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The Global Environment and Free Trade: A Vexing Problem and a Taxing Solution

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I. INTRODUCTION

Most people acknowledge the need to protect the environment. The question is how best to accomplish this task. Many forms of pollution are not contained by national borders but rather go where the wind carries them, sometimes literally. There is no doubt that many of the most serious environmental threats facing the planet—such as global warming,[1] the hole in the ozone layer,[2] and the depletion of species from the

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1. *See* Kevin R. Gray, *International Environmental Impact Assessment: Potential for a Multilateral Environmental Agreement*, 11 COLO. J. INT'L ENVTL. L. & POL'Y 83, 95 (2000);

world's oceans[3]—are problems that will not be solved by any one nation alone. Sadly, in spite of the encouraging growth in the number of international environmental treaties over the last twenty-five years,[4] there remains little true protection for the environment at the international level.

Many of these treaties' provisions are hortatory rather than obligatory; many of their provisions are vague and impose no concrete commitments.[5] Furthermore, even if a treaty creates a serious duty to protect the global environment, nations can choose not to join, allowing these holdout nations to diminish the treaty's potential gains.[6] Thus, although international environmental treaties are clearly a step in the right direction, they have so far provided scant protection against the potentially devastating environmental consequences facing the world.

Additionally, the environmental regulations of the nations most committed to reducing pollution, including the United States, may be in need of improvement. After approximately forty years of modern environmental regulation, the record of the United States has been mixed.[7] There is no doubt that the rate of environmental contamination has slowed.[8] Unfortunately, with increases in the size of the population,[9] increases in industrialization, and continuous advances in technology that permit more rapid exploitation of natural resources and use of previously inaccessible resources, the internal threat to the domestic environment remains a major concern. This raises the question of whether the "command-and-control" approach to environmental regulation that the United States has historically embraced[10] is the best approach to protecting the environment or whether the United States should shift to an approach based on economic incentives, as experts have

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John Wickham, *Toward a Green Multilateral Investment Framework: NAFTA and the Search for Models*, 12 GEO. INT'L ENVTL. L. REV. 617, 643 (2000).

2. Gray, *supra* note 1, at 95; Wickham, *supra* note 1, at 643.

3. Wickham, *supra* note 1, at 643.

4. Gray, *supra* note 1, at 83. *See* Ryan L. Winter, *Reconciling the GATT and WTO with Multilateral Agreements: Can We Have Our Cake and Eat It Too?*, 11 COLO. J. INT'L ENVTL. L. & POL'Y 223, 229 (2000).

5. *See* Matthew Brotmann, *The Clash Between the WTO and the ESA: Drowning a Turtle to Eat a Shrimp*, 16 PACE ENVTL. L. REV. 321, 325 (1999); David A. Wirth, *The International Trade Regime and the Municipal Law of Federal States: How Close a Fit?*, 49 WASH. & LEE L. REV. 1389, 1389-91 (1992).

6. Wirth, *supra* note 5, at 1390.

7. *See* William H. Rodgers, Jr., *The Seven Statutory Wonders of U.S. Environmental Law: Origins and Morphology*, 27 LOY. L.A. L. REV. 1009, 1012 (1994). *See generally* FRANK P. GRAD, TREATISE ON ENVIRONMENTAL LAW § 1.01 (2000) (discussing the history of environmental law in the United States).

8. *See* Oliver A. Houck, *Of Bats, Birds and B-A-T: The Convergent Evolution of Environmental Law*, 63 MISS. L.J. 403, 418 (1994); Sidney A. Shapiro & Thomas O. McGarity, *Not So Paradoxical: The Rationale for Technology-Based Regulation*, 1991 DUKE L.J. 729, 746 n.96.

9. *See* Robert V. Percival, *Regulatory Evolution and the Future of Environmental Policy*, 1997 U. CHI. LEGAL F. 159, 183-84 (1997).

10. Hoong N. Young, *An Analysis of a Global Emissions-Trading Program*, 14 J. LAND USE & ENVTL. L. 125, 128 (1998).

suggested.[11]

A new approach to domestic environmental law can address both concerns. If the United States were to move to a regulatory regime that taxes the pollution created in connection with manufacturing products, the tax would create economic incentives for pollution control in the production process. More importantly, the tax could be imposed on products that are imported into the United States, thereby giving foreign manufacturers a motivation to decrease their own pollution emissions.

