.

VII. CONCLUSIONS

A. ENVIRONMENTAL REVIEW PROCESS AND METHOD

Since 1990, the federal government has required that all new policy or program initiatives having potentially significant environmental implications undergo an environmental review. The environmental review process can be used to develop an understanding of the general nature of the possible environmental effects of a policy, and to provide a framework for addressing environmental concerns that could arise when subsequent decisions are being taken relative to the implementation of the policy.

In the case of a trade agreement, the potential environmental effects are not directly attributable to the agreement proper. Rather, they will depend on the collective impact of a multitude of individual decisions that will be taken by Canadian and foreign businesses in future years.

The NAFTA is the first trade agreement to undergo an environmental review. Two fundamental responsibilities were assigned to the interdepartmental NAFTA Environmental Review Committee charged with undertaking the review. The initial responsibility of the Committee was to ensure that environmental considerations would be taken into account throughout the negotiations. Its second responsibility was to document the environmental review.

Close and continuous consultations between the NAFTA Environmental Review Committee and the negotiators of the Agreement constituted the key element in ensuring that environmental considerations would be taken into account during all stages and at all levels of the negotiations. Numerous written and verbal communications from environmental organizations, the provinces and individual Canadians greatly facilitated the development of a comprehensive appreciation of environmental concerns and priorities related to the NAFTA.

B. ENVIRONMENTAL PROVISIONS

The draft NAFTA is a trade policy framework. Hence, the Agreement is well suited to undergo an analysis for environmental sensitivity from a policy perspective.

Environmentally relevant provisions have been fully integrated throughout the draft NAFTA. Certain of these are particularly noteworthy. The Preamble identifies the commitment of the three NAFTA countries to realize the economic and trade objectives of the Agreement in a manner consistent with environmental protection and conservation. As proposed by environmental organizations, the Preamble also calls on the parties to promote sustainable development and to strengthen the development and enforcement of environmental laws and regulations.

The NAFTA would not only incorporate the environmental exceptions contained in the General Agreement on Tariffs and Trade; it would clarify that these include environmental measures necessary to protect human, animal and plant life and health and measures related to the protection of living and non-living exhaustible natural resources.

In the event of any inconsistency, specific trade obligations set out in certain multilateral and bilateral environmental and conservation agreements would prevail, to the extent necessary to comply with the inconsistent obligation, over the provisions of the NAFTA. The precedence of trade obligations contained in multilateral environmental and conservation agreements over the trade disciplines of the NAFTA was a very high priority of Canadian environmental organizations throughout the NAFTA negotiations. Furthermore, should a dispute arise that involves a specific trade obligation set out in a designated multilateral or bilateral environmental or conservation agreement, the responding party would have the option of having the dispute considered exclusively under the terms of the NAFTA dispute settlement mechanism.

The Agreement would guarantee the right of governments in Canada to select the level of environmental protection appropriate to Canadian environmental conditions and Canadian priorities. Standards could be more stringent than those recommended by international bodies or by the other parties.

Not only would the NAFTA prohibit a lowering of standards to the lowest common denominator or to the middle ground, it would require that the three countries work jointly on improving the level of environmental protection on a continental basis. In the event of a disagreement, the responding party could elect to have a dispute concerning the protection of its environment resolved exclusively under the provisions of the NAFTA dispute settlement mechanism. The complaining party would have the burden of proving that an environmental measure was inconsistent with the provisions of the NAFTA. In other words, in the event of a dispute, the environment would be given the benefit of the doubt.

Extensive notification and transparency provisions would allow Canadians to influence the environmental standards of all NAFTA members. For the first time, therefore, individual Canadians would have a guaranteed opportunity to influence decisions that will affect the environment of all of North America.

A trilateral Committee on Standards-Related Measures, that could involve provincial representatives, would be charged with enhancing co-operation on the development, application and enforcement of standards-related measures. Representatives of non-governmental organizations could be consulted or participate directly in its subcommittees or working groups.

Co-operation would extend to both product-related and process-related environmental standards. It would encompass the full range of activities that could affect the environment, from good manufacturing practice to environmental compliance.

Consistent with the provisions of the Agreement, a party could take any measure that it deemed appropriate to ensure that investment activity in its territory was undertaken in a manner sensitive to environmental concerns. For example, projects will remain subject to the laws and requirements for environmental impact assessment in Canada.

The NAFTA countries would formally acknowledge that environmental derogations should not be offered for the purpose of encouraging the establishment, acquisition, expansion or retention of an investment. Should one party believe that another intended to offer such an encouragement, the latter could be obligated to consult with a view to avoiding any

such encouragement. These are important precedent-setting provisions that would establish new principles from which there would be no turning back.

Under the NAFTA, plants and animals would be exempt from mandatory patentability. Countries would retain the flexibility to determine the level of sanitary and phytosanitary protection appropriate to their own conditions and priorities.

Vehicle emissions standards of the three countries would be harmonized upward within three years. Standards pertaining to the transportation of dangerous goods would be harmonized upward within six years.

All duties on environmental goods and equipment would be removed within 10 years. Mexican bus and trucking companies could immediately begin renewing their aging fleets with lower polluting vehicles manufactured in Canada. Expenditures for environmental abatement would be eligible costs when deciding whether a product qualifies as having been produced in North America. Professional service providers such as consultants, engineers and scientists working in the environmental sector would be ensured temporary access to any NAFTA country.

Dispute settlement panels would have the opportunity to seek independent information on the environmental implications of a disagreement between NAFTA countries. With the consent of the parties, a panel could seek information or technical advice on environmental matters from any person or body that it deemed appropriate. Similarly, it could request a written report of a scientific review board on any factual issues concerning environmental matters. The final report of a dispute settlement panel would be published within 15 days of its transmittal to the Free Trade Commission.

Consistent with the objective of maintaining the sovereign right of Canada to establish its level of environmental protection, the NAFTA would not permit unilateral extraterritoriality. Such a policy would not be to the long-term advantage of either Canadian economic or environmental interests. Environmental subsidies would continue to be subject to the provisions of the Subsidies Code of the GATT. Several considerations argued against the adoption of an environmental countervail or environmental duties.

In brief, the NAFTA establishes a new benchmark for environmentally sensitive international trade and economic relations. The environmental provisions of the NAFTA would go well beyond those of any previous free trade agreement.

C. ENVIRONMENTAL SCREENING

As a trade agreement, the NAFTA defines the respective rights, obligations and disciplines that would govern future relations among its member countries with respect to investment and to trade in goods, services and intellectual property. By altering the terms of trade between its member countries, the NAFTA could affect the volume and location of goods and services produced and traded in North America. Changes in economic and commercial circumstances can have coincidental effects on local, national and continental environments.

In considering the potential environmental effects of the Agreement, the NAFTA Environmental Review Committee examined the possible effects of a tripartite trade

agreement that would essentially expand the existing Canada-U.S. Free Trade Agreement to include Mexico, compared to a "hub and spoke" trading arrangement. The latter would be characterized by the existing Canada-U.S. Free Trade Agreement and a new Mexico-U.S. agreement.

Compared with Canada's total output, exports and imports, trade with Mexico is limited. Amounting to some $543 million, exports to Mexico were responsible for 0.1 per cent of Canada's GDP in 1991. During the same year, Canada's imports from Mexico amounted to $2.6 million (1.9 per cent of total imports).

Mexican tariff and non-tariff barriers against Canadian products are significant. The gradual removal of these barriers during the next 15 years would be likely to result in important gains for some Canadian exporters.

Over 70 per cent of Canadian imports from Mexico already enter this country duty-free. Removing Canadian tariff and non-tariff barriers on the remaining imports from Mexico should have only a marginal effect on total Canadian imports. In turn, this would have only a limited environmental effect.

By altering the terms of trade among the member countries, the NAFTA could affect the volume and location of goods and services produced and traded in North America. Given the anticipated level of trade between Canada and Mexico, the NAFTA would not be expected to have a measurable impact on Canada's environment. This conclusion is equally applicable to Canada's air, water and land media, to its renewable and non-renewable natural resources, and to its generation of toxic substances and wastes.

Nevertheless, Canada shares a continent with the U.S. and Mexico and there are certain transboundary and global issues that will continue to exist, irrespective of whether or not there is a NAFTA. These include the arrival in Canada of common pollutants from the northern portion of the U.S., and the deposition in Canada of certain persistent pollutants from as far away as the southern U.S., Mexico and the Caribbean. Although it is not anticipated that the NAFTA would give rise to a significant increase in the volume of either common or persistent pollutants that are deposited in Canada, co-operative environmental monitoring and research on the generation of such pollutants and their pathways should be maintained.

D. INDUSTRY MIGRATION

A number of authors have theorized about the possible relationship between environmental standards and their enforcement and industry migration. As discussed above, several provisions of the NAFTA would mitigate the likelihood of such a migration. Furthermore, empirical studies have been virtually unanimous in their determination that there is little evidence of industrial relocation having taken place because of differences in environmental abatement expenditures.

Four conditions would have to be fulfilled for the NAFTA to have a significant effect on pollution haven investment: a high cost of environmental compliance; a significant change in the locational incentives as a result of the NAFTA; relatively low start-up costs for relocation or new investment; and a real difference between the old and new locations in

the projected future costs of environmental compliance. These four conditions would be met in relatively few instances.

Canadian business generally does not anticipate that new environmental regulations will adversely affect its overall competitive position in the future. In fact, business representatives have told the Review Committee that environmental concerns are now an integral part of their decision-making processes. Good environmental policy is good business policy. In view of the research and the environmental provisions contained in the NAFTA, there is likely to be minimal, or no, relocation of Canadian industry due to the projected differences in pollution abatement costs.

E. FOLLOW-UP MECHANISMS

The NAFTA negotiations resulted in a significantly heightened Canadian awareness of the continental dimension of environmental concerns. These concerns would continue to be addressed following the implementation of the NAFTA. The relationship between trade and the environment would be treated in various mechanisms of the Agreement, the parallel process and international forums.

Several provisions of the NAFTA would ensure the continued consideration of the relationship between trade and the environment within the context of the Agreement. A Committee on Standards-Related Measures would be responsible for enhancing trilateral co-operation on the development, application and enforcement of environmental standards. Official consultations could be demanded should one party believe that another proposed to derogate from environmental standards for the purpose of attracting an investment. Scientific review boards could provide information to dispute settlement panels on factual matters related to the environment.

The NAFTA negotiations acted as a catalyst to increased environmental co-operation between Canada and Mexico under the parallel process. Canada has committed in excess of $1.9 million since 1990 under the Canada-Mexico Agreement on Environmental Co-operation. In the case of Mexico and the U.S., a major upgrading of environmental monitoring, enforcement and infrastructure is taking place under the Integrated Environmental Plan for the Mexico-U.S. Border Area. Environment ministers from the three NAFTA countries have agreed to the formalization of trilateral environmental co-operation under a new North American Commission on Environmental Co-operation.

Activities relating to the linkages between trade and the environment are under way under the aegis of the UN, the OECD and the GATT. Progress in these multilateral forums will be of critical importance in determining how trade and environmental principles will be treated in future international trade and environmental agreements.

F. A RETROSPECTIVE

One of the outcomes of the NAFTA negotiations has been a much heightened awareness of the continental dimension of environmental concerns. As a result of the NAFTA, future economic development will be implemented with greater environmental awareness. It will be subjected to increased environmental monitoring and enforcement. In turn, additional resources that would flow from increased economic activity should enhance efforts to address environmental concerns in North America.

The process associated with this review has provided clear evidence of the benefit of taking environmental concerns into consideration at every stage of the negotiating process. Frequent and substantive contact between the Environmental Review Committee, environmentalists and the negotiators played an important role, not only in optimizing the environmental provisions of the NAFTA, but also in shaping other provisions that do not specifically address the environment. This process, used for the first time in the negotiation of a trade agreement, has established a precedent for the future.

