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# EFFECTS OF NATIONAL ENVIRONMENTAL REGULATION ON INTERNATIONAL TRADE AND INVESTMENT — SELECTED ISSUES\*

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## I. INTRODUCTION

Environmental issues are no longer local. Environmental concerns, such as acid rain, destruction of tropical forests, transfrontier shipments of hazardous waste, trade in unregistered pesticides, and depletion of the stratospheric ozone layer and global warming, exemplify the most visible transnational environmental and health issues. The resolution of these problems will require unprecedented cooperation from many nations.

The transformation of environmental and health issues from local into regional and global issues parallels the increasing regionalization and globalization of trade and investment.<sup>1</sup> As nations and transnational corporations further reduce barriers to global trade under the aegis of the multilateral General Agreement on Tariffs and Trade (GATT)<sup>2</sup> and under bilateral agreements, national environmental and health regulations are being drawn into trade negotiations.

Although the interrelationship between these regulations and trade is not well understood, it is apparent that environmental and

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\* Presented as a paper to the American Bar Association's Standing Committee on Environmental Law and the University of Hong Kong's Conference on Environmental Regulation in Pacific Rim Nations, Feb. 26-28, 1991, Hong Kong Convention & Exhibition Centre, Hong Kong.

1. See, e.g., McCaffrey, *The Work of the International Law Commission Relating to Transfrontier Environmental Harm*, 20 N.Y.U. J. INT'L L. & POL. 715 (1988); Fraenkel, *The Convention on Long-Range Transboundary Air Pollution: Meeting the Challenge of International Cooperation*, 30 HARV. J. INT'L L. 447, 475 (1989); Klein-Chesivoir, *Avoiding Environmental Injury: The Case for Widespread Use of Environmental Impact Assessments in International Development Projects*, 30 VA. J. INT'L L. 517 (1990).

2. General Agreement of Tariffs and Trade, *opened for signature* Oct. 30, 1947, 62 Stat. A3, T.I.A.S. No. 1700, 55 U.N.T.S. 187.

health regulations are increasingly contributing to trade friction. However, there is a growing awareness of the potential environmental consequences of trade agreements.<sup>3</sup>

This paper examines the interrelationship of national environmental and health regulations and international trade and investment. Part II examines the use of stricter national environmental and health regulations as import barriers to protect domestic industries. Part III details some externalized effects of national environmental regulation on trade and investment. Controversies illustrating these first two aspects are summarized in terms of applicable legal principles and emerging frameworks such as harmonization. Part IV addresses some implications of international trade and "sustainable development" and discusses the extension of multilateral trade rules to promote "sustainable development."

## II. NATIONAL ENVIRONMENTAL REGULATIONS AS IMPORT BARRIERS

Recent examples of trade disputes appear in both bilateral and multilateral contexts, in which environmental and health regulations are targeted as non-tariff trade barriers. Given the higher priority of environmental policy on national agendas and the possibility, as one commentator suggests, that the environment may become "the last refuge of protectionists,"<sup>4</sup> it is worth reviewing some of these cases in light of applicable and emerging legal principles and briefly discussing the outcomes.

In 1989, Germany enacted a mandatory plastic bottle deposit and return regulation to promote re-using/recycling and to reduce waste. The German bottle law established a deposit for plastic bottles (0.50 DM) that was almost double the deposit for glass bottles (0.30 DM) and relied exclusively on retailers for collection and returns. As a result, German beer and soft drink retailers have almost entirely switched from plastic to glass containers. On the other hand, French and Belgian mineral water bottlers and soft drink producers outside Germany still use plastic bottles almost exclusively because of the higher transportation costs associated with glass bottles. The German bottling law resulted in a substantial decrease in the amount of plastic drink imports entering Germany. Consequently, the European Community (EC) threatened to institute in-

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3. See, e.g., Huppés & Kagan, *Market-Oriented Regulation of Environmental Problems in the Netherlands*, 11 *LAW & POL'Y* 215 (1989); Krämer, *The Single European Act and Environment Protection: Reflections on Several New Provisions in Community Law*, 24 *COMMON MKT. L. REV.* 659 (1987).

4. *Business and the Environment: The International Dimension*, 2 *GLOBAL BUS. ISSUES (CONF. BD. OF CAN.)* 3 (1990, No. 3).

fringement proceedings.<sup>5</sup> Germany has recently proposed changes to its bottling law which may eventually resolve the issue.