Any attempt to protect the global environment through the extraterritorial effects of a unilateral action, however, must be considered in light of another body of law: free trade agreements. These agreements have helped fuel the economic prosperity that the world has seen at the end of the twentieth century.[12] Their major premise is that by removing trade barriers, consumers will benefit from the comparative advantages that different nations have in producing goods.[13] Those nations that have a resource, technological, labor, or other type of advantage will be able to produce a better product at a lower cost to the consumer if artificial barriers protecting domestic producers are removed.[14] Unfortunately, one of the competitive advantages a nation might have in producing a product more cheaply is the absence of costly environmental regulations.[15] Thus, the environmental community has increasingly become concerned that free trade arrangements, as currently pursued, are often detrimental to the environment.[16]

This viewpoint has been strengthened by several major international disputes[17]

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11. *See* DAVID M. ROODMAN, THE NATURAL WEALTH OF NATIONS: HARNESSING THE MARKET FOR THE ENVIRONMENT (Linda Starke ed., 1998); Jonathon R. Nash, *Too Much Market? Conflict Between Tradable Allowances and the "Polluter Pays" Principle*, 24 HARV. ENVTL. L. REV. 465 (2000); Young, *supra* note 10, at 128-39.

12. *See* David A. Gantz, *Failed Efforts to Initiate the "Millennium Round" in Seattle: Lessons for Future Global Trade Negotiations*, 17 ARIZ. J. INT'L & COMP. L. 349, 349-50 (2000); Susan Tiefenbrun, *Free Trade and Protectionism: The Semiotics of Seattle*, 17 ARIZ. J. INT'L & COMP. L. 257, 271-73 (2000).

13. *See* Nathalie Chalifour, *Global Trade Rules and the World's Forests: Taking Stock of the World Trade Organization's Implications for Forests*, 12 GEO. INT'L ENVTL. L. REV. 575, 583 (2000); Shannon Hudnall, *Towards a Greener International Trade System: Multilateral Environmental Agreements and the World Trade Organization*, 29 COLUM. J.L. & SOC. PROB. 175, 177 (1996); John H. Jackson, *World Trade Rules and Environmental Policies: Congruence or Conflict?*, 49 WASH. & LEE L. REV. 1227, 1231 (1992); Tiefenbrun, *supra* note 12, at 260-67; Winter, *supra* note 4, at 227-28.

14. *See* Jackson, *supra* note 13, at 1231; Winter, *supra* note 4, at 227-28.

15. *See* Hudnall, *supra* note 13, at 178-79; Jackson, *supra* note 13, at 1231.

16. DANIEL C. ESTY, GREENING THE GATT: TRADE, ENVIRONMENT, AND THE FUTURE 52-53 (1994); RICHARD A. WESTIN, ENVIRONMENTAL TAX INITIATIVES AND MULTILATERAL TRADE AGREEMENTS: DANGEROUS COLLISIONS (1997); Tiefenbrun, *supra* note 12, at 273-74; Winter, *supra* note 4, at 245.

17. *See* WTO Appellate Body Report on United States—Import Prohibition of Certain Shrimp and Shrimp Products, WT/DS58/AB/R (Oct. 12, 1998), http://www.wto.org/english/tratop_e/dispu_e/58abr.pdf [hereinafter *Shrimp-Turtle*]; WTO Appellate Body Report on United States—Standards for Reformulated and Conventional Gasoline, WT/DS2/9 (May 20, 1996), 35 I.L.M. 603 (1996) [hereinafter *Reformulated Gasoline*]; GATT Dispute Panel Report on United States—Restrictions on Imports of Tuna, DS29/R (May 20, 1994), 33 I.L.M. 839

resolved pursuant to the rules of the world's most significant free trade agreement, the General Agreement on Tariffs and Trade,[18] as amended through a series of successive rounds culminating in its current incarnation as the World Trade Organization.[19] GATT/WTO dispute-resolution panels have consistently held that various domestic environmental laws impermissibly interfered with free trade obligations.[20] In response, segments of the environmental community have called for both a decreased commitment to free trade[21] and reforms to free trade agreements to make them more responsive to legitimate environmental concerns and objectives.[22] The call for change reached its most fevered cry in December of 1999, when environmental protests culminated in rioting at the WTO conference in Seattle.[23]

Even the WTO has increasingly become aware of the need to include environmental issues in subsequent rounds of negotiation. In 1994, the WTO established the Committee on Environment and Trade to consider trade and environmental issues.[24] Additionally, during talks held over the last year concerning the agenda for subsequent rounds of GATT/WTO negotiations, the United States has lobbied to have environmental issues included as a topic for negotiation, though the

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(1994) [hereinafter *Dolphin-Tuna II*]; GATT Dispute Panel Report on United States—Restrictions on Imports of Tuna, Aug. 16, 1991, GATT B.I.S.D. (39th Supp.) at 155 (1993) [hereinafter *Dolphin-Tuna I*]; WESTIN, *supra* note 16, at 10-12.

18. General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. A-3, 55 U.N.T.S. 187 [hereinafter GATT 1947].

19. General Agreement on Tariffs and Trade 1994, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization [hereinafter WTO Agreement], Annex IA, LEGAL INSTRUMENTS—RESULTS OF THE URUGUAY ROUND vol. I, 33 I.L.M. 1154 (1994). For purposes of this Article, references to the agreement and actions taken pursuant to it shall be collectively referred to as "GATT/WTO" except when referring to the World Trade Organization as an entity, which shall be referred to as the "WTO," or when referring to dispute-resolution decisions rendered under the provisions of the General Agreement on Tariffs and Trade prior to the creation of the WTO, which shall be referenced as being made by "GATT." *See generally* Tiefenbrun, *supra* note 12, at 260-67 (discussing the history of the GATT/WTO).