ANNEX 1

CANADIAN ENVIRONMENTAL REVIEW OF THE NAFTA: TERMS OF REFERENCE[51]

1. An environmental review of the NAFTA will be conducted under the aegis of the environmental policy announced by the government in June 1990. This policy requires that policy or program proposals presented to Cabinet be accompanied by an assessment of their potential environmental effects. It also requires that a public statement be issued on the anticipated environmental effects of the policy or program, when the potential effects are either significant or of particular concern to Canadians.

2. The environmental review of the NAFTA will be conducted by an interdepartmental committee chaired by External Affairs and International Trade Canada and including, inter alia, the departments of Agriculture; Energy, Mines and Resources; Environment; Finance; Fisheries and Oceans; Forestry; Industry, Science and Technology; and Transport.

3. The NAFTA Environmental Review Committee will have two fundamental objectives. One will be to ensure that the potential environmental effects of the various negotiating options are taken into account throughout the negotiations. The other will be to document the review of the potential environmental effects of the Agreement.

4. In carrying out its functions the Committee will:

- assemble and review relevant literature from Canadian and foreign governmental and non-governmental sources;
- meet with representatives of the Canadian negotiating groups for the purpose of discussing the scope and content of the negotiations in each group and to ensure that the negotiators are aware of the potential environmental effects of the various issues and options that are being considered;
- consult with environmental and other members of the International Trade Advisory Committee (ITAC) and Sectoral Advisory Groups on International Trade (SAGITs);
- consult with the provinces through the Federal-Provincial Committee on the NAFTA;
- establish contact and exchange information with the U.S. and Mexican officials responsible for the environmental reviews being conducted by those countries; and
- review and comment on draft Memoranda to Cabinet on the progress and content of the NAFTA negotiations and advise Cabinet of any recommendations or concerns that the Committee may have with respect to the negotiations.

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51. Consistent with Canada's Green Plan, the Terms of Reference were given to the NAFTA Environmental Review Committee by the Honourable Michael Wilson, Minister of Industry, Science and Technology and Minister for International Trade.

5. While responding to the full range of concerns expressed by Canadians, the review should concentrate on the potential environmental effects of the NAFTA on Canada. It will address the potential environmental effects of the NAFTA by negotiating group, by medium (soil, air, water), and by major environmental concern (standards, investment, dispute settlement). The review will comment on any activities or measures being undertaken in the parallel discussions with Mexico and the U.S. on environmental issues, or in other forums that may affect environmental concerns raised in the context of the NAFTA negotiations.

6. The environmental review will be submitted to Cabinet no later than the NAFTA.

ANNEX 2

CANADA-MEXICO MERCHANDISE TRADE EXPORTS (1990-91)

EXPORTS TO MEXICO (C$,000)	1990	1991
Motor vehicle parts (incl. engine parts)	82,100	153,500
Iron and steel products	67,700	46,300
Wheat	8,400	25,000
Aircraft and parts	39,100	18,600
Milk powder	72,500	13,400
Telecoms. rel. equipment/parts	51,500	23,000
Newsprint	16,000	34,500
Bituminous coal	0	2,200
Meat and livestock	21,600	18,900
Sulphur	28,800	18,900
Asbestos	13,400	16,100
Barley and oats	1,500	1,700
Filtering/purifying machinery	4,800	2,200
Wood pulp	27,500	15,300
Articles of rubber	5,900	3,800
Yarns and fabrics	3,200	4,400
Petroleum oils	5,100	16,100
Subtotal	449,000	413,900
Others	144,700	110,600
Total Exports	593,700	524,500

Source: Statistics Canada, Merchandise Trade Statistics

ANNEX 3

CANADA-MEXICO MERCHANDISE TRADE IMPORTS (1990-91)

IMPORTS FROM MEXICO (C$,000)	1990	1991
Automotive parts, materials and accessories	436,265	722,859
Automotive vehicles	127,737	716,400
Engines and engine parts	300,187	235,174
Radio, telephone, audio, equipment and parts	146,572	143,225
Data-processing machines and parts	177,815	127,166
Ignition wiring sets	89,192	104,815
Petroleum oils	56,804	97,606
Fruits, coffee and nuts	68,485	76,008
Air conditioners, fans, equipment and parts	32,030	58,334
Vegetables	79,306	48,546
Carpets, fabrics and yarns	27,813	30,077
Kitchen appliances, small	13,670	23,317
Articles of glass (non-automotive)	12,806	15,672
Beer, wine and spirits	14,020	15,503
Springs (iron or steel)	10,411	15,083
Toys	12,552	12,158
Photocopy machines and parts	3,508	5,893
Subtotal	1,609,173	2,447,836
Others	120,675	126,136
Total Imports	1,729,848	2,573,972

Source: Statistics Canada, Merchandise Trade Statistics

ANNEX 4

CANADA-MEXICO MERCHANDISE TRADE EXPORTS (JAN.-JUNE 1991/1992)

EXPORTS TO MEXICO (C$,000)	JAN.-JUNE 1991	JAN.-JUNE 1992
Motor vehicle parts (incl. engine parts)	44,400	84,800
Iron and steel products	19,400	55,900
Wheat	0	53,400
Aircraft and parts	1,400	20,800
Milk powder	5,900	18,000
Telecoms. rel. equipment/parts	900	16,700
Newsprint	4,200	15,400
Bituminous coal	0	15,200
Meat and livestock	10,000	13,500
Copper (raw)	0	12,200
Sulphur	4,400	7,500
Asbestos	6,500	7,300
Barley and oats	600	5,900
Filtering/purifying machinery	1,100	5,400
Wood pulp	8,300	4,100
Rape or colza seeds	0	3,700
Articles of rubber	900	3,600
Yarns and fabrics	1,100	2,700
Petroleum oils	16,100	0
Subtotal	125,800	346,100
Others	81,900	41,000
Total Exports	207,700	387,100

Source: Statistics Canada, Merchandise Trade Statistics

ANNEX 5

CANADA-MEXICO MERCHANDISE TRADE IMPORTS (JAN.-JUNE 1991/1992)

IMPORTS FROM MEXICO (C$,000)	JAN.-JUNE 1991	JAN.-JUNE 1992
Automotive parts, materials and accessories	232,800	327,400
Automotive vehicles	204,200	315,900
Radio, telephone, audio equipment and parts	52,900	84,300
Ignition wiring sets	45,800	68,900
Petroleum oils	38,900	66,800
Engines and engine parts	146,600	64,300
Data-processing machines and parts	59,100	51,500
Air conditioners, fans, equipment and parts	27,100	40,200
Fruits and nuts	41,900	35,100
Filtering/purifying machinery and parts	11,400	34,000
Vegetables	39,900	31,800
Carpets, fabrics and yarn	13,600	15,900
Electric lighting equipment	11,000	11,900
Springs (iron or steel)	6,500	9,300
Beer, wine and spirits	5,700	7,500
Furniture	8,800	6,200
Toys	5,700	5,800
Subtotal	951,900	1,176,800
Others	206,600	170,500
Total Imports	1,158,500	1,347,300

Source: Statistics Canada, Merchandise Trade Statistics

ANNEX 6

ENVIRONMENTAL PROTECTION IN MEXICO

This annex presents an overview of Mexico's legislative, regulatory and enforcement frameworks for the environment. It is based on documents available from the Canadian, Mexican and U.S. governments. The overview includes an enumeration of the initiatives that Mexico has taken since 1988 to address environmental issues.

A. INSTITUTIONAL FRAMEWORK

The Mexican environmental regime is founded on articles 25, 27 and 73 of Mexico's Constitution. Article 25 establishes federal jurisdiction in matters of environmental protection; Article 27 refers to the preservation and restoration of ecological balance with respect to all "natural resources;" and Article 73 empowers the Mexican Congress to promulgate laws defining the respective roles of the federal, state and local levels of government in environmental protection.

In 1982, the Mexican Secretariat of Urban Development and Ecology (SEDUE) was established. Organized into three subsecretariats (Housing, Urban Development and Environment) SEDUE was responsible for implementing the General Law of Ecological Equilibrium and Environmental Protection.

On May 26, 1992 the Secretariat of Social Development (SEDESOL) officially replaced SEDUE. Its broad mandate covers environmental policy formulation and enforcement, urban planning and the National Solidarity Program. Mexico believes that the inclusion of these three programs under the same secretariat will allow it to comprehensively address environmental protection and its relation to poverty and to urban planning. Political decisions regarding the environment remain the prerogative of the Secretariat. SEDESOL environmental policy and compliance functions are divided between two autonomous agencies: the National Institute of Ecology (INECO) and the Office of the Attorney General for the Protection of the Environment.

The National Institute of Ecology is responsible for environmental planning, including the research, formulation and evaluation of environmental protection policies, the establishment of standards and regulations and the conservation of natural resources. The Attorney General for the Protection of the Environment is charged with the enforcement of the environmental regulations formulated by INECO and with investigating and prosecuting those accused of contravening environmental laws. The Attorney General is also responsible for receiving and investigating complaints from the public with respect to environmental non-compliance and activities harmful to the environment.

Although the May 26 changes modified the organizational infrastructure of environmental policy development and implementation in Mexico, the previous legislative and regulatory frameworks remain in place. In the words of the Secretary of SEDESOL, "Not one task, nor any duty formerly assigned to the Ecology Undersecretariat has been eliminated.

Instead, new tasks directly related to the enforcement of environmental laws have been added."[52]

Since the new organizations have yet to establish their own track records, the description that follows of Mexico's legislative, regulatory and enforcement structures is based largely on the SEDUE experience.

B. GENERAL ECOLOGY LAW

The General Law of Ecological Equilibrium and Environmental Protection (the Law) went into effect in March 1988. It abrogated all prior environmental law and established the current Mexican legal regime for the environment. The Law addresses pollution problems in all media, natural resource conservation, environmental impact and risk assessment, ecological zoning and sanctions. It covers the full spectrum of environmental issues thereby contrasting with the legal regimes of countries such as Canada and the U.S. that have specific laws for each of the different media.

The Law establishes general criteria and policy guidelines for specific regulatory practices and directs SEDUE to develop the details of the environmental programs. It foresees the establishment of environmental standards, comparable to those of industrialized nations, enforcement procedures and penalties for non-compliance.

By the summer of 1992, four regulations had been promulgated under the Law. These included regulations applicable to environmental impact assessment; hazardous wastes; prevention and control of mobile source pollution in the Mexico City metropolitan area; and prevention and control of atmospheric pollution. A new regulation dealing with water pollution has apparently been drafted, but has not yet been promulgated.

Technical ecological norms (TENs) and ecological criteria are used to further define the regulations of the Law and to determine compliance. These scientific or technical rules set forth the requirements, procedures, conditions and limits that must be met. Some 70 TENs and ecological criteria have been issued under the Law and its regulations. These focus on air pollution, hazardous waste and water pollution. Mexico intends to set 80 additional environmental technical standards by the end of 1992. Once these remaining regulatory and technical standards have been promulgated, Mexico will, for the first time, have a complete legal program for the environment.

Many of the TENs are developed co-operatively between SEDESOL and Mexico's Ministry of Health. The latter is responsible for acquiring available health-related information, including toxicity data, and existing standards from other countries, as well as for recommending appropriate criteria to SEDESOL. SEDESOL then circulates the recommendations within the Mexican government for review and comment. The proposed standards are also sent to state and municipal governments, and attempts are made to reach out to the scientific, professional and educational communities as well as to Mexican industry.

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52. Colosio, Honourable Luis Donaldo, "Environment and Development in Mexico."

The Law and the regulations establish SEDESOL's concurrent jurisdiction with the states and municipalities in specific environmental protection matters of local interest. As in Canada and the U.S., Mexican state laws and municipal ordinances enacted pursuant to the Law must be at least as stringent as the applicable federal regulations or standards. If so desired by the state or local government, they may be more stringent.

Mexico has a goal of increasing the decentralization of its environmental system. In the future, Mexican states will assume greater responsibility for environmental protection. To date, 29 of 31 Mexican states have adopted their own environmental laws.