In 1988, the EC banned imports of U.S. beef fed with growth hormones on the grounds that such hormones posed health risks to EC consumers. The U.S. strongly objected on the grounds that there was no scientific basis for the health risk claim, that the EC was itself using hormones for up to 30% of its cattle, and that this ban was an impermissible non-tariff barrier designed to protect the domestic EC beef market.<sup>6</sup> The U.S. retaliated against the EC ban, and the dispute remains unresolved.

In 1989, state and local governments in the U.S. adopted requirements for increasing the content of recycled paper in newsprint as a means of supporting the recycling market, reducing solid waste from newspapers, and addressing the critical shortage of landfill capacity.<sup>7</sup> Canadian pulp and paper companies, however, regard these recycling requirements as a non-tariff barrier to U.S. importation of Canadian newsprint because the higher costs of used newspaper collection and de-inking facilities in Canada discriminates in favor of U.S. pulp and paper companies.<sup>8</sup> Canadian companies are currently studying possible legal and policy remedies.

These examples illustrate principles for determining whether a nation's environmental regulation which affects trade is enacted on justifiable environmental or health grounds or merely for discriminatory purposes. These cases also suggest possible means by which such disputes may be resolved.

International trade rules, by themselves, provide little guidance. Article XX of the GATT merely states:

Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:

...  
(b) necessary to protect human, animal or plant life or health;

...  
(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.<sup>9</sup>

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5. *Global Survey of Container Waste Laws*, 90-20 INT'L BUS. ISSUES MONITOR (GLOBAL BUS. REL.) 6,7 (1990).

6. *More at Stake than Steak*, THE ECONOMIST, Aug. 26, 1989, at 19.

7. *Current Developments, In the States*, 24 Env't Rep. (BNA) 1063 (Oct. 13, 1989).

8. *Business and the Environment*, *supra* note 4.

9. General Agreement on Tariffs and Trade, *opened for signature* October 30, 1947, art. XX, 62 Stat. A3, T.I.A.S. No. 1700, 55 U.N.T.S. 194.

Key issues in this context include: 1) whether specific multilateral agreements determine the balance or "harmonization" of environmental and health standards with trade requirements, 2) whether less burdensome measures are available that equally achieve the legitimate environmental objective, and in applicable cases, 3) whether a sound scientific basis exists for the environmental or health standard.

In the case of the above-mentioned German bottle law, the absence of a specific EC re-using/recycling standard for beverage containers and the availability of "less burdensome" re-using/recycling measures are both relevant to the outcome of the dispute. With respect to "harmonization," the EC Court of Justice had earlier ruled, in a case involving a Danish deposit-return regulation, that an EC member state's mandatory bottle return regulation, designed to protect the environment, but which indirectly restricted plastic container imports, prevailed over EC Treaty rules on the free movement of goods since the EC had not enacted a harmonizing directive explicitly covering bottle return/re-use measures.<sup>10</sup> With respect to the availability of "less burdensome" measures, the same EC Court ruling invalidated certain features of the Danish bottle law (e.g., prior approval of bottle design). This holding thus indicated that deposit-return laws will continue to be scrutinized and outright bans of certain containers, such as plastic bottles, may be invalidated because less burdensome mandatory deposit and recycling systems are also effective in protecting the environment.

In November 1990 the German Cabinet approved a "less burdensome" regulation which would broaden the deposit-return scheme to include glass bottles and to allow returns to producers. If approved by the German Parliament, this measure will raise the cost of local German glass containers, which will presumably place French, Belgian, and other drink producers in a more competitive position, leading to resolution of the dispute.<sup>11</sup>

In connection with the EC-U.S. dispute over hormone-treated beef, the Uruguay Round of the GATT negotiations focused on harmonization of national environmental and health standards governing trade in animals and plants. This area covers issues such as the asserted use of national standards for pesticide residues in food when the standards act as import barriers.

A GATT Working Group on Sanitary and Phytosanitary (S & P) Regulations and Barriers has developed a near-final draft text on S & P Measures intended as a guide to resolving issues arising under

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10. *Comm'n of the European Communities v. Kingdom of Den.*, 1988 E. Comm. Ct. J. Rep. 4607.

11. *Current Reports, Int'l Envtl. Rep. (BNA) 505 (Dec. 5, 1990).*

the GATT Article XX (b) exceptions.<sup>12</sup> The S & P draft text proposes that recognized health and food safety standards of three international scientific organizations serve as the initial reference point in settling disputes.