20. To date only one GATT/WTO dispute concerning environmental protections has come close to being upheld under GATT/WTO's environmental exceptions. Winter, *supra* note 4, at 224 n.4; Rita M. Wisthoff-Ito, *The United States and Shrimp Import Prohibitions: Refusing to Surrender the American Goliath Role in Conservation*, 23 MD. J. INT'L L. & TRADE 247, 274 (1999). *See generally* Andres Rueda, *Tuna, Dolphins, Shrimp and Turtles, What About Environmental Embargoes Under NAFTA?*, 12 GEO. INT'L ENVTL. L. REV. 647 (2000).

21. Rueda, *supra* note 20, at 650; Winter, *supra* note 4, at 245.

22. *See* Gantz, *supra* note 12, at 355-57; *Pacts Should Address Environment to Boost Public Confidence, NWF Says*, 17 Int'l Trade Rep. (BNA) 55 (Jan. 13, 2000).

23. Sam H. Verhovek & Steven Greenhouse, *National Guard Is Called to Quell Trade-Talk Protests: Seattle Is Under Curfew After Disruptions*, N.Y. TIMES, Dec. 1, 1999, at A1; *see* Tiefenbrun, *supra* note 12, at 257-58; *see also* Chalifour, *supra* note 13, at 576; Gantz, *supra* note 12 (discussing what went wrong at the Millennium Round in Seattle).

24. Tiefenbrun, *supra* note 12, at 278; Wisthoff-Ito, *supra* note 20, at 284; *see also* Winter, *supra* note 4, at 239. *See generally* Carrie Wofford, *A Greener Future at the WTO: The Refinement of WTO Jurisprudence on Environmental Exceptions to GATT*, 24 HARV. ENVTL. L. REV. 563 (2000) (discussing increasing acceptability of environmental issues in WTO jurisprudence).

attempt has thus far been unsuccessful.[25] While making free trade agreements more environmentally friendly is no doubt one part of the optimal long-term solution to this tension, such changes seem unlikely in the near future, given the length of time it has traditionally taken to negotiate a new "round" of GATT/WTO amendments.[26]

Given that a workable integration of free trade law and international environmental law remains a distant hope, the vital issue in considering a domestic pollution tax is whether it could be applied to imported products without violating GATT/WTO. If a pollution tax can be applied in compliance with GATT/WTO, it will represent a major advance in the protection of the planet during an era of weak international law while also providing the benefits of an economic-incentive approach to domestic environmental regulation.

This Article will begin by first discussing problems inherent in the command-and-control approach that the United States has taken to protect the environment and then contrasting it with the two major economic-incentive approaches that have been suggested as possible alternatives: emissions trading and pollution taxes. Second, this Article will review the weaknesses of the current international environmental treaty regime with regard to protecting the environment. Third, the Article will consider the tension and conflict between free trade and environmental protection. Finally, the Article will examine a proposed pollution tax and argue that it can protect the global commons in ways other domestic environmental laws do not and that it complies with the rules of GATT/WTO.

II. THE NEED FOR A NEW DOMESTIC APPROACH TO ENVIRONMENTAL LAW

A. The Command-and-Control Approach

In recent years, an increasing number of commentators have suggested that American environmental law should shift away from the traditional command-and-control approach and toward a market-based-incentive approach.[27] However, the

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25. *See U.S. Outlines Priorities for Environment at Upcoming Round of Global Trade Talks*, 16 Int'l Trade Rep. (BNA) 456 (Mar. 17, 1999).

26. Although at this time it is unclear when the next round of GATT negotiations will be held, recent rounds have taken five to seven years to complete (Kennedy Round—1962-67, Tokyo Round—1973-79, Uruguay Round—1986-93). Carol J. Miller & Jennifer L. Croston, *WTO Scrutiny v. Environmental Objectives: Assessment of the International Dolphin Conservation Program Act*, 37 AM. BUS. L.J. 73, 78 (1999); *see also* Gantz, *supra* note 12, at 357-59 (evaluating the potential for a new negotiating round); *Effort to Revive WTO Round Must Start Before U.S. Elections Complete*, 16 Int'l Trade Rep. (BNA) 2057 (Dec. 23, 1999); *U.S., EU Agree to Work Toward New Round of WTO Trade Talks but Differences Remain*, 16 Int'l Trade Rep. (BNA) 2055 (Dec. 23, 1999); *U.S.-EU Statement on the WTO, Released Dec. 17, 1999*, 16 Int'l Trade Rep. (BNA) 2096 (Dec. 23, 1999) (discussing the need for a new round of negotiations).