C. NATIONAL DEVELOPMENT PLAN

A near half-century of industrialization, concurrent population growth and massive urban expansion have produced, in some regions of Mexico, an environment very much in need of greater protection. The present government readily acknowledges and recognizes the need to improve on the past record of environmental protection and conservation. In the words of President Carlos Salinas de Gortari, "A better quality of life for the Mexican population depends on the protection of our environment. This is just as important as the actions taken by the government and the private sector regarding trade, the foreign debt and modern technology in factories."[53] The Salinas administration believes that once Mexico's citizens begin to experience the benefits of improved environmental quality, rising levels of expectation will drive the process forward.[54]

Like Canada's Green Plan, Mexico's National Development Plan recognizes that environmental protection is a requirement for economic growth. Based on this principle, the Department of Urban Development and Ecology prepared the National Program for Environmental Protection, 1990-1994, which is aimed at making the general development process compatible with re-establishing the quality of the environment and conserving and respecting natural resources. It is a comprehensive, government-wide program to integrate economic development and environmental protection and conservation.

The goal of the Program is to use environmental management as a tool for modernizing national development, advocating harmony between socio-economic growth and conservation over the long term. A strategy that mirrors the National Development Plan has been devised to achieve the Program's objectives.

The Program ensures that development activities are subject to environmental criteria and establishes objectives concerning:

- the conservation and preservation of natural resources, flora and fauna;
- clean air and water;
- the control, treatment and reduction of garbage and solid waste;
- ecological management;
- environmental impact and risk assessment;
- the legislative framework;
- the use of education to heighten environmental awareness;

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53. Mexico, Secretaria de Desarrollo Urbano y Ecologia, Mexico: Towards a Better Environment, p. 3.

54. Embassy of Mexico, Mexico Environmental Issues: Fact Sheets, June 1992, p. 2.

- training and communications;
- science and technology;
- civic participation; and
- international co-operation.

The Program sets fundamental guidelines for environmental management involving a decentralized approach. It recognizes that the need to stimulate economic growth, while giving priority attention to care for the environment, will require a long-term, co-ordinated effort from all sectors of Mexican society and includes practical actions to attain its goals, distinguishing between compulsory actions, those which require government co-ordination, those requiring social co-operation and persuasive activities designed to foster and increase public participation.

Sustainable development principles and the integration of environmental concerns into economic decision-making, are at the core of the Mexican National Program for Environmental Protection. In addition, the Program illustrates the willingness of Mexico to work internationally for environmental improvement, both at bilateral and global levels. It is an ambitious document that demonstrates a commitment to deal with environmental issues.

D. AIR POLLUTION

To implement the 1988 Law, Mexico has adopted two regulations related to air pollution and numerous TENs under those two regulations. The broader of the two regulations covers general provisions; stationary source controls; mobile source controls; establishment of a national air quality monitoring system; and enforcement, including sanctions. The second regulation, much narrower in scope, is designed to address air pollution in Mexico City and surrounding areas by regulating traffic, motor vehicle emissions, and vehicle inspections. Most of the TENs issued under these regulations address air pollution from specific types of stationary sources and from various classes of mobile sources. Others set forth procedural requirements for special permitting, test methods and procedures, etc.

Mexico's air pollution program, like that of Canada, involves the adoption of ambient air quality standards for specific pollutants. Mexico has issued such standards, called "maximum permissible levels" (MPLs), for ozone, carbon monoxide (CO), sulphur dioxide (SO_2), nitrogen dioxide (NO_2), and total suspended particulates (TSP), and plans to issue standards for lead and particulate matter (PM_{10}). Unlike the Canadian system, which generally leaves the implementation of national standards to the provinces, a federal source permit program is used in Mexico to apply the ambient standards.

The maximum permissible level ambient standards are used for information purposes (i.e., comparing actual pollution levels with the maximum permissible levels) and for triggering "contingency plans" in Mexico City. These plans call for cutbacks in production by certain industries when pollution reaches designated levels and when meteorological conditions indicate that concentrations would not decrease without a cutback in emissions.

After receiving and reviewing a permit application, SEDESOL sets the emission limits for the permit. When a technical standard has been promulgated for that source category, the

limits in that standard would be incorporated into the permit. The Mexican standards resemble Canadian source standards in that they set maximum permissible emission levels for various pollutants per unit measure of raw material or production. Canadian standards are also based on concentrations of discharge per volume of gas or waste water.

When a standard has not been promulgated for a category, SEDESOL considers U.S. standards as a guide for its decision. In practice, SEDESOL generally requires "best available technology" for new sources, while being more lenient for existing sources that might find meeting such stringent levels prohibitively expensive.

Once a source has a permit, it must report certain information, including air stack test emissions data, every February. SEDESOL reviews the submitted data and, if a violation appears to have occurred, may inspect the source and close it temporarily, close it permanently or impose a fine. If changes are made to the source, the permit must be modified.

The four major aspects of Mexico's mobile source controls are tailpipe emission standards; vehicle inspection and maintenance programs; fuel content specifications and characteristics; and restrictions on driving. A regulation issued in 1988 established tailpipe emission standards for new cars. The new car standard required decreasing emissions, beginning in 1989. All cars that are manufactured in Mexico in 1991 and afterwards have required catalytic converters.

Certain issues relating to the effectiveness of these provisions remain unclear. These include the rigour of Mexico's test procedures for determining compliance with the emissions standards; whether cars must meet the standards for a specified "useful life"; whether there are warranty and recall provisions; and whether there are any restrictions on the sale of "aftermarket parts" that could affect emissions performance, if original equipment is replaced. Nevertheless, 22 cities in Mexico have vehicle inspection stations. SEDESOL reports that in some areas along the border emission inspection standards are more stringent than those in counterpart U.S. cities.

A more recent development was the granting of authority to SEDESOL to regulate the content of fuels. Measures include the introduction in 1990 of unleaded gasoline, leaded gasoline with seven times less lead and the oxygenation of all gasolines. In November 1991 the price of leaded gasoline was increased by 55 per cent and the price of unleaded by only 25 per cent in an effort to discourage the use of private automobiles and to promote the use of unleaded gas in vehicles with catalytic converters.

Other actions that have been or will be implemented in the near future include a reforestation program of over 10 million trees; the introduction of vapour recovery systems at gasoline stations; and a mandatory auto emission program.

E. AIR POLLUTION IN MEXICO CITY

Mexico City has undergone massive expansion and industrialization in the last 50 years. During this period its population has increased by a factor of six to more than 18 million. These conditions have produced air pollution problems common to many large urban centres.

Three geographical obstacles compound Mexico City's pollution challenge: high mountains surround the Mexico City Valley and prevent the natural dispersion of pollution by the wind; the city's very high altitude of 2,235 metres (7,333 feet) permits the entry of solar radiation, which transforms hydrocarbons and nitrogen oxide into ozone; and the area is vulnerable to thermal inversions that trap pollutants in the Valley.

The largest source of air pollution is vehicular emissions although the second source, industrial emissions, has greater toxicity. A series of measures has been implemented or planned to counteract the city's pollution challenge. These include:[55]

- the acquisition of signed pledges from 1,400 operators of plants and industrial facilities for the scheduled installation of pollution control equipment;
- expansion of the Atmospheric Monitoring Network from 25 to 32 stations;
- hourly broadcasts of the metropolitan air quality index (IMECA) to alert residents to fluctuating pollution levels;
- requirement for catalytic converters on all new cars, buses and taxis since 1991;
- the phase-out of leaded gasoline;
- reduction in the sulphur content of diesel and fuel oil;
- extension of the metro system to 131 miles;
- increased use of natural gas by public transportation;
- replacement of all public transport vehicles by 1996;
- equipment of 3,500 urban buses to meet the most stringent emission standards in the world;
- replacement of 6,000 suburban buses by vehicles with reduced emission capacity;
- addition of anti-pollution equipment to 55,000 taxis and 12,000 minivans;
- conversion of 144,000 public and cargo vehicles within three years to cleaner burning natural gas or liquid petroleum;
- annual emissions inspections for private cars in the Federal District and in the suburban municipalities (in 1991, fines for non-compliance were paid by more than 4,000 owners);
- emissions checkpoints at all entrances to Mexico City;
- reduction of suspended particle emissions by up to 90 per cent at the city's 220 most polluting industries;

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55. Ibid., September 1992.

- elimination of lead in paint; and

- 40 per cent reduction in the industrial emission of reactive organic gases.

To date, the Mexico City air program has been successful in reducing the levels of lead, carbon monoxide, and sulphur dioxide. Ozone is currently the most harmful pollutant in the region and has accordingly been identified as a priority.

F. HAZARDOUS WASTES

Mexico uses a combination of characteristics, listing and an extraction test to determine what constitutes a hazardous waste. Siting of disposal facilities is stringent with regard to aquifer-connected zones, and less stringent with regard to flood and seismic zones. Mexico does not require the installation of a double liner underneath landfills, or impose closure or financial responsibility requirements on facilities. Currently authorized and operating disposal capacity in Mexico consists of seven recycling and three disposal facilities.

As in other areas of environmental regulation, Mexican controls on the management of hazardous waste tend to be more stringent for new sources than for existing sources. Most notably, a company wishing to construct a facility that will generate or manage hazardous waste must receive prior government authorization, a process that also involves an environmental impact assessment. Construction of a new facility is subject to detailed siting criteria. New facilities must also use "best available technology," while existing sources are called on to strengthen pollution controls and to recycle. Provisions for corrective action may be part of the fairly specific and detailed operating authorization.

Mexico requires generators of wastes to both register and file periodic reports on the volumes and types generated. Both new and existing facilities must reduce the volume of waste generated, and then apply physical, chemical or biological treatment to waste. Hazardous waste must ultimately be disposed of in a controlled confinement or disposal facility in accordance with applicable TENs and regulations. Storage of hazardous waste is also subject to specific regulatory requirements. Although not completely identical, the TENs and regulations for hazardous wastes are detailed and similar to their U.S. counterparts. The most significant differences between the Mexican and U.S. legal regimes governing hazardous waste disposal are that SEDESOL has not yet promulgated treatment-oriented land disposal restrictions equivalent to those under the American Resource Conservation and Recovery Act or addressed the issue of leaking underground storage tanks. SEDESOL has indicated its intention to address these issues in the near future.

The Mexican federal government has only "normative" responsibility over municipal waste, which is under local control. SEDESOL has identified three prototypes of "correct" landfills and provides technical assistance and information to municipalities for developing and operating landfills and other solid waste disposal facilities.

Mexico lacks an equivalent to the U.S. Superfund program or Canada's Contaminated Sites program, although it has established a program to solicit voluntary contributions from industry for clean-up of abandoned hazardous waste sites. SEDESOL's role in implementing the program is to identify sites, select remedial action and provide oversight.

To date, no systematic effort seems to have been made to identify the sites where releases pose a significant risk to human health or to the environment. Since Mexico is likely to face a substantial problem with existing hazardous waste contamination, the "voluntary fund" may not be adequate for a significant number of comprehensive clean-up operations.

A 1983 agreement between the U.S. and Mexico provides for the return to the U.S. of hazardous wastes generated by the approximately 2,000 "maquiladora" plants in Mexico. However, complete information is lacking on the number of maquiladoras that generate hazardous waste, in what quantities it is generated, and the final disposition of the contaminated materials. The two countries are presently co-operating on the collection of this information.

G. PESTICIDES AND TOXIC SUBSTANCES

In Mexico, pesticides, fertilizers and toxic substances are regulated by the General Law of Ecological Equilibrium and Environmental Protection (the Law), the Law on Plant and Animal Protection and the General Health Law. Regulations cover the manufacture, formulation, packaging, labelling, use and disposal of such substances. If the product is banned in the country of manufacture or preparation, importation into Mexico is generally prohibited. Pesticide and chemical products must be registered and importers and exporters must obtain permits in order to trade. Mexico relies to a large extent on the health, safety and environmental data and risk analysis of the country of origin and of the international community.

The Law gives the federal government authority over "high risk" industries, businesses and services. These are so designated because of the chemicals they handle. These activities must be located in specially approved zones and submit accident prevention plans to SEDESOL for approval. Mexico's law authorizes seizures or shutdowns "when there exists an imminent threat to the ecological balance, or ... dangerous repercussions for the ecosystems, their components, or the public health ...." New high-risk facilities must undergo a risk analysis as well as an environmental impact review before they can be built.