An exporting country, under the proposed new dispute settlement procedures, could challenge the scientific basis of national environmental and health regulations that are stricter than these international standards. The procedures would allow these strict national environmental and health regulations to interfere with imports only if they are supported by sound scientific principles. A panel of experts would consider difficult questions such as what constitutes "scientific principles" and "available scientific evidence."

This approach has been criticized since virtually no opportunity exists for the public to participate in the setting of environmental and health standards by international scientific bodies, and because of concern that harmonization may lead to a "lower common denominator" and lowering of environmental and health quality.<sup>13</sup>

The S & P Working Group's draft text addresses only the "human, animal, and plant life" exceptions in GATT's Article XX (b). No comparable effort exists for elaborating criteria to resolve trade disputes in the case of national environmental regulations relating to the "conservation of natural resources" exception in Article XX (g). Moreover, it is doubtful whether Article XX (b) and (g) together cover all relevant aspects of the environment.

In the latter stages of the Uruguay Round of the GATT talks, the negotiators were urged to include environmental considerations in the new trade rules. For example, legislators from Japan, the United States, and the European Community asked the GATT Director General to revitalize the GATT Working Group on Environmental Measures and International Trade which was established in 1971 but has never been convened.<sup>14</sup> The post-Uruguay Round will likely see an elaboration of criteria for resolving environmental "non-tariff barrier" trade disputes.

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12. GATT Secretariat, Negotiation Group on Agric., Working Group on Sanitary and Phytosanitary Regulations and Barriers, *Draft Text on Sanitary and Phytosanitary Measures* (Nov. 20, 1990).

13. Christiansen, *Pesticide Regulations and International Trade*, 32 ENV'T 2 (1990); Shrybman, *International Trade and the Environment: An Environmental Assessment of the General Agreement on Tariffs and Trade*, 20 ECOLOGIST 30, 33 (1990).

14. Letter from Global Legislators Organization for a Balanced Environment (GLOBE) to the Director General of GATT, the Japanese Minister of International Trade and Commerce, the Vice President of the EC Commission and the U.S. Trade Representative (Nov. 26, 1990). The GLOBE letter specifically requests the Director General of GATT to convene the GATT Working Group on Environmental Measures and International Trade no later than April 1, 1991, to address a specific agenda.

### III. EXTERNALIZED EFFECTS OF NATIONAL ENVIRONMENTAL REGULATIONS ON TRADE AND INVESTMENT

Two prominent issues involving the effects of national environmental regulation on international trade and investment are: 1) whether strict national environmental standards motivate industry to relocate to countries with more relaxed standards, and 2) how to cope with hazardous wastes to avoid high local disposal costs and how to manage exports of certain toxic products, like pesticides, which are banned or restricted for use in the home country.

#### A. Relocation of Polluting Industries

Are hazardous industrial facilities, particularly transnational corporate (TNC) facilities, leaving countries with relatively strict environmental and health regulations, such as the U.S., Japan, Canada and certain European countries, and relocating to countries with relatively weak environmental and health standards? Empirical studies and surveys on this question have generally found little evidence to support the view that stricter environmental regulations are the motivating factor in industrial relocations to countries with comparatively lax standards.<sup>15</sup> The World Resources Institute's comment in 1984 that "environmental factors have not been and are unlikely to become major determinants of the international location of investment," probably still holds true today.<sup>16</sup>

In practice, however, some exceptions exist. These include the relocation of highly toxic asbestos tile production and benzydine dye manufacturing facilities to Mexico and Romania, respectively, to avoid stringent environmental standards in their home countries.<sup>17</sup> The reverse is also occurring. Anecdotal evidence suggests that some TNCs are deliberately avoiding construction of new industrial (hazardous) facilities in Less Developed Countries (LDCs) perceived to have inadequate waste treatment facilities out of concern that they will receive unfavorable publicity for "exporting" their pollution.

There are several reasons why industry has not flocked to "pollution havens." First, the major factors in location decisions such as labor, intermediate inputs, taxes, and transportation costs, continue to outweigh the environmental control cost differential. Sec-

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15. U.N. CENTRE ON TRANSNATIONAL CORPORATIONS, ENVIRONMENTAL ASPECTS OF THE ACTIVITIES OF TRANSNATIONAL CORPORATIONS: A SURVEY (1985).