27. *See* ROODMAN, *supra* note 11; Robert W. McGee & Walter E. Block, *Pollution Trading Permits as a Form of Market Socialism and the Search for a Real Market Solution to Environmental Pollution*, 6 FORDHAM ENVTL. L.J. 51 (1994); Symposium, *Free Market Environmentalism: The Role of the Market in Environmental Protection*, 15 HARV. J.L. & PUB. POL'Y 297 (1992). *But see* Daniel H. Cole & Peter Z. Grossman, *When Is Command-and-*

command-and-control approach has been the foundation of modern U.S. environmental law, which began in the 1960s and 1970s with the enactment of most of the major environmental laws that are in effect today.[28]

Under the command-and-control approach, the government studies a particular area of environmental concern, such as air or water pollution. Based on this examination, it mandates—either directly or indirectly—a course of action to be undertaken by polluting industries in order to obtain a maximum acceptable level of pollution that protects human health—among other things.[29] The regulations may take different forms, but they typically mandate a total level of pollution not to be exceeded in an area, a standard of technology to be utilized by particular industries, or a combination thereof.[30] When technology standards are designated, they may require the use of a particular technology or may set mandatory design or performance specifications.

Most experts agree that this approach has been a good start to combating increases in environmental contamination.[31] Although regions have frequently failed to attain

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Control Efficient? Institutions, Technology, and the Comparative Efficiency of Alternative Regulatory Regimes for Environmental Protection, 5 WIS. L. REV. 887 (1999). It must be noted, however, that not all types of environmental regulation are necessarily well suited to the market-incentive approaches discussed herein. Tradable emissions allowances and taxes on pollutants emitted are well suited to regulating pollution discharges and to minimizing the creation of new contamination. However, such approaches are ill suited, at least in the form described in this Article, to remedying environmental problems that already exist. The appropriateness of modifying U.S. environmental regulations that cover matters other than the emission of new pollutants and the form such modifications might take are, therefore, outside the scope of this Article.

28. Percival, *supra* note 9, at 164-67; Young, *supra* note 10, at 128. *See generally* Rodgers, *supra* note 7 (reviewing the origins and features of seven major U.S. environmental laws).

29. *See, e.g.*, Clean Water Act §§ 101-607, 33 U.S.C. §§ 1251-1387 (1994 & Supp. IV 1998); Clean Air Act §§ 109-371, 42 U.S.C. §§ 7401-7671 (1994 & Supp. IV 1998).

30. For example, the Clean Air Act ("CAA") primarily takes a maximum-concentration approach (known as setting an ambient standard), and the Clean Water Act ("CWA") emphasizes a technology approach. Under the CAA, a maximum level of concentration for certain pollutants, known as the National Ambient Air Quality Standard ("NAAQS"), has been set. *See* Clean Air Act § 109, 42 U.S.C. § 7409 (1994). The government commands that the NAAQS be met for all regions of the United States. *Id.* Of course, some regions are cleaner than others. Regions not in compliance must develop plans, known as State Implementation Plans ("SIPs"), for how they will come into compliance. *Id.* § 107, 42 U.S.C. § 7407. The most contaminated regions have the most stringent requirements, while cleaner regions generally have greater latitude to contaminate their air. *See id.* § 110, 42 U.S.C. § 7410. The general mandate to meet the NAAQS may be furthered by requiring various industries in a SIP to use specific technologies. *See id.* Additionally, the CAA mandates specific technologies for new major sources of air pollution. *See id.* § 111, 42 U.S.C. § 7411. On the other hand, the CWA mandates the use of the best available technology for a particular industry. Clean Water Act § 301, 33 U.S.C. § 1311(b)(1)(A)(i) (1994). This standard is then taken into account in setting the discharge levels permitted for each polluter. *Id.* § 402, 33 U.S.C. § 1342. These technological requirements are supplemented by water-quality standards that vary depending upon the use to which the water is put. *See id.* § 303, 33 U.S.C. § 1313.

31. *See* Houck, *supra* note 8, at 460-62; Oliver A. Houck, *The Regulation of Toxic Pollutants Under the Clean Water Act*, 21 Envtl. L. Rep. (Envtl. L. Inst.) 10,528, 10,541-42 (Sept. 1991); Percival, *supra* note 9, at 176. *See generally* ROODMAN, *supra* note 11

the mandated standards by their respective deadlines,[32] there is little doubt that U.S. air and water are much cleaner than they would be but for these rules. In many instances, the air and water are actually cleaner than they were twenty years ago,[33] and even in instances where pollution has not abated, the considerable growth in population and the size of the U.S. economy may have offset the decreased emission levels on a per capita basis.[34]

B. Problems with the Command-and-Control Approach

Although environmental command-and-control regulation did a good job as an initial mechanism to help the United States improve its environmental situation, it has a number of limitations and disadvantages that have become increasingly apparent and are resulting in calls for a different approach.[35]

At a basic level, the notion of setting a safe air- or water-quality standard is questionable. Any scientist will confirm that for many pollutants there really is no such thing as a safe level; rather, any given level presents a certain risk of various adverse health effects.[36] For example, a certain amount of a pollutant in the air may result in a one-in-one-million chance of causing cancer and a one-in-one-thousand chance of increasing the difficulty of breathing for asthmatics. Decreasing the level

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(discussing the problems with the current regulatory approach and potential market-based solutions).