H. WATER POLLUTION

Mexico's federal statutory requirements for water pollution control are broad. The country's water pollution regime is under development and thus far the emphasis has been on the elaboration of a basic regulatory system for municipal waste-water treatment. Mexico has not yet designated water quality criteria for the uses of every stream segment in the country.

Mexico's water regime controls many types of sources, limiting effluents using a technology-based approach. It also provides for the setting of water quality standards and consideration of the assimilative capacity of a water body to determine specific limits for individual discharge points. Mexico uses registration and permit programs to manage and control discharges and involves state and municipal governments in the development and enforcement of certain aspects of the water pollution control program.

I. ENVIRONMENTAL ASSESSMENT

The Mexican government has attached priority to key public and private activities that are the most likely to cause ecological imbalances or to exceed the limits established in the Law, its regulations and ecological standards. The government has imposed regulations on the evaluation of the environmental impact of a broad range of public and private activities and has made them subject to prior authorization.[56] Based upon an environmental review, the appropriate federal, state, or municipal government authority must authorize and impose conditions on both public and private activities that may cause adverse ecological effects or violate environmental laws.

(i) Existing Business

All operations that may emit contaminants into the atmosphere must obtain an operating licence pursuant to the Air Contamination Regulation. Companies that discharge residual waters from their operations also require a Waste Water Discharge Registration.

In addition, companies are required to report regularly and to provide detailed information on the chemical composition, volumes, storage, collection, transport and final disposition of hazardous wastes that have been generated.

Combined, the Environmental Impact Statements (EIS) and the above licensing and registration systems enable SEDESOL to assess the environmental impact of planned and existing operations in Mexico.[57]

(ii) New Business

Prior to commencing operations, all new potentially contaminating industries and government projects must, by statute, file an environmental impact statement and risk analysis with SEDESOL.[58] The EIS must contain a description of the planned operations, elements of the natural and socio-economic environment in the area of operation, applicable land use standards and regulations, identification of the anticipated environmental impact of the project and measures for the prevention and mitigation of any potentially adverse environmental impacts.

SEDESOL, after an analysis of the EIS, issues a decision on the project. The decision may authorize the project as proposed, authorize the project with modifications, or deny authorization. Environmental impact assessments are public documents and are fully available to interested parties and individuals. The 1,610 new industrial projects begun in Mexico since 1988 have been required to comply with the government's environmental standards. Mexico's policy is to prohibit investments, whether foreign or domestic, that have been rejected by other nations as harmful to the environment or that do not meet Mexico's environmental regulations.

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56. Jorge G. Santistevan, Responses to Questions Regarding Mexican Environmental Laws, p. 15.

57. Ibid.

58. Ibid., p. 5.

J. ENVIRONMENTAL PROTECTION ALONG THE NORTHERN BORDER

Mexico and the U.S. share a 2,000-mile border along which they have joint responsibility for the protection of the environment. In 1983 they signed the U.S.-Mexico Agreement for the Protection and Improvement of the Environment in the Border Area. On November 27, 1990 Presidents Salinas and Bush directed their respective environmental authorities to develop a comprehensive border environmental plan. On February 25, 1992 the two governments jointly announced the completion of the Integrated Environmental Plan for the Mexican-U.S. Border Area.[59]

In anticipation of the Plan, the Government of Mexico on October 24, 1991 announced a three-year US$460-million program to protect the environment of its northern border area.[60] The 1992-94 commitment includes expenditures of $220 million for sewage systems and waste-water plants; $25 million for the collection, treatment and disposal of municipal solid waste; $118 million for road construction; $50 million for public transportation; $43 million for the acquisition of 3,185 hectares of land; and $4 million for contingencies.

K. INTERNATIONAL CO-OPERATION AND WILDLIFE PROTECTION

Mexico has signed and ratified nearly all international treaties and agreements for the protection of the world's environment and natural resources. It was the first country to ratify the Vienna Convention and Montreal Protocol agreements for the protection of the ozone layer and is eliminating the use of ozone-depleting chlorofluorocarbons on the same timetable as the industrialized nations. Most recently, Mexico played an active role in the June 1992 UN Conference on Environment and Development. It signed the Conventions on Climate Change and Biological Diversity that were negotiated during that event.

Mexico ranks fourth among nations in the number of species found within its borders and has 12 of the world's 14 ecosystems. It has set aside 15 million acres of protected territory in 68 natural areas: 44 national parks, 8 biosphere reserves, 14 special biosphere reserves, one area of flora and fauna protection, and one national monument. Mexico was the first nation to create breeding sanctuaries for gray whales and operates nearly 60 marine turtle preserves as well as outlawing their capture and trade.

In 1991 President Salinas received the first Earth Prize, jointly conferred by the Nobel family and the UN, for environmental statesmanship. This honour recognized five achievements:

- creation of a four-year, US$4.6-billion program to improve air quality in Mexico City;
- introduction of lead-free gasoline in Mexico;
- permanent closure of a major refinery in Mexico City;

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59. United States Environmental Protection Agency and the Mexican Secretaria de Desarrollo Urbano y Ecologia, Integrated Environmental Plan.

60. Mexico, Secretariat of Social Development, Protecting the Environment.

- imposition of a prohibition on the capture and trade of marine turtles and their products; and

- successful management of a gray whale protection program.

L. ENFORCEMENT POLICIES AND PRACTICES

The Law empowers SEDUE to enforce the Law, its regulations and TENs within federal jurisdiction, while granting to the states and municipalities the authority to adopt legislation and to establish procedures to implement its mandates within their respective jurisdictions.

The Law establishes procedures for on-site inspections by governmental authorities. SEDESOL, or other competent authorities, may undertake inspection visits to verify compliance with environmental provisions.[61] The Law sets out four enforcement mechanisms in the case of violators: plant closings, the imposition of fines, criminal penalties and administrative arrest. Plant closings, whether temporary, permanent, partial or a combination thereof, are intended to generate negotiations between SEDESOL and the corporate entities that have formally been charged with a violation. The plant may be allowed to re-open only after an agreement containing timetables for compliance is reached and the company has posted a bond equivalent to the value of the required alterations. Thereafter, implementation of the agreements is monitored by SEDESOL and the bonds released when the requisite modifications have been completed.

Mexico's enforcement practices are advanced in that they use multimedia (i.e., air, water, soil) inspections. Inspectors engage in a multimedia inspection, checking for violations with respect to all media at each facility. There is ongoing interest demonstrated by SEDESOL in having joint U.S.-Mexico site visits in the border area and in increasing the level of training and expertise among SEDESOL inspectors. In addition, the $1-million NAFTA Parallel Program with Mexico under the Canada-Mexico Agreement on Environmental Co-operation will focus on strengthening Mexico's monitoring and enforcement capability.

The Law and corresponding regulations establish fines, indexed to the minimum daily wage, up to the equivalent of US$70,000 for environmental non-compliance. Fines are doubled for second offences. Administrative arrest, as distinguished from criminal arrest, can result in the deprivation of a corporate officer's freedom for up to 36 hours. Criminal penalties, depending on the nature of the violation, can include fines up to 20,000 times the minimum daily wage and to prison sentences ranging from three months to nine years.

A person performing hazardous activities without prior authorization, or in violation of applicable safety and operational standards is subject to imprisonment for up to nine years and a fine equivalent to 20,000 times the minimum daily wage. A person producing or handling hazardous materials or residues without prior authorization or in violation of the applicable federal standards is subject to imprisonment for up to six years and a fine of 20,000 times the minimum daily wage. The same penalties may be imposed if an

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61. Santistevan, Responses to Questions, p. 21.

individual imports or exports hazardous materials or residues without prior authorization or in breach of the terms of the authorization.

Although SEDESOL has been hampered by budgetary constraints in the past, Mexico has made significant efforts in recent years to exercise its enforcement authority and to develop a more effective enforcement program. In 1991 the national investment in addressing environmental concerns totalled US$1.8 billion or the equivalent of almost 0.7 per cent of Mexico's GDP. SEDESOL's budget increased from US$6.6 million in 1989 to more than US$77 million in 1992. An increasing percentage of the budget is being allocated to the enhancement of inspection and enforcement capabilities. SEDESOL's 1991 budget of US$38.9 million provided for an expenditure of the equivalent of US$4.27 million on inspection, monitoring and enforcement activities.

Mexico is also receiving US$50 million in World Bank funds that are being matched with US$38 million from the Mexican government. These funds will assist in modernizing and decentralizing Mexico's environmental infrastructure. A portion will be directed to improving compliance monitoring and enforcement and to increasing the number of industrial inspections.[62]

Since 1989 there has been a increase in the number of federal environmental inspectors in Mexico. According to unverified information received by the NAFTA Environmental Review Committee, Mexico had as few as 19 federal environmental inspectors as recently as 1989. This number apparently increased to 109 inspectors in 1990, and to 209 in 1991. By the first half of 1992, the number of federal inspectors had grown to 334. Of these, 59 were located in Mexico City, 200 in the Mexico-U.S. border area, and 75 were divided equally among 25 states.[63]

In the last six years, the number of federal environmental inspections has also increased substantially.[64,65] During this period, there have been some 7,668 inspections of industries. By late 1991, these inspections had resulted in 1,929 temporary or partial shutdowns of factories; the negotiation of 2,112 signed pledges from plant owners to install anti-pollution equipment by scheduled deadlines; the permanent closure of 109 facilities; and the relocation of 36 operations outside Mexico City. The large number of closings has encouraged companies to approach SEDESOL to negotiate voluntary compliance agreements, which are monitored once they are finalized.[66]

In the Mexico City metropolitan area, officials have pursued industries that are violating air quality standards. In March 1991, President Salinas closed one of Mexico's biggest and most polluting oil refineries. This plant was responsible for up to 15 per cent of the polluting emissions from industrial sources in the Mexico City Valley. The closure of the

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62. Office of the United States Trade Representative, Review of U.S.-Mexico Environmental Issues, p. 36.

63. Embassy of Mexico, Mexico Environmental Issues, June 1992, p. 18.

64. Ibid.

65. United States Environmental Protection Agency, Mexican Environmental Laws, Regulations and Standards, p. 2.

66. Office of the United States Trade Representative, Review of U.S.-Mexico Environmental Issues, p. 41.

refinery cost Mexico US$500 million in government revenues and resulted in the net loss of 5,000 jobs. A $100-million contract was awarded to a U.S. company to assist in dismantling the plant and to restore the land to a park area.

Reflecting on the relationship between poverty and his government's commitment to a healthier environment in the future, Mexico's President Salinas said recently: "The environment will worsen in poverty. It's not automatic that with growth the environment will improve, but it is automatic that with poverty the environment will worsen. We will make sure that with growth the environment will actually improve."[67]

M. ANNEX SUMMARY

Mexico enacted a tough environmental law in 1988. That event marked the beginning of a new era of environmental awareness in Mexico. Since that time, it has been progressively adopting regulations and technical environmental norms to implement the General Law of Ecological Equilibrium and Environmental Protection.

Mexico's environmental law, regulations and norms are similar in stringency to the laws and regulations of developed countries. Environmental Impact Statements are required for all public and private sector projects. New high-risk facilities must also undergo a risk analysis. The comprehensiveness of these requirements limit the likelihood that companies would move to Mexico in the future with the intent of escaping environmental laws elsewhere.

In the past, Mexico has not had the financial resources required to fully enforce its environmental regulations. Since 1989 Mexico has recruited many new inspectors and has significantly increased its budget for environmental monitoring and compliance. Major programs of environmental protection and rehabilitation have been approved, particularly for Mexico City and the northern border area. By the end of 1991, over 100 polluting facilities had been closed permanently, and almost 2,000 had been forced to cease operations temporarily.

Mexico's recent initiatives, particularly since 1988, to address its environmental challenges were recognized internationally when the Earth Prize was awarded to President Salinas for his commitment to the environment.