16. WORLD RESOURCES INSTITUTE, IMPROVING ENVIRONMENTAL COOPERATION: THE ROLES OF MULTINATIONAL CORPORATIONS AND DEVELOPING COUNTRIES 28-30 (1984).

17. *Cleaning Up: A Survey of Industry and the Environment*, THE ECONOMIST, Sept. 8, 1990, at 24.

ond, transnational corporations are increasingly adopting company-wide environmental, health, and safety standards for their facilities and operations outside their home countries.<sup>18</sup> Many manufacturing TNCs use company-wide environmental audits to ensure compliance and to identify and correct facilities not meeting corporate standards.

Although national environmental regulations are generally not causing pollution-intensive industrial facilities to relocate to LDCs, there are indirect effects. Industrial facilities operated by TNCs outside their home countries generally have not invested in pollution control technologies to the same extent as in their home countries (although this is now changing as TNCs adopt worldwide environmental, health, and safety standards for all their facilities). In addition, some TNC industrial facilities located in LDCs "out-source" to local vendors some of the pollution-intensive processes needed for their products. This kind of activity is an example of what the *Economist* refers to as "laundering multinational muck."<sup>19</sup> Moreover, TNCs further exacerbate the situation by not systematically transferring their pollution control technologies to these local vendors.

The trend towards industrial relocation to take advantage of lenient environmental and health standards will continue because of the increasing globalization of investment and the mobility of corporate resources, accelerated in part by Free Trade Agreements. One example of this is the proposed Mexico-United States Free Trade Agreement. American labor and environmental groups have expressed concern over the possibility that the Free Trade Agreement will allow widescale relocation of American industry in order to take advantage of less-strict health and environmental standards (as well as cheaper labor) in Mexico.<sup>20</sup>

## B. Trade in Hazardous Wastes and Toxic Products

In the early 1980s, exports of hazardous waste from the United States, Japan, and certain European countries to LDCs and to Eastern European countries such as former East Germany and Poland rose significantly. This increase was a result of tighter hazardous waste requirements and higher disposal costs in the industrialized nations. By the late 1980s, a series of highly-publicized incidents involving hazardous waste exports to countries in Africa and the

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18. ENVIRONMENTAL LAW INSTITUTE, SURVEY REPORT ON CORPORATE ENVIRONMENTAL POLICIES 13 (1990); see also J. Willums, *The Greening of Enterprise*, Papers Presented at the Industry Forum on Environment, International Chamber of Commerce (1990).

19. *Cleaning Up: A Survey*, *supra* note 17.

20. *Environmentalists Warn U.S.-Mexico Trade Deal May Gut Environmental Laws*, 11 *INSIDE EPA* 14 (1990, No. 48).



Caribbean focused international attention on the issue.<sup>21</sup>

The presence of strict national environmental and health regulations in industrialized countries is also linked with the export of banned or restricted toxic products. Reliable data on the extent of trade in these substances is unavailable, but the volume of commerce appears to be significant. The United States General Accounting office estimates, for example, that the U. S. annually exports between 100 to 150 million pounds of pesticides banned or restricted for use in the U. S.<sup>22</sup> According to a 1985 report by the United Nations, these toxic exports annually poison some 375,000 people in LDCs and are responsible for more than 10,000 deaths each year.<sup>23</sup>

The United States introduced notification requirements in the 1970s, in connection with the export of banned or restricted pesticides and toxic substances. Such requirements have been criticized as inadequate on the ground that most importing countries do not have regulatory mechanisms to evaluate health and use risks and because warning labels are not written in languages that farmers or consumers can read.

The international community has responded to these transboundary environmental issues by agreeing on international conventions that guide development of national environmental standards and offer the potential of harmonizing national regulations in the direction of a higher common denominator.

For example, in the case of hazardous waste exports, in 1989 over 50 countries agreed to sign a treaty known as the Basel Convention,<sup>24</sup> which builds on the prior informed consent principle and adds additional requirements.