32. For example, the CWA set a goal "to eliminate the discharge of all pollutants into the water by 1985 [and] to make all of the Nation's water safe for swimming . . . and wildlife by 1983." Lisa E. Roberts, Note, *Is the Gun Loaded this Time? EPA's Proposed Revisions to the Total Maximum Daily Load Program*, 6 ENVTL. LAW. 635, 640 (2000) (summarizing Clean Water Act § 101, 33 U.S.C. § 1251(a)(1)-(2) (1994)). Both of these attempts failed. *See id.* at 645.

33. *See Democrats Take Credit for Eight Years of "the Cleanest Environment in Decades"*, 31 Env't Rep. (BNA) 1726 (Aug. 18, 2000).

34. *See* COUNCIL ON ENVTL. QUALITY, ENVIRONMENTAL QUALITY: THE TWENTIETH ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY TOGETHER WITH THE PRESIDENT'S MESSAGE TO CONGRESS 7-10 (1990).

35. Considerable scholarship has debated command-and-control and market-incentive approaches. For a more thorough treatment of the issues presented by this debate, see generally ROODMAN, *supra* note 11; Cole & Grossman, *supra* note 27; David M. Driesen, *Is Emissions Trading an Economic-Incentive Program?: Replacing the Command-and-Control/Economic-Incentive Dichotomy*, 55 WASH. & LEE L. REV. 289, 295-322 (1998); Houck, *supra* note 8; Nash, *supra* note 11; Percival, *supra* note 9; Richard B. Stewart, *Controlling Environmental Risks Through Economic Incentives*, 13 COLUM. J. ENVTL. L. 153 (1988) [hereinafter Stewart, *Controlling Risks*]; Richard B. Stewart, *United States Environmental Regulation: A Failing Paradigm*, 15 J.L. & COM. 585 (1996) [hereinafter Stewart, *Falling Paradigm*]; Symposium, *supra* note 27; T.H. Tietenberg, *Economic Instruments for Environmental Regulation*, *in* ECONOMIC POLICY TOWARDS THE ENVIRONMENT 86 (Dieter Helm ed., 1991); Young, *supra* note 10, at 128-31.

36. *See* Am. Trucking Ass'n v. EPA, 175 F.3d 1027, 1034 (D.C. Cir. 1999) (noting that there appears to be no safe threshold for ground-level ozone); Alistar M. Hanna, *Seminar on the Law of Sustainable Development—United States: The Land Use System*, 13 PACE ENVTL. L. REV. 531, 536 (1996).

may drop the chance of cancer to one in ten million or even to one in one hundred million, but it does not make the air absolutely safe, just safer. In other words, some people will still be harmed at virtually any level that is chosen. Thus, an ambient standard does not represent a healthy environment but rather represents the level of risk that the government will tolerate.[37]

Adding to this difficulty is the fact that knowledge of the risks posed by any given pollutant continually changes over time as scientific research progresses.[38] In the forty years of modern environmental law, levels of pollutants that were once thought to be relatively safe have been shown repeatedly to represent a higher risk than previously thought.[39]

Ambient standards not only present these difficulties based on scientific uncertainty but also lead to the allocation of time and money for quantifying the risk and for setting an acceptable level of risk.[40] The question, therefore, is whether the time and effort spent obtaining this information helps create the most efficient result: the least-polluted environment that can reasonably be obtained. In other words, given that pollution is a necessary byproduct of modern industrial life, it is questionable whether it is worth the time and effort necessary to determine the health risks at various levels of every pollutant and the acceptable level of risk, particularly if determining the level of risk is almost certainly incorrect. Such action becomes a fool's errand if there is an alternative mechanism that will result in a continual reduction of the pollution-discharge levels. After all, once it becomes clear that for most contaminants any level of emission poses a danger, the ultimate goal of environmental law should be, in a broad sense, the reduction of all emissions to a level as close to zero as possible.

Two additional obvious and closely related disadvantages of the command-and-control approach derive from the inherent limitations of any regulatory regime that specifies a particular technology to reach its goal. By the time the government has determined the appropriate specification or technology, the pollution-control industry has frequently moved on to a better technology or an equivalent one that is cheaper to install and operate.[41] Thus, the government is constantly expending resources

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37. *See Am. Trucking Ass'n*, 175 F.3d at 1034-40; National Ambient Air Quality Standards for Ozone, 61 Fed. Reg. 65,716, 65,727 (proposed Dec. 13, 1996) (codified at 40 C.F.R. § 50.9-.10 (2001)); Victor B. Flatt, *Saving the Lost Sheep: Bringing Environmental Values Back into the Fold with a New EPA Decisionmaking Paradigm*, 74 WASH. L. REV. 1, 4-14 (1999).