In brief, Mexico is now integrating environmental considerations into its economic development. A complete legal framework is scheduled to be in place by the end of 1992. Although enforcement activities are being significantly increased, the government publicly recognizes that the objective of full compliance with its environmental regulations has yet to be achieved. The Salinas administration views its participation in the NAFTA as an opportunity to generate the new resources that it needs for upgrading its investment in environmental regulation and enforcement.[68]

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67. Jonathan Fisher, "A Conversation with Mexico's President," p. 51.

68. Embassy of Mexico, Mexico Environmental Issues, September 1992, p. 2.

ANNEX 7

CANADA-MEXICO ENVIRONMENTAL CO-OPERATION

As noted in Chapter VI of the review, the NAFTA negotiations resulted in a significant intensification of bilateral co-operation on the environment between Canada and Mexico. This annex provides additional background information on this co-operation and lists the projects that were implemented under the C$1-million program announced by Canada on March 18, 1992. Added to the C$0.9 million already allocated by CIDA to environmental projects in Mexico, this new funding increased the government's commitment in Mexico since 1990 to C$1.9 million.

Environmental co-operation between Canada and Mexico began in 1988 when both countries joined with the U.S. in signing a Memorandum of Understanding on Migratory Birds and their North American Habitats. This agreement has as its objective the preservation and maintenance of migratory bird populations and the conservation of their habitats. The Canadian Wildlife Service of Environment Canada is the executing agency for this trilateral project.

Bilateral Canada-Mexico co-operation was institutionalized in March 1990 during a visit to Mexico by the Prime Minister. Since that time, the Canada-Mexico Agreement on Environmental Co-operation, signed on that occasion, has provided a formal mechanism for the planning and co-ordination of joint projects on behalf of the environment. For example, under the aegis of this Agreement, CIDA has invested in excess of $900,000 to permit a Canadian company to undertake feasibility studies for dealing with municipal and industrial wastes in the Coatzacoalcos-Minatitlan area of the state of Veracruz.

A second example of bilateral co-operation was the transfer, by Environment Canada, of a Canadian water management software package to Mexico for use in the protection and rehabilitation of the Lerma-Chapala watershed in the state of Jalisco. A third initiative was a December 1991 Canadian seminar in Mexico City on Geographical Information System (GIS) software products that drew 160 participants, including 11 Canadian suppliers. GIS environmental protection control software has applications in mining, forestry and water resources management.

The NAFTA negotiations have contributed to a significant heightening of the level of interest in bilateral co-operation on the environment. A major boost to this co-operation occurred on March 18, 1992 when the Secretary of State for External Affairs and the Minister of the Environment announced projects valued at $1 million to assist Mexico in environmental monitoring and enforcement. This Canada-Mexico environmental initiative was assigned two main objectives:

- to address priorities and to strengthen the capabilities of Mexico's Secretariat of Social Development in the enforcement of that country's environmental legislation; and

- to demonstrate Canadian public and private sector expertise in environmental technology, thereby opening the door to future commercial collaboration between the two countries.

The $1-million contribution agreement is divided into six segments:

1. Compliance Monitoring

1.1 Acquisition of a mobile laboratory, toxic substances databases, a water pollution software package and various training programs.

2. Management of Hazardous Substances and Waste

2.1 Comparison of legislation on the handling of dangerous substances and recommendations on the scope of activities for high-risk activities.

2.2 Creation of a technical standard or code of practice for the management of waste from the paint manufacturing industry.

2.3 Creation of a technical standard or code of practice that regulates the recycling and re-use of hazardous waste.

2.4 Creation of a regulation on existing high-risk activities.

3. Air Pollution Control

3.1 Technical standards for maximum permissable levels of fluoride, sulphur dioxide and nitrogen oxides in fertilizer manufacturing.

3.2 Technical standards for maximum permissable levels of hydrocarbon emissions in the storage of fuels and solvents.

3.3 Co-operation on emissions inventories.

4. Environmental Impact Assessment

4.1 Joint development of a manual on the preparation and presentation of preventative reports and statements on environmental impact (for facilities to treat, confine and destroy hazardous waste).

5. Threatened Species

5.1 Monarch butterfly project.

6. Environmental Education

6.1 Trilateral umbrella agreement signed September 17, 1992.

Under the umbrella of Compliance Monitoring, for example, Canada agreed to provide a mobile laboratory to Mexico. The purpose of this specially constructed, furnished and equipped camper-truck is to allow SEDESOL inspectors and technical staff to conduct on-site testing for industrial and municipal effluents at lakes and rivers throughout Mexico. It can also be used to pre-treat samples before shipping them to SEDESOL laboratories.

Pre-treatment of samples is a critical element in the testing process. Without this treatment, the chemical balance of samples and the contaminants they contain can change, thereby jeopardizing the value of the most sophisticated analysis.

Mexico has welcomed the prospect of ongoing technical co-operation, under both the NAFTA and the parallel process, as an important contribution to fulfilling the commitment to overcoming its environmental challenges. The series of projects initiated under the bilateral program match Mexico's needs with Canadian expertise and technology. At one and the same time, they will serve to assist Mexico in enforcing its environmental regulations and to showcase Canadian environmental technology and expertise. The result will be stronger environmental technology industries and a healthier North American environment.

ANNEX 8

TRADE AND THE ENVIRONMENT IN INTERNATIONAL FORUMS

As indicated in the review, Canada is addressing the relationship between trade and the environment in bilateral, trilateral and multilateral forums. This annex outlines the important initiatives that are currently under way at the multilateral level. The consultative process established during the NAFTA negotiations will provide environmental advice to the government on future discussions on trade and the environment in these multilateral forums.

A. CONTEXT OF THE ISSUE

The NAFTA is a precedent-setting trade agreement both in terms of its environmental provisions and in the extent of public input that was received on environmental concerns. Nevertheless, it constitutes only one of three avenues through which the linkages between trade and the environment are being addressed at the international level. Bilateral environmental co-operation, such as that which is taking place under the Canada-Mexico Agreement on Environmental Co-operation, constitutes the second avenue. The third avenue, and the subject of this annex, is Canada's participation in three multilateral bodies in which this relationship is being actively considered. Just as the NAFTA would incorporate many of the environmental provisions that have been agreed on previously in these bodies, the environmental innovations of the NAFTA would offer opportunities for advancing global environmental agreements.

The three organizations are the United Nations, the Organization for Economic Co-operation and Development, and the General Agreement on Tariffs and Trade.

B. UNITED NATIONS

Examples of collective action at the international level include the 1974 Convention on International Trade in Endangered Species of Wild Fauna and Flora, the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer, and the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. As indicated in the chapter on Environmental Provisions, the NAFTA would be the first free trade agreement to accord priority status to specific trade obligations set out in these multilateral environmental and conservation agreements.

Canada was an active participant in the negotiations leading up to the signature of these and other multilateral environmental and conservation agreements. The June 3-13, 1992 UN Conference on the Environment and Development in Rio de Janeiro, Brazil provided a useful insight into the international context in which such international environmental and conservation agreements are considered.

As a world body, the UN is both an "east-west" and a "north-south" organization, comprised of members at all levels of development. The developed countries generally

viewed the UNCED as an opportunity for all countries of the world to set specific goals for addressing issues such as climate change and biodiversity. However, as the meeting in Rio demonstrated, the developing countries have their own particular set of concerns pertaining to the relationship between development and the environment. Having undergone less and more recent industrialization, they have not generally subjected their national environments to as much stress as have many of the developed countries. Furthermore, being comparatively poorer, they frequently place a relatively higher priority on the immediate problem of overcoming poverty than of achieving environmental goals. For these reasons, they are reluctant to undertake commitments that could slow their development opportunities in order to pursue an agenda that many of them believe is primarily that of the developed countries.

The developing countries are also concerned about the threat of "green protectionism," trade protectionism in the guise of protection of the environment. They fear that protectionist interests in developed countries could usurp otherwise valid environmental goals in order to erect barriers to imports from the developing countries. In addition, many smaller countries are concerned that larger countries could infringe on their sovereignty by forcing them to adopt environmental priorities other than their own.

In spite of differences such as these, it is evident that developed and developing countries share a number of common objectives in their pursuit of sustainable development. These include the need to secure sufficient financial resources from both domestic and foreign sources; the necessity of ensuring adequate flows and full utilization of the appropriate environmental technology; and the desire to develop and implement transitional rules that will facilitate the restructuring of industries in developing countries. In a similar vein, the special circumstances of the economies in transition (i.e., Eastern Europe and the former Soviet Union) require individual consideration.

Notwithstanding the apparent "north-south" cleavage, the UNCED succeeded in demonstrating the importance of gaining a better understanding of the trade and environment interface, and more particularly, the implications of this interface for development. The Conference also recognized the complexity of the relationship and the importance of the ongoing work of the GATT in this area.

Canada was a key player at Rio. The constructive role of the Canadian delegation, and its efforts to incorporate the interests of as broad a range of stakeholders as possible in the negotiations leading up to the UNCED were widely recognized. Canada's Prime Minister was the first major world leader to announce a commitment to sign and ratify, by the end of 1992, both the Climate Change Convention and the Biodiversity Convention.

In Rio, Canada also succeeded in placing the issue of overfishing on the international agenda. The UNCED nations accepted a number of principles intended to govern the conservation of the high-seas fisheries. They also agreed that an international conference focusing on this question would be held in 1993. In preparation for that conference, Canada will host a preparatory meeting in St. John's, Newfoundland in January 1993.

The Statement of Principles on Forests that was developed at Rio is the first step toward a definition of sustainable forest practices and the establishment of rules that will encourage individual nations to take action to preserve their forest resources. Canada will work

toward implementing the principles and toward obtaining international agreement to begin the negotiation of a Forest Convention.

C. GENERAL AGREEMENT ON TARIFFS AND TRADE

The General Agreement on Tariffs and Trade defines the rules that govern trade among its 103 members. A clear set of trade rules is of paramount importance for the future of countries with medium-sized economies such as Canada that depend on trade for a significant portion of their GDP. The multilaterally agreed rules within the GATT help to ensure that international trade relations are conducted on a basis of fairness and equality among nations, rather than on a basis of economic might. In the absence of such rules, Canada would be much less able to defend its interests against those of its most important, but much larger trading partners.

For the contracting parties to the GATT, the development of a better understanding of the relationship between trade and the environment is a priority objective. In recognition of this priority, both developed and developing countries are participating actively in a Working Group on Environmental Measures and International Trade. The agenda of the Working Group consists of three items:

1. Trade provisions in existing international environmental agreements vis-à-vis the provisions and principles of the GATT;

2. Multilateral transparency of national environmental regulations; and

3. Trade effects of packaging and labelling requirements aimed at protecting the environment.

The Working Group is proceeding with its work on each of the agenda items in three phases. The first phase will define all aspects of each issue. The second phase will determine which aspects of each item are adequately dealt with by the existing provisions of the GATT. During the third phase, the Working Group will consider whether the current provisions of the GATT should be clarified or modified. In December 1992, the Chairperson of the Group will submit a first report of its progress on each of the three agenda items to a meeting of the GATT contracting parties.

To date the Working Group has clarified examples of the types of actions that contracting parties may take while remaining fully consistent with their obligations under the GATT. As long as certain criteria are met, countries are generally free to take a broad range of measures to protect their domestic environments from the potentially negative effects of the domestic production or consumption of goods. The two basic criteria are "national treatment" and "most favoured nation."

National treatment requires that an imported good be treated no less favourably than a corresponding good that is produced domestically. Therefore, a country could prohibit the importation of a product for environmental reasons, provided that it also banned similar products produced domestically. The principle of most favoured nation (MFN) requires that imports from different countries be treated equally.

Article XX of the GATT provides for exceptions to the basic provisions, should a situation arise for which an environmental goal could only be realized by violating these or other fundamental principles of the General Agreement. These exceptions cover trade measures taken to protect the environment within a country's jurisdiction. When they are used, these exceptions must not constitute an "arbitrary or unjustifiable" form of discrimination, and they must be the "least trade-distorting" of the various measures available for achieving a given environmental goal. Trade measures taken for conservation purposes must be taken "in conjunction with" domestic conservation measures.