If the Basel Convention goes into effect as anticipated in 1991, each signatory country will have the authority to ban imports of hazardous wastes, prohibit their export (unless the county of destination consents in writing to the specific import), and prohibit hazardous waste exports to and imports from countries not party to the Convention. In addition, exporting countries must first notify and obtain the consent of countries through which any hazardous wastes will travel, and the transnationally shipped wastes must

21. French, *A Most Deadly Trade*, WORLD WATCH, July-Aug. 1990, at 14.

22. *Id.*

23. U.N. CENTRE, *supra* note 15.

24. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, *adopted and opened for signature* Mar. 22, 1989, *reprinted in* UNITED NATIONS ENVIRONMENTAL PROGRAMME, *BASEL CONVENTION OF THE CONTROL OF TRANSBOUNDARY MOVEMENTS OF HAZARDOUS WASTES AND THEIR DISPOSAL: FINAL ACT*, also *reprinted in* 28 I.L.M. 649 (1989). The Convention will go into force after 20 countries sign (five have signed to date).

comply with packaging, labeling, handling, and manifesting requirements.

The Convention defines "hazardous waste" very broadly to include any waste classified as "hazardous" by a party's domestic legislation, as well as medical wastes, asbestos, and PCB-contaminated materials. Furthermore, the Convention provides for the regulation of household wastes and solid waste incinerator ash by separately defining these categories as "other wastes." Finally, the Convention enables parties to enter into bilateral, regional, and multilateral agreements on transfrontier shipments of wastes as long as these additional agreements do not undercut the environmentally sound management of wastes.

A regional agreement, going beyond the Basel Convention, was reached by the EC in the Rome IV Convention signed in December 1989. In this treaty, EC member states have agreed not to allow exports of hazardous and nuclear wastes to 68 African, Caribbean, and Pacific countries.

With respect to exports of toxic products, harmonization is proceeding more slowly. The United Nations Food and Agriculture Organization recently led negotiations of an agreement on a system of prior informed consent for transfrontier shipments of listed potentially dangerous pesticides.<sup>25</sup> A similar treaty negotiated by the United Nations Environmental Programme covers exports of other hazardous chemicals.<sup>26</sup> Both treaties will go into effect in 1991. At the national level, the U.S. and other countries are considering legislation that bans exports of certain chemicals that are illegal in their home countries.<sup>27</sup>

#### IV. "SUSTAINABLE DEVELOPMENT" AND TRADE

The 1987 Brundtland Report<sup>28</sup> was a major force in pushing environmental issues to the top of the international agenda. The Report introduced the concept of "sustainable development" and demonstrated the environment's integral role in economic development. It has influenced nations to increasingly recognize that the continuing deterioration of the environment is a survival issue, especially for the developing countries. Because countries cannot progress economically with a deteriorating environmental base, problems such as poverty, hunger, foreign debt, economic development, and trade have become linked to environmental issues.

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25. French, *supra* note 21.

26. *Id.*

27. Pesticide Export Reform Act, § 2227, 101st Cong. 2d Sess. (1990). This Act would prohibit the export of food-use pesticides banned in the U.S. without prior foreign government consent.

28. REPORT OF THE WORLD COMM. ON ENV. AND DEV. (1987).

The Brundtland Report defines "sustainable development" as economic activity that meets the needs of the present without compromising the ability of future generations to meet their own needs. "Sustainable development" entails limits on economic growth and trade—but elastic limits based on the ability of our technology and social organization to prevent adverse effects on the environment. Since the benefits and costs of achieving "sustainable development" fall unevenly among nations, major changes in international trading rules must be in place to protect countries, while they tighten their environmental controls, from being competitively disadvantaged by "free riders"—those who use subsidies or lower environmental standards to trade in goods produced through "unsustainable" activities.

### A. Combating Subsidies

Agricultural subsidies, in the form of below-cost water supplies, price supports, export financing, and economic incentives to increase production, have led to the exploitation of natural resources and environmental damage on a massive scale around the world. Examples of "unsustainable" agricultural activities abound.

The U.S. government provides irrigation water to farmers in the western United States at prices substantially below true cost. This subsidy helps farmers in California and other states to gain a competitive advantage in the export market, but at great cost to environmental quality and to the sustainability of western water resources.

The Netherlands uses its Value Added Tax revenues to subsidize its agricultural exports. As a result, it is one of the world's largest exporters of beef, eggs, and dairy products. Dutch farmers import tapioca and cassava from Indonesia as the cheapest feed for livestock. These imports result in the mass clearing of Indonesian rain forests to make way for expanding tapioca and cassava farms. Back in the Netherlands, huge amounts of livestock manure cause groundwater contamination from nitrates and release ammonia, a major contributor to European acid rain.<sup>29</sup>

The Multi-Fiber Arrangement of 1974, intended to protect textile industries in the U.S., severely cut the export market for environmentally benign agricultural activities in the LDCs, such as cotton and other fiber production. To substitute for these relatively labor intensive but low impact activities, LDCs have moved to environmentally damaging activities such as tropical timber exports to earn the foreign exchange needed to pay for a rising dependency on