38. *See* Flatt, *supra* note 37, at 4-14; Hanna, *supra* note 36, at 535-38.

39. *See* Lead Indus. v. EPA, 647 F.2d 1130, 1154 (D.C. Cir. 1980); Flatt, *supra* note 37, at 4-14.

40. *See* Stewart, *Falling Paradigm*, *supra* note 35, at 587-91. In fact, the CAA mandates reviewing standards on a five-year basis. Clean Air Act § 109(d), 42 U.S.C. § 7409(d) (1994). Although this disadvantage does not exist when a specific technology is mandated without any reference to an ambient standard, a similar set of costs is associated with determining the appropriate technology for every industry and for setting permissible levels of discharge based thereon. *See infra* note 41.

41. *See* Stewart, *Falling Paradigm*, *supra* note 35, at 587-91. Recognizing this problem, the CWA requires a review of standards every five years. Clean Water Act § 301(d), 33 U.S.C. § 1311(d) (1994 & Supp. IV 1998). It should be noted that the CWA does not mandate a particular technology under its requirement that industries use the best available technology ("BAT"). The Environmental Protection Agency makes a determination of what the BAT is for

refining its standards while virtually always remaining several steps behind current developments.[42] Furthermore, the standards are more stringent for new plants and modifications of old plants.[43] A factory that is more than a few years old will almost always be using outdated environmental technology because there is no government compulsion or business incentive to expend the money necessary to update the technology. Additionally, since a plant modification often triggers the need to update environmental control devices, polluters may actually have an incentive to postpone modifications that would make a plant more energy efficient due to the costs that the new technology would entail.[44]

A final disadvantage concerns the potential effects of command-and-control regulation on competition between businesses. By setting ambient health-related standards for clean air, the U.S. government immediately characterized some regions as compliant and others as noncompliant for any given pollutant. As a result, new businesses in regions that are in compliance are often allowed to use cheaper, less effective environmental technologies than new businesses in regions that are not in compliance. Obviously, this situation creates a competitive advantage for businesses in a cleaner area. Perhaps this is appropriate since it creates an incentive to place businesses in areas that can more safely handle the environmental contamination. However, a better regime would encourage all businesses to use the best commercially feasible technology available. After all, if virtually any level of emission for most pollutants poses some risk, why should we ever accept a lesser environmental technology if a better one is economically feasible?

Unfortunately, there is an even greater negative effect on competition. Regions that are in compliance are perceived as having room for pollution since they are below the ambient air standards; furthermore, new business can come into the area relatively freely. However, new sources of pollution are not allowed in nonattainment regions unless there is a corresponding (and larger) decrease from another source in the area.[45] Although this makes sense if one perceives the ambient air standards as clear

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a particular industry and uses this to establish effluent limitations for the industry. *See id.* §§ 301, 304, 33 U.S.C. §§ 1311, 1314. Each company can utilize whatever technology it desires to meet this limitation. *See id.* However, the costs associated with determining all the BATs and adjusting them on an ongoing basis are essentially the same as if a particular technology were mandated.

42. *See* Stewart, *Falling Paradigm*, *supra* note 35, at 587-91. The only way to avoid these costs is to let the standards stagnate and become outdated, thereby allowing additional harm to the environment. *See* Thomas O. McGarity, *Some Thoughts on "Deossifying" the Rulemaking Process*, 41 DUKE L.J. 1385, 1387-96 (1992). This has become a growing concern of some critics of current U.S. environmental law. *See id.*

43. *See* Clean Air Act § 111, 42 U.S.C. § 7411 (1994).

44. *See* Stewart, *Controlling Risks*, *supra* note 35, at 158. *But see* Houck, *supra* note 8, at 429-30 (noting that requirements for alternative technology, including even outright bans of harmful substances such as leaded gasoline and DDT, can force industry to find alternative means of production or alternative, less destructive products and, in doing so, save money as well); Percival, *supra* note 9, at 179 (claiming that industrial responses to government regulation show that the most important factor affecting technological innovation is the stringency of the regulation).

45. *See supra* text accompanying notes 41-44.

demarcations of the level of air quality necessary to protect health,[46] it has the effect of freezing out new competition in the region. No one can enter the region unless someone else is willing to pollute less. Any new competitor must essentially buy part of a present business's pollution stream if it wants to set up in the nonattainment area—a cost not borne by those already in business in the area. In fact, the business selling the pollution offset not only escapes such costs but also gets the windfall of being paid, part of which almost certainly will be profit. Although this is not a major issue for manufacturing operations,[47] this freezeout/payoff could severely limit new competition in service-related industries.

C. Market-Based Proposals

Given the limitations of command-and-control regulation, experts have increasingly called for a new form of environmental regulation: one based on market incentives.[48] In order to understand this approach, one must understand why companies pollute at the levels they do and what, other than a government mandate, would cause them to pollute less.