The analyses being undertaken by the GATT Working Group on Environmental Measures and International Trade will not be completed before the end of 1993. Once the Uruguay Round is complete, there will be GATT negotiations in the future to address, inter alia, issues arising from the interface between trade and environmental policies. While such negotiations would be likely to have several "focal points," including trade in services, rules for investment, and perhaps competition policy, they could also focus on certain aspects of the trade and environment interface. The specific trade and environment issues, which would be covered in the negotiating mandate of these negotiations, would flow from the results of the GATT Working Group. Possible areas could include (a.) packaging and labelling regulations and (b.) clarification or elaboration of the current Article XX disciplines.

In a June 1, 1992 speech, the Prime Minister expressed support for such negotiations and called upon rich countries to help poor countries make progress on the related issues of aid, trade and debt. The Prime Minister further noted, "And once the current Uruguay Round of global trade negotiations is complete, Canada will support a further round of negotiations in which [the] environment will be a focal point."

D. ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD differs from the UN and the GATT in that its membership is currently restricted to 24 industrial democracies. The broad focus of its work and its narrow constituency of similarly situated nations means that it is particularly well suited to pursuing an analytical approach to the trade and environment issue. The efforts of the OECD are focused on better defining the nature of the relationship so that closer co-operation may be established between the two areas. The goal of this exercise is to ensure that environmental policies fully take into account trade considerations and that trade policies fully take into account environmental considerations.

It is against this backdrop that the OECD Trade and Environment Policy Committees, through a Joint Trade and Environment Experts Group, have together been studying the linkages between trade and the environment. The goal of the Group is to develop guidelines on "ways to protect the environment and to preserve the open multilateral [trading] system." The intent of any such guidelines would be "to avoid situations where conflicting environmental and trade objectives become apparent at a stage which is too advanced to allow for the choice of mutually accommodating solutions."

The Joint Trade and Environment Experts Group is working from a set of four guidelines entitled Guiding Principles Concerning the International Economic Aspects of Environmental

Policies that were adopted in 1972. With brief descriptions, the four general principles are:

1. Polluter Pays: This is the fundamental principle for the non-subsidization of polluters, but which also specifies exceptions for environmental subsidies.

2. Harmonization: This principle recommends the harmonization of environmental policies where no valid reasons for differences exist.

3. National Treatment and Non-Discrimination: This principle states that environmental measures that apply to products should be consistent with the GATT principles of national treatment and non-discrimination.

4. Compensating Import Levies and Export Rebates: This principle prohibits import levies and export rebates to neutralize cost variations arising from differences in environmental policies.

The Joint Experts Group is reviewing these principles and, if appropriate, may recommend that they be updated. For example, it is considered that the exceptions to the Polluter Pays principle may require clarification and that the procedures for monitoring environmental subsidies could be improved. In addition, the exceptions to harmonization could be more explicitly specified. Furthermore, the priorities and parameters for the harmonization of various types of environmental policies could be clarified.

In addition to the foregoing, the Joint Experts Group has initiated work in four areas:

1. Trade Measures in International Environmental and Conservation Agreements: Rules would guide the effective and least trade-distorting use of trade measures.

2. Effects of Trade Policies on the Environment: Recommendations would increase the environmental sensitivity of trade policies and trade agreements and ensure that their environmental effects are adequately taken into account.

3. Effects of Environmental Policies on Trade: Recommendations would increase the trade sensitivity of environmental policies and ensure that their trade effects are adequately taken into account.

4. Application to the Developing Countries: The extent to which the Guiding Principles should be used to internalize environmental costs in developing countries and to mitigate potential trade problems will be reviewed.

Thus far, the Joint Experts Group has identified the key linkages between trade and the environment and has completed an initial analysis of these. On the basis of this work, the OECD ministers have reached agreement on the following broad issues:

1. Trade and environmental policies can be mutually supportive in the pursuit of sustainable development, particularly if those policy interventions that have negative trade and environmental impacts are removed and if environmental benefits and costs are internalized into national and international prices. Unlike sustainable development,

trade liberalization is not an end in itself; it can be an important means for achieving both economic efficiency and sustainable development.

2. Trade and environmental policies should, with a view to enhancing their mutual sensitivity, give close attention to the effects of each policy area on the other; to the need to safeguard the integrity of key trade and environmental principles; to the exploration of policy alternatives; and to ways to avoid conflicts through increased co-operation and integration of decision-making. Care should be taken to ensure that environment-related trade measures do not operate as disguised barriers to trade, that they are part of a balanced and effective package of policy instruments, and that they are consistent with multilateral trade principles.

3. Environmental policies should deal with the root cause of environmental degradation, thereby limiting the likelihood that environmental measures would result in unnecessary restrictions to trade. Trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade. Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing transborder or global environmental problems should, as far as possible, be based on an international consensus. Domestic measures targeted to achieve certain environmental objectives may need trade measures to render them effective. Should trade policy measures be found necessary for the enforcement of environmental policies, certain principles and rules should apply. These could include, inter alia, the principle of non-discrimination; the principle that the trade measure chosen should be the least trade restrictive necessary to achieve the objectives; an obligation to ensure transparency in the use of trade measures related to the environment and to provide adequate notification of national regulations; and the need to give consideration to the special conditions and developmental requirements of developing countries as they move toward internationally agreed environmental objectives.

4. The relationships between environmental protection and the operation and further development of the multilateral trading system are complex and raise concerns among many sectors of the public. It is important that the development and implementation of trade and environmental policies are pursued in an open fashion, allowing for both debate by and consultation with interested groups. OECD countries will take steps to ensure the transparency of their analytical and policy work on trade and environment and to bring about an early exchange of views with non-governmental organizations.

5. The particular needs and concerns of countries at different levels of economic development must be properly taken into account when analysing the links between trade and environmental policy and evaluating the practical policy implications thereof. It is important to engage developing countries and the economies in transition in the move toward better policy integration in the trade and environment field.

In order to advance the development of guidelines, OECD ministers called on officials to carry out the following work program over the upcoming year:

1. The design and implementation of trade policies and agreements that reflect environmental considerations and accommodate and assist the achievement of sustainable development;

2. The design and implementation of effective environmental policies and agreements that minimize trade distortions, including for example, the use of economic instruments and the compatibility of standards;

3. An examination of the extent to which greater integration of trade and environmental policies can contribute to the goals of trade liberalization and environmental protection, including the consideration of the internalization of environmental costs in prices and of the environmental effects of trade liberalization;

4. An examination of how, why, to what extent and to what effect trade measures have been and could be used to achieve environmental objectives, both domestic and global, and the implications for policies;

5. An analysis of the competitiveness and investment impacts of environmental policies, insofar as they affect trade; and

6. A review and update of the 1972 OECD Guiding Principles Concerning the International Economic Aspects of Environmental Policies.

E. CONSULTATIONS

Since November 1991, officials responsible for the development and presentation of Canada's positions at the OECD have been consulting with representatives of environmental, developmental and other non-governmental organizations on the relationship between trade and the environment. These consultations have taken place via the UNCED and NAFTA advisory processes and through the International Trade Advisory Committee and the Sectoral Advisory Groups on International Trade.

The OECD Joint Experts Group sponsored a two-day meeting with non-government environmental and development organizations on September 24 and 25, 1992 in order to more fully discuss the progress made to date by the Group, to obtain input from the non-government organizations and to highlight the work program of the Group for the coming year. Canadian participants represented the Sierra Club, Pollution Probe, and the Canadian Environmental Law Association. Up to three non-government organization representatives attended from each OECD country. In addition to providing background documents to the non-government organizations, they were invited to submit their own papers in order to help further the dialogue.

F. CONCLUSIONS

Environmental issues are receiving priority attention from many of the world's governments. Individually, they have implemented policies and regulations to deal with such matters as air and water pollution, land degradation, the handling and storage of hazardous wastes, packaging, labelling and recycling. When confronted with challenges of a transboundary or global nature, countries should co-operate to find collective responses.

Canada's fundamental interests as a medium-sized, export-oriented economy that is highly dependent on resource-based industries, lie in ensuring and promoting its high environmental standards, while at the same time maintaining an open, rules-based trading system. It is in Canada's interests to constrain the ability of its trading partners, particularly the larger ones, to arbitrarily take actions that would negatively impact on Canada's exports. It is also in Canada's interest to ensure that protectionist interests do not usurp the environmental agenda by promoting their interests at the expense of both trade and the environment.

The pursuit of these fundamental interests has led Canada to adopt two basic principles in dealing with issues relating to trade and environment policies. First, Canada has long opposed unilateral extraterritoriality. Issues that extend beyond the legal jurisdiction of one country should be addressed through international co-operation. Given the inter-related nature of the global environmental challenges, such co-operation is vital to achieving the objective of sustainable development.

Second, in those cases where it is determined that trade measures are necessary for the achievement of an environmental goal, such measures should be designed so as to achieve the goal in a manner that is effective and least disruptive of international trade. While each country must retain the right to choose the level of environmental protection appropriate to its own circumstances, the measures selected to achieve this level of protection should distort trade to the least extent possible, and should not discriminate on the basis of the national origin of the products in question.

Canada will remain active in pursuing its trade and environmental interests in the UN, the GATT and the OECD forums. Canada will continue to strive, as it did in the NAFTA negotiations, to ensure that its trade interests are promoted in a manner that does not undermine the fundamental desire of Canadians for a clean and healthy environment. Similarly, Canada will continue to ensure that its environmental interests are promoted in a manner that does not undermine its need for an open, rules-based multilateral trading system.

ANNEX 9

U.S. GOVERNMENT REVIEW OF U.S.-MEXICO ENVIRONMENTAL ISSUES: EXECUTIVE SUMMARY[69]

In the "Response of the Administration to Issues Raised in Connection with the Negotiation of a North American Free Trade Agreement," provided to Congress on May 1, 1991, the Administration undertook to provide a review of U.S.-Mexico environmental issues with particular emphasis on the possible environmental effects of a NAFTA. This Review was conducted by an interagency task force coordinated by the Office of the U.S. Trade Representative in parallel with negotiations of the NAFTA. A draft was issued for public comment in October 1991. Key conclusions of the review are summarized below.

AN INTENSIFIED COOPERATIVE RELATIONSHIP FOR ENVIRONMENTAL PROTECTION

- The U.S. and Mexico have worked together for many years on environmental problems, particularly as they affect the border region.

- As momentum has built behind a North American Free Trade Agreement, the nature and extent of such cooperative activities has expanded.

- U.S.-Mexican environmental activities are high priorities for each country and are built upon:

  -- formal bilateral agreements covering the border area environment, boundary and water issues, and cooperation on the conservation of natural resources and in addressing Mexico City air pollution;

  -- international agreements such as the Montreal Protocol on Ozone Depleting Substances, the Convention on International Trade in Endangered Species and the Basel Convention on the Transboundary Movement of Hazardous Wastes and Their Disposal;

  -- the environmental statutes and enforcement authorities of each country (Mexico's 1988 Environmental Law is in many respects comparable to U.S. law, in the context of Mexico's civil law system which places greater emphasis on administrative action.).

- In November 1990, Presidents Bush and Salinas directed the preparation of an Integrated Environmental Plan for the Mexican-U.S. Border Area (Border Plan). A draft Border Plan was prepared by a bilateral working group and released in August for public comment. The final Border Plan is being released by U.S. Environmental

69. Office of the United States Trade Representative, Review of U.S.-Mexico Environmental Issues.

Protection Agency (EPA) and the Mexico Secretaria de Desarrollo Urbano y Ecologia (SEDUE) together with this study. The fundamental Border Plan priorities are:

- -- to control industrial and municipal discharges into surface waters to prevent and/or reduce contamination of surface and subsurface waters;

- -- to monitor and track the movement of hazardous wastes to ensure environmentally sound disposal and prevent contamination of surface or subsurface waters;

- -- to prevent air pollution which exceeds ambient standards by controlling stationary, area, fugitive and mobile source emissions;

- -- to develop contingency and emergency response plans for hazardous material emergencies.

- To address these priorities, the Border Plan identifies action items in the areas of: enforcement of existing laws, initiatives to reduce pollution, cooperative planning and training, and development of an environmental data base.