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29. Thirty-one percent of acid deposition in Dutch forests comes from ammonia emissions by the Dutch agricultural sector. Current Reports, Int'l Env'tl. Rep. (BNA) 492 (Nov. 21, 1990).

food imports.<sup>30</sup>

Such subsidies for "unsustainable" agricultural and natural resource activities must be dismantled in order to quicken movement toward sustainable development. GATT rules that discipline subsidies which affect international trade may already apply in some measure to these subsidies. However, most of the subsidies promoting unsustainable activities are outside the purview of existing GATT rules. An opportunity now exists to expand the base of current GATT subsidy rules to develop new rules that will more effectively allow the world community to discipline subsidized trade that causes environmental damage.

A key issue needing resolution in this context is how to treat national subsidies for environmental protection (such as government subsidies to timber exporters for reforestation and to industrial exporters for pollution control). Subsidies for environmental protection contravene the OECD's "Polluter Pays Principle." However, environmental subsidies may also be essential ingredients for "sustainable development" particularly in LDCs, and to spur the development of new environmental protection technologies.

### B. Measuring Sustainability

"Sustainable development" remains only an idea. Before trade rules such as countervailing duties for imports produced through "unsustainable" activities can be developed, it will be necessary to advance the analysis of "sustainability" in economic terms, to provide a framework for measurement, and to reach a political consensus. Two developments which are important in this effort are environmental accounting and life cycle assessments.

At a macro level, consistent with the Organisation for Economic Co-operation and Development's "Polluter Pays Principle", new environmental or "green" accounting methodologies are under development to provide a true picture of a nation's wealth, the welfare of its citizens, and the prices of its goods and services.<sup>31</sup> Environmental accounting seeks to reflect the costs of environmental damage and repairs as "costs" instead of as "income" in the nation's GNP. The process for developing a "green" GNP begins with a comprehensive inventory of data on the nation's natural resource base, pollution levels, and remediation requirements. First, norms for "sustainable development" of the environment are established and then the costs of achieving sustainable norms are figured and subtracted from GNP, leaving the "green" GNP. Information

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30. Tietenberg, *Managing the Transition: The Potential Role for Economic Policies*, PRESERVING THE GLOBAL ENVIRONMENT 200 (J.T. Mathews, ed. 1991).

31. *Toward a Green GNP: Europeans Begin to Calculate the Price of Pollution*, N.Y. Times, Dec. 9, 1990, at E3.

technology, such as computer systems and programs for geographic attribute mapping of natural resources and wide-area pollution monitoring networks, will facilitate environmental accounting, which is still in its infancy. A "green" GNP will lead to higher costs for polluting products but also to economic growth in environmental protection activities.

At a micro level, life cycle assessments have begun on specific products; this includes energy analysis, resource requirements, and pollution impacts during the product's life cycle—from development and manufacturing through distribution, use, and disposal. Life cycle assessments will help promote products created through "sustainable" activities and expose products created through unsustainable means.

## V. SUMMARY

Nations would like to have it both ways: the right to set their own higher or lower environmental and health standards to protect domestic interests together with a level playing field for liberalized international trade. Environmental and health quality and "sustainable developments" are not irreconcilable with trade, but the interrelationship is complex. Higher environmental standards can stimulate trade and provide economic gains by spurring development of technologies (pollution control, recycling, waste reduction, and environmental information technologies), thereby leading to higher quality and productivity. Higher standards also can hurt trade in some cases by reducing the exporters' competitiveness and by imposing barriers to importers. Lower standards can produce short-term economic gains, but impose higher costs in the long term as environmental and health quality deteriorate. Transnational corporations have a duty to promote environmental accountability by implementing corporate environmental and health policies at all locations and by transferring waste reduction, pollution control, and information technologies systematically to their trading partners.

As environmental problems and trade become even more global, multilateral measures will be increasingly needed to prevent poorly crafted national environmental and health standards from distorting trade. Harmonization of national environmental and health standards in regional and international agreements that address specific issues will reduce trade distortions and will be consistent with sustainable development if aimed at a "higher common denominator." In other cases, trade restrictions or sanctions against free riders exporting goods produced through unsustainable means will be appropriate. The development of these measures and rules will certainly be a major activity during the 1990s and beyond.