Economists have developed a theory to explain why environmental regulation, in some form, will almost always be a necessity of the industrialized world. Since no one owns the air or water that gets polluted, such commodities are essentially commons: commodities available for use and overuse by all. This situation has traditionally been described as the tragedy of the commons.[49] When someone can use a resource without paying for its full value, there is a tendency to use more than is economically efficient, since the person is not bearing the full cost of the use.[50] For example, a polluter often contaminates not only his own air but also the air that the rest of us use, since air pollution is usually not confined to a particular person's property. The emitter is not left with his own extremely polluted air nor are his neighbors with their clean air. Rather, everyone is left with somewhat polluted air. In other words, the polluter does not bear the full cost of polluting; we all bear a portion of the cost. Thus, if contamination beyond a specific level is intolerable to a polluter, his air will not reach the level at which he will do something about it until his total emissions are far beyond what would be necessary to reach the same level if all his discharges were confined to his property. As a result, a polluter emits more

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46. *But see* note 36 and accompanying text.

47. Manufacturing operations can presumably locate in cleaner areas and ship into nonattainment areas.

48. This too has generated considerable analysis to date. For a more detailed view of the issues presented in trying to decide between economic-incentive approaches, see generally RODMAN, *supra* note 11; Frank S. Arnold, *The Economist's Perspective: Why There Are No Pollution Taxes*, ENVTL. F., Mar.-Apr. 1998, at 14; Daniel J. Dudek & John Palmisano, *Emissions Trading: Why Is this Thoroughbred Hobbled?*, 13 COLUM. J. ENVTL. L. 217 (1988); McGee & Block, *supra* note 27; Nash, *supra* note 11; Symposium, *supra* note 27; Barton H. Thompson, Jr., *Tragically Difficult: The Obstacles to Governing the Commons*, 30 ENVTL. L. 241, 242-46 (2000); Young, *supra* note 10, at 128-31.

49. *See* Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968).

50. *Id.* at 1244-45; *see also* WESTIN, *supra* note 16, at 43-52; Jackson, *supra* note 13, at 1231; Young, *supra* note 10, at 129.

contaminants than he would emit if he alone had to bear all the consequences of this action. In other words, the costs of polluting are an externality.

A business pays for its labor, its raw materials, and its factory, but it does not pay for the amount of pollution it creates, even though the pollution consumes a resource just as the plant consumes (but pays for) the resource of energy. When a business does not have to pay for using a resource, it has little incentive to use the resource in a frugal manner.

Clearly, many environmental resources—such as air, many types of water bodies, and fish stocks—are classic examples of commons, since they are not owned by anyone in particular. Everyone can use them, so polluting them is merely an externality for a business.[51] If the tragedy of the commons is the likely fate for any commons in a crowded world with multiple demands upon limited resources, then some governmental action is required to avert the destruction of the environment. The command-and-control approach is one possible form of action. However, the lesson to be drawn from the tragedy of the commons and from the realization that pollution is an externality is that other approaches will encourage businesses to pollute at lower levels, possibly even lower than the command-and-control approach will yield. The key to getting businesses to pollute less (other than by a direct regulation) is to make each business bear, as nearly as possible, the full cost of the resources it consumes.[52] With a price attached to pollution, the externality becomes an internality, and a company has the incentive to lessen this cost to the maximum degree economically feasible.[53]

1. The Emissions Trading Approach

In a classic commons situation, an externality can be internalized by privatizing the commons.[54] A user entitled to only a portion of the commons will not destroy that portion by overutilizing or contaminating the resource. To do otherwise would essentially be to destroy one's own property. Even if one has little use for the property, someone else may have greater use for it, so it could be sold if preserved. Of course, it is very difficult, if not impossible, to privatize ownership of a certain amount of clean air or water in the ocean or of migratory birds or fish. These resources, by their very nature, move in such a way as to make ownership difficult. However, ownership can be approximated by giving each eligible party a right to pollute only at a certain level. If everyone owns the right to emit pollutants at a fixed amount per year, there would be a commodity with a value. Those who discharge less could sell their remaining right to pollute to those who need to emit more than their allotment. More importantly, this mechanism gives everyone a continuing incentive to pollute less and to develop and utilize new environmental protection technology.

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51. *See* Zygmunt J.B. Plater, *Environmental Law and Three Economies: Navigating a Sprawling Field of Study, Practice, and Societal Governance in Which Everything Is Connected to Everything Else*, 23 HARV. ENVTL. L. REV. 359, 366, 374-78, 379-82 (1999) (discussing historic failure of market economics to address environmental problems).

52. Hector Rogelio Torres, *The Trade and Environment Interaction in the WTO: How Can a "New Round" Contribute?*, J. WORLD TRADE, Oct. 1999, at 153, 154.

53. Nash, *supra* note 11, at 479.

54. Thompson, *supra* note 48, at 243-44.

For those already discharging less than their rights permit, any further decreases would produce a salable good, while for those polluting more than their rights permit, any decreases would mean that they need to buy less of the unused rights of others. Thus, one increasingly popular alternative is to create tradable permits to pollute.[55]

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55. To date, there are few emissions trading programs. One program that has had considerable success, albeit on a limited scope, is the United States's sulfur dioxide (SO_2) permit trading program for electricity-generating facilities. This program was created to deal with high levels of SO_2 generated by coal-fired utilities, particularly when using coal with high sulfur content from the eastern United States. Since its creation by the 1990 amendments to the CAA, Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2468 (codified as amended in scattered sections of 42 U.S.C.), this program has significantly lowered total SO_2 emissions. Equally important, the cost of buying permit rights has been considerably lower than expected. Although depressed prices for low sulfur content of western coal partly explain this lower cost, it is also attributable to the rapid advancement of emission-control technology and the lower-than-anticipated cost of installing and operating it. Advocates of emissions permit trading point to this program as evidence that when industry has an ongoing incentive to develop and utilize pollution-reduction technology, the results can be surprisingly successful. *See* Nicole Fradette et al., *Project: Regulatory Reform: A Survey of the Impact of Reregulation and Deregulation on Selected Industries and Sectors*, 47 ADMIN. L. REV. 469, 483 (1995); Nash, *supra* note 11, at 487-93. *Cf.* Young, *supra* note 10, at 136-39.

Due in part to the success of the SO_2 program, a similar mechanism is in the process of being implemented for nitrogen oxides as well. Young, *supra* note 10, at 492-93. For a general description and critique of this program, see Jamie Larmann, *Comparing Apples to Oranges? EPA Faces Difficulties in Bringing to Fruition an Emissions-Trading Program for NOX*, 6 ENVTL. LAW. 603 (2000).

On the international front, the Kyoto Protocol, if it becomes effective, will require signatory nations to reduce their emissions of greenhouse gases to each nation's 1990 levels by 2005. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, 37 I.L.M. 22 [hereinafter Kyoto Protocol]. One of the mechanisms by which proponents hope this reduction will be achieved is having nations with excess emissions trade more for the right to pollute with signatory nations who exceed the mandated reduction. *See* Gray E. Taylor, *Global Climate Change Agreements—Do the Storm Clouds Have a Silver Lining?*, 45 ROCKY MTN. MIN. L. INST. 2-1, § 2.03 (1999); Nash, *supra* note 11, at 493-96. It must be noted, however, that this type of international trading regime is far different from a domestic emissions trading regime, such as the SO_2 regime in the United States. Both regimes give an economic incentive to the participant to try to reduce pollution (so fewer permits must be acquired or so that one has permits to sell). But in a domestic trading regime, like industry in the program has economic incentives to reduce pollution. Conversely, in the international regime, the nation still has domestic authority over how it will pursue the incentive created by the trading regime. Although it is possible that a nation will choose to create parallel trading programs within its borders to help the nation benefit under the international program, it is at least equally likely (based on most nations' pollution-control programs to date) that the nation will meet its obligations under the international regime by mandating certain compliance standards for its industries using traditional command-and-control approaches. Obviously, such an approach would not have the economic-incentive effects for the polluters themselves that a domestic emissions trading program would have. However, in order to obtain the reductions required by the Kyoto Protocol, Germany is considering an internal emissions trading program as well. *Climate Change: Germany to Work on Emission Trading Plan with Help from Industry, Stock Exchange*, 31 Env't Rep. (BNA) 1565 (July 28, 2000) [hereinafter *German Plan*].

Requiring businesses to purchase the right to pollute causes each company subject to the program to choose the most cost-effective approach, thereby promoting the efficient utilization of resources. Given their desire to minimize costs, businesses would likely continue to install cutting-edge pollution-control devices so long as the costs of such devices are either less than the costs of buying permits from others[56] or less than the amount obtainable by selling any permits no longer needed once superior technology is installed.[57] Furthermore, those interested in protecting the environment to an even greater degree can do so by purchasing permits and then choosing not to utilize them.[58]

Of course, the relative need that an industry has for permits and the general availability of permits will dramatically affect their price. If too many permits are available, the law of supply and demand says the price of the permits will drop, and as the price drops, industry has less incentive to install additional pollution-control devices.[59] Thus, the first difficulty of a permit trading regime is that it must make sure there is not an overabundance of permits, or else the entire regime will not create the incentive necessary to encourage less polluting.[60]

This can be accomplished, in part, by restricting the trading regime to a limited number of industries and a limited number of pollutants. Since different industries tend to have difficulty controlling different pollutants, the more pollutants that are included in a regime, the easier it is for the different industrial sectors to trade away the right to discharge the substances they have an excess right to emit in exchange for those they need additional rights to emit, without actually decreasing total discharges. Similarly, even if only one pollutant is to be traded and the pool of industries governed by the permit trading regime is too large, many industrial sectors might still have an excess capacity to pollute (or be able to obtain such capacity cheaply relative to the costs of pollution-control devices for that industry), thereby creating a cheap permit availability and a decreased incentive