NAFTA NEGOTIATIONS

- Negotiations on a NAFTA began June 12, 1991 and are well advanced. From the outset, Mexico, Canada and the U.S. agreed that a NAFTA must cover trade in goods, services, intellectual property, and investment.

- A NAFTA will be consistent with GATT requirements for free trade areas (as set forth in GATT Article XXIV).

- In accordance with its May 1 commitment to Congress, the U.S. has informed Canada and Mexico that in a NAFTA it must:

  - -- maintain the right to prohibit the entry of goods that do not meet U.S. health, safety, pesticide, food and drug, and environmental regulations, so long as such regulations are based on sound science, do not arbitrarily discriminate against imports or constitute a "disguised" trade barrier.

  - -- maintain the right, consistent with other international obligations, to limit trade in items or products controlled by international treaties to which the U.S. is party.

- In addition it is expected that a NAFTA will provide for: the phased elimination of tariffs among the three countries over a period of at least 10 years; elaborated rules of origin for North American trade; obligations on governments for treatment of investors, including in many cases standards of national treatment; rights of entry and nondiscriminatory treatment for services providers; standards of treatment for intellectual property; and a mechanism for settlement of disputes pertaining to agreement provisions.

- Studies show a NAFTA will generate positive economic benefits for all three countries, with the largest relative increase accruing to Mexico, given the smaller size of its economy and the higher level of its existing trade barriers.

POSSIBLE ENVIRONMENTAL EFFECTS OF A NAFTA: THE BORDER AREA

- The U.S.-Mexico border area currently faces a variety of environmental problems characteristic of expanding urban areas where infrastructure and environmental enforcement have not kept pace with rapid growth.

- In the past, rapid border growth has been due to the establishment and expansion of the "maquiladoras," assembly-oriented manufacturing plants that benefit from Mexican Government incentives for firms that export most or all of their production.

- Among other things, maquiladoras are allowed to import components free of Mexican duty when the products are exported. Until recently, maquiladoras were compelled to locate in the border region.

- With implementation of the NAFTA, maquiladora firms will become more like domestic Mexican firms. They will be able to use domestic or NAFTA-sourced imports without distinction. They will be able to sell their output in Mexico or abroad, depending on market opportunities.

- What will this mean for border area investment and growth? Two scenarios present the range of possibilities:

  -- Scenario 1, in which investment and production in the border region is assumed to grow at the same accelerated rate as that of the rest of Mexico, with the new border growth attributable to investments by firms new to Mexico locating close to the border to minimize risk and maximize their use of border area transportation and support services.

  -- Scenario 2, in which firms respond to the change in trade status by increasingly locating new facilities further south in Mexico to be closer to Mexican domestic markets and suppliers and to avoid the higher labor costs and turnover of the border region.

- Without a NAFTA, however, the border area could be under as much or more stress, as it is reasonable to expect the Mexican Government to put increasing emphasis on the maquiladora sector, while limiting the ability of such firms to sell into the domestic market.

- The growth estimates are similar among the three scenarios, and the range of growth possibilities is quite wide. The uncertainty in the forecast range reflects the large number of variables influencing the border's growth, regardless of a NAFTA. In this regard, we anticipate that a NAFTA will have a moderate influence on the underlying growth factors, slightly accelerating border growth in scenario 1 from what it would have been, and slowing border growth in scenario 2.

- Completion and implementation of the NAFTA also is likely to strengthen the two countries' commitment to cross-border environmental cooperation, while allowing the Mexican Government to raise through taxation and fees additional resources for environmental protection and infrastructure development.

- Against the backdrop of these scenarios, environmental media-specific effects in the border region include:

Air Quality:

-- Carbon monoxide and ozone levels currently exceed federal standards in El Paso/Juarez and San Diego/Tijuana. Fine particulate standards are also exceeded in El Paso/Juarez and portions of six other border counties.

-- Under scenario 1, and the same policy cooperation assumptions, total emissions growth could range between 0% and +165% over 10 years.

-- Under scenario 2 for NAFTA effects, combined with the level of U.S.-Mexico policy cooperation contemplated in the Border Plan, emissions growth could range from -20% to +85% over ten years to 2001.

-- The least favorable air quality scenario would occur in a no-NAFTA case, with continued strong growth in the maquiladora sector and lessened policy cooperation with the U.S. The range of emissions growth in this case is +40% to +225% over 10 years.

-- A no-NAFTA scenario with a high level of cooperation is more encouraging, with a -10% to +125% range for emissions growth. This would be more favorable than the NAFTA scenario 1, but still not as favorable as the NAFTA scenario 2.

Water Quality:

-- Water problems in the border area include: contamination of surface and ground waters from inadequate wastewater treatment and increasing demand on water availability, with a potential for damage to aquifers and surface water flows.

-- As with air quality, with or without a NAFTA, growth in the border region will present the greatest obstacle to achieving and maintaining clean water. Unlike air, however, water scarcities may actually serve to curb growth, although it is not possible to predict when this may occur.

-- Increased demand for water may also lead to enhanced water treatment in order to make wastewater available for other uses.

-- Growing demand for water could have severe impacts on wetland and other aquatic wildlife habitats unless these areas are protected both on the U.S. and Mexican sides of the border.

Hazardous and Municipal Wastes:

-- Mexican law currently requires that hazardous wastes generated at maquiladora industries from U.S. raw materials be exported to the U.S. for management. It is believed that only 31% of maquiladoras are currently complying with this requirement (SEDUE, October 1991). As a result, the U.S. and Mexico have

initiated a number of steps, including enforcement actions, to improve overall compliance.

-- U.S. border states currently have adequate hazardous waste management capacity for the hazardous wastes they receive from Mexico, which is only a small portion of waste managed in these states. The need for future capacity in either country that might be associated with the NAFTA, and with the efforts of the U.S. and Mexican governments in improving compliance with maquiladora requirements, is not known.

-- The U.S. and Mexico have signed (and Mexico has ratified) the Basel Convention which addresses transboundary movements of hazardous wastes, municipal wastes, and municipal incinerator ash. When in force, the convention will require government notice and consent prior to export and will use a standard of environmentally sound management for all transboundary waste movements.

-- In time, it is anticipated that the NAFTA will result in an elimination of the legal distinctions of the maquiladora program, as its duty exemptions are phased out. (Maquiladora facilities are likely to continue to be in use, however.) As a result, increasing proportions of hazardous wastes generated in Mexico might well be disposed of in Mexico, rather than exported to the U.S. This would require additional hazardous waste management capacity in Mexico. If the NAFTA allows for the entry of U.S. hazardous waste management firms into the Mexican market, their presence should assist Mexico in developing enhanced hazardous waste management capacity. In addition, EPA is a source of technical assistance in the area of permitting of waste management facilities in order to ensure environmentally sound disposal.

-- Without a NAFTA, continued (and perhaps, increased) growth of the maquiladora sector could result in increases in the volume of wastes exported to the U.S. in compliance with Mexican maquiladora law.

Chemical Emergencies:

-- Growth in the border area could result in an increased risk of chemical emergencies, if the incidence of accidents in chemical production, storage or transport remains constant.

-- The U.S. and Mexico have established an Inland Joint Response Team (JRT) to coordinate emergency preparedness and response activities. The JRT has not yet been activated for an emergency, but members of the team have assisted in the resolution of several incidents in three border communities.

Endangered Species and Wildlife:

-- About 50 endangered species and over 100 "candidate" endangered species may be potentially affected by growth in the border region and Northern Mexico.

-- Increased use of water for industry, residences and agriculture could alter rivers, springs and wetlands and remove brush habitat. If not designed with species

protection in mind, additional international bridges over the Rio Grande could destroy habitats, aggravate flooding and increase human presence in refuge areas.

-- Depending on inspection procedures, there is a risk that increased commerce could disguise an increase in the illegal commerce in endangered wildlife.

POSSIBLE ENVIRONMENTAL EFFECTS OF THE NAFTA: INVESTMENT

- There have been concerns expressed that the NAFTA will lead to "pollution haven" investment motivated by lower environmental requirements or weaker enforcement in Mexico.

- Despite such concerns, studies of investment flows have shown neither significant nor systematic effects of differing environmental policies internationally, or even between U.S. states.

- For NAFTA to have a significant potential effect on the location of investment for environmental reasons, the following conditions must apply:

  -- environmental compliance costs must represent a significant portion of total operating costs;

  -- existing trade barriers must be significant;

  -- costs associated with relocating an industry or creating new capacity must not exceed compliance cost gains; and,

  -- environmental compliance costs must be sufficiently different in the alternative sites to encourage investment based on these differences.

- The evidence suggests that these four conditions are rarely met in U.S.-Mexican trade.

  -- Pollution abatement costs make up a small share of costs for most industries, averaging only 1.1% of value added for all industries; 86% of industries have abatement costs of 2% or less.

  -- Most industries with high pollution abatement costs have low U.S. tariffs, either on a most-favored-nation basis or Mexican exports are currently eligible for zero duties under GSP (Generalized System of Preferences). Only 11 out of 442 U.S. industrial sectors have both significant abatement costs and relatively high trade protection in the U.S.

  -- The 11 industries also tend to be very capital intensive, however, which means there are relatively high costs for shutting down in one location and opening elsewhere, or adding new capacity. These costs may well overwhelm any compliance cost savings.

  -- Finally, there may not be now or in the future a significant difference in Mexican environmental requirements. This is especially true of large, capital intensive industries likely to meet the other three conditions. And all new investors in

Mexico are required to submit an environmental plan to detail the potential environmental impact of facilities and specify their abatement plans. Mexico authorizes new investments only after review of these compliance plans.

POSSIBLE ENVIRONMENTAL EFFECTS OF A NAFTA: OTHER ISSUES

- To the extent that increased trade follows implementation of a NAFTA, land transportation traffic would increase with potential impacts on air quality, noise and congestion at crossing and transit routes.

- If a NAFTA liberalizes truck and bus access to Mexico, moreover, lack of low sulfur diesel fuel on Mexican highways may cause damage to vehicle emissions equipment.

- Liberalization of transportation services can also be expected to reduce deadheading by empty vehicles and obviate the requirement that many cargos be transferred at border stations, both of which would have a positive environmental impact.

- There has been a concern that NAFTA provisions on product standards, technical regulations and conformity assessment procedures could be used to successfully challenge U.S. health, safety or environmental standards as "unjustified" trade barriers.

- As noted above, the Administration has made a firm commitment to preserve the right to maintain stringent health, safety or environmental standards, and to maintain the right to exclude products that do not meet such requirements. Accordingly, standards, technical regulations and conformity assessment procedures based on a scientific justification or a consequence of a level of risk the U. S. considers acceptable will not be subject to challenge under the NAFTA.

- If included in a NAFTA, certain energy provisions can have significant, positive environmental impacts in the following ways:

  -- Provisions liberalizing conditions for the sale of natural gas to Mexican industrial and household markets can help make gas available to substitute for the widespread use of high-sulfur fuel oil, particularly in the northern areas of Mexico near the U.S. border. This would affect air quality in the region and could also reduce CO_2 emissions.

  -- Severe capital constraints on the state oil company have hampered the modernization of Mexican refineries. (President Salinas closed the largest refinery in Mexico City to help combat air pollution.) Mexico is not able to produce sufficient refined oil products for domestic consumption, especially modern vehicle fuels. NAFTA provisions that allowed for capital mobilization for investment in refining capacity would allow reductions to be made in pollution at such refineries and help increase the supply of cleaner fuels.

  -- Provisions liberalizing terms for foreign investment in petrochemicals can have similar positive effects. An example is Mexico's recent regulatory change to allow foreign investment in a plant to produce Methal Tertiary Butyl Ether (MTBE), an additive used to replace lead in gasoline. This change allowed Mexico to attract

private investment in a state-of-the-art facility and to greatly increase availability of lead-free gasoline throughout the country.

-- Provisions to reduce barriers to cross-border electricity trade and co-generation projects can have the effect of backing out older, less efficient and polluting fuel oil generation facilities (particularly in northern Mexico).

- Demographic pressures in Mexico are fueling the rapid growth of Mexico City and the northern border regions. While rates of population growth have slowed over the past decade, considerable momentum is built into Mexico's future population growth by the postwar period of rapid population increase.

- Mexico will remain a young country demographically. Approximately one million people enter Mexico's labor force each year, compared with two million new job seekers in the U.S. which has a population three times that of Mexico.

- Traditionally, the unemployed have moved to Mexico City or the northern border regions (and from there often illegally to the U.S.). Growth stemming from a NAFTA may help in absorbing this labor force growth in small and medium sized cities with fewer adverse environmental consequences.

- A NAFTA establishing free trade in timber products is not likely to have a direct effect on deforestation in Mexico. Most of the deforestation takes place in the tropical forests of the south to clear land for subsistence agriculture.

- Even liberalization of agricultural trade is likely to have little direct effect on this environmental problem, since U.S. and Canadian agricultural commodities for the most part do not directly compete against these subsistence farmers. In addition, if feasible in conjunction with a GATT Uruguay Round Agreement, restraints on agricultural subsidies may have the effect of reducing excessive fertilizer and pesticide use.

- Over time, faster economic growth and job opportunities throughout Mexico that would likely follow implementation of a NAFTA may be expected to reduce agricultural pressures on tropical forests.

ENVIRONMENTAL POLICY AND PROGRAM OPTIONS

- A wide variety of environmental policy and program options can help minimize any adverse effects of the NAFTA and assist Mexico in its efforts to improve environmental protection. Many of these options have been identified in the course of the development of the Border Plan, while others have been identified in the course of this Review (including public hearings held to gather public input on the NAFTA). These policy and program options will be pursued in the context of the U.S.-Mexico environmental cooperation proceeding in parallel to the NAFTA negotiations.

- Among these environmental policy and program options are the following:

  -- Mexico's environmental protection agency (SEDUE) and EPA will be compiling emissions inventories of border communities, estimating requirements for attaining

control levels and performing air modelling analysis to evaluate the changes that would result from airshed-wide emissions reductions.

-- Based on such data, SEDUE and EPA will develop realistic air quality control strategy scenarios.

-- SEDUE plans to begin inspection and maintenance programs for government and fleet vehicles in the Juarez and Tijuana areas. Inspection and maintenance programs are currently underway in Monterrey and Mexico City.

-- The U.S. and Mexico will be determining the priority needs for water supply, treatment and distribution systems for existing and future development in the border area sister cities.

-- The U.S. and Mexico will develop and implement a cooperative agreement to assure compliance with all applicable regulations in order to minimize pollution to water resources from industrial sources in the border area.

-- Environmental Round Table meetings will be established at the local, state and border area levels to provide a forum for the exchange of ideas and discussion of environmental problems.

-- EPA and SEDUE will consider the establishment of a private sector outreach program to encourage voluntary pollution reduction agreements with the private sector, and to provide pollution prevention technology seminars for maquiladora and other border area industries.

-- EPA and SEDUE will be conducting multimedia inspections of hazardous materials treatment facilities in pairs of border cities, and developing an improved training program.

-- SEDUE has contracted for the design of technically advanced landfills for Tijuana, Nogales, Juarez, Nuevo Laredo and other border communities to enable proper disposal of future municipal solid waste.

-- EPA has maintained close cooperation with SEDUE as it has developed environmental regulations under Mexico's 1988 environmental statute.

-- The Department of State and the Overseas Private Investment Corporation (OPIC) will work to complete an OPIC agreement with Mexico that will permit OPIC insurance, finance and advisory programs to be offered to investors that meet OPIC's environmental standards.

-- Customs and the Immigration and Naturalization Service (INS) will be considering means to inform long distance transport operators of average border transit times at various border crossing points in order to reduce congestion.

-- Led by the U.S. Department of Transportation, a special interagency group will work with counterpart Mexican agencies to evaluate the extent of the congestion problem along the U.S.-Mexico border, identify the causes of the congestion, and

recommend solutions. In particular, the group will look at low-cost, non-technical remedies to congestion problems.

-- New construction of border crossing facilities and expansion of existing facilities will be continued. Environmental analysis will be conducted of all new bridges and highway corridors, to identify, inter alia, border area wildlife habitats which may be affected by such projects.

-- AID will be continuing to fund a major study of small and mid-sized urban areas outside the Mexico City-Guadalajara-Monterrey areas that would offer the best prospects for economic growth and alternative destination for rural Mexican emigrants.

-- EPA will be working with Mexican pesticide regulatory authorities to compare lists of registered pesticides in each country, to identify Mexican pesticide applications that are not authorized in the U.S., and to determine whether alternative U.S.-registered pesticides could be substituted or U.S. registration pursued in such cases.

-- The U.S. Food and Drug Administration (FDA) will be working with Mexican authorities to develop a sampling and testing system to determine incidence and levels of pesticide residues in order to target areas for FDA and EPA cooperation toward reduction of the use of pesticide applications that are not authorized in the U.S. and reduction of pesticide levels.

RECOMMENDATIONS FOR NAFTA NEGOTIATIONS

- Flowing from the analysis in this Review are a number of specific negotiating proposals that, if accepted by Mexico and Canada, would tend to reinforce the potential positive environmental effects of the NAFTA or mitigate the potential adverse effects.

- These negotiating proposals would be compatible with the overall NAFTA objectives set forth by the Administration.

- The following represents a list of such recommendations for the negotiating teams:

  -- To encourage availability of the best environmental expertise, include U.S. environmental engineering, hazardous and municipal waste management, and treatment services firms and professionals as part of the investment and services negotiations seeking national treatment and liberalized rights of entry.

  -- Seek elimination of duty drawback and other duty remission programs after a phase-in period to reduce the incentives to the establishment of export-only maquiladora plants (which tend to be located disproportionately in border areas).

  -- Maintain the right to prohibit the entry of goods that do not meet U.S. health, safety, pesticide, food and drug, and environmental regulations, so long as such regulations are based on sound science, do not arbitrarily discriminate against imports or constitute a "disguised" trade barrier.

- -- Maintain the right, consistent with other international obligations, to limit trade in items or products controlled by international treaties to which the U.S. is party.

- -- Develop dispute resolution mechanisms that are sensitive to environmental and health programs and values.

- -- Facilitate trade in cleaner, more environmentally sound forms of energy such as natural gas and electricity, based on market forces.

- -- Promote investment in state-of-the-art energy technologies to enhance environmental objectives.

- -- To assure that the potential environmental effects of increased cross-border transportation resulting from the NAFTA are mitigated by an efficient transportation system in Mexico and the United States, the NAFTA negotiators should work to resolve existing access problems for motor carriers and railroads on both sides of the border.

- The Administration has included environmental and health officials on NAFTA negotiating groups and policy coordination committees to ensure that during the development of the agreement the negotiators are alert to environmental sensitivities and additional negotiating opportunities.

ANNEX 10

ENVIRONMENTAL PLAN FOR THE MEXICAN-U.S. BORDER AREA: U.S. GOVERNMENT EXECUTIVE SUMMARY[70]

On November 27, 1990, the Presidents of Mexico and the United States met in Monterrey, Nuevo Leon, Mexico, to discuss a range of issues affecting the two countries. Of particular importance were questions of international trade. Both Presidents recognized that the liberalization of trade between the two countries is vitally important to the future economic health of both Mexico and the United States. Consequently, in Monterrey both Presidents reaffirmed their commitment to a free trade agreement that would reduce barriers to the flow of goods and services across the Mexican-U.S. border.

While a free trade agreement would bring extensive economic benefits to people living in both countries, both Presidents realized it could have environmental consequences as well. Over the past decade hundreds of thousands of people have been drawn to cities on both sides of the border in search of better jobs and a higher standard of living. The industrial base has expanded sharply, particularly on the Mexican side of the border. Growing populations and expanding industries along the Mexican-U.S. border already are posing an environmental challenge to both countries, and that challenge will intensify unless met by a comprehensive environmental protection program supported by the two countries.

At the same time, the economic benefits of free trade offer both nations their best hope for generating the economic resources needed to protect the border environment. New jobs expand the tax base, thus providing the capital needed for municipal services like paved roads, safe drinking water, and wastewater treatment. Successful businesses are better prepared to invest the capital and technical skills needed to manage their wastes in environmentally responsible ways.

The challenge thus facing Mexico and the United States is not simply to nurture flourishing, mutually-beneficial trade, but to reap the economic benefits of free trade in ways that are environmentally sustainable. To this end, the Presidents of Mexico and the United States emphasized in their Monterrey meeting the need for ongoing environmental cooperation. In particular, they "instructed the authorities responsible for environmental affairs in their countries to prepare a comprehensive plan designed to periodically examine ways and means to reinforce border cooperation ... with a view to solving the problems of air, soil, and water quality and of hazardous wastes."

This plan presents the first stage of a binational border environmental protection program. It has been prepared jointly by Mexico's Secretaria de Desarrollo Urbano y Ecologia (SEDUE) and the U.S. Environmental Protection Agency (EPA), and it will be implemented jointly as well.

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70. United States Environmental Protection Agency, Summary: Environmental Plan.

SEDUE and EPA have taken care to build this plan on the very strong base of environmental cooperation that has existed between the two countries for many years, and especially since 1983, when the United States and Mexico signed a Border Environmental Agreement broadly expanding their cooperative efforts. The two agencies already are involved in several joint environmental projects in the border area, and the plan presented here complements and expands on those efforts. In addition, this plan benefits from the long history of Mexican-U.S. cooperation through the binational International Boundary and Water Commission (IBWC), which for almost 50 years has been responsible for bilateral water sanitation projects along the border.

In its first stage (1992-1994), this plan intends to address the most serious environmental problems now existing or emerging in the border area. Those problems have been defined through the collective expertise and professional judgment of SEDUE and EPA, IBWC, and border state government officials.

At the same time, SEDUE and EPA recognize that current understanding of environmental conditions along the border is incomplete. Moreover, those conditions may change if a North American Free Trade Agreement (NAFTA) is ratified. Consequently, this plan should not be considered final or complete; rather, it is a work in progress. It will be reexamined by the end of 1994, and in the second stage of this plan (1997-2000) binational environmental protection efforts will be refined and redirected in light of improved understanding of the border environment and the possible environmental effects of a free trade agreement.

SEDUE and EPA intend to achieve the goals of this plan by targeting their initial efforts on the most serious existing problems. Because most of the border area's population and industrial facilities is concentrated in pairs of Mexican and U.S. "sister" cities located across the border from each other, most of the bilateral environmental protection efforts outlined in the first stage of this plan will be carried out in those cities.

In order to implement this plan, Mexico has committed to investing at least $460 million over the next three years in environmental projects in Mexican border cities, and $147 million is earmarked for projects in 1992. President Bush's FY 1993 budget request for EPA includes $179 million for border-area environmental protection, including $170 million for wastewater treatment projects. Funds for environment-related projects in the border area also have been requested in the proposed FY 1993 budgets for the U.S. Departments of State, Agriculture, and Health and Human Services, and the U.S. Export-Import Bank. If the President's budget request is approved, the U.S. government is committed to spending more than $240 million protecting the border area environment in 1993.

Even though this plan has been prepared by SEDUE and EPA, its success will depend on the efforts of many people. Everyone who lives and works in the border area contributes to environmental pollution; everyone who lives and works in the border area must be involved in its protection. Border state and local governments, businesses and trade associations, the binational International Boundary and Water Commission, non-government organizations, and educational institutions all have important roles to play.

This plan is comprehensive in the sense that it seeks to protect water, air, and land by marshalling the resources of both the public and private sectors. Although its initial goal is

to address those environmental problems already apparent in the border area, over the long term it is intended to protect the border environment not only from existing sources of pollution, but also from those sources likely to be attracted to the border area in the future.

The single most noteworthy aspect of this plan is the spirit of cross-border cooperation that infuses it. And that cooperative spirit underlies the firm belief -- held by both SEDUE and EPA -- that this plan is helping both Mexico and the United States achieve an important common goal: the long-term protection of human health and natural ecosystems in the border area.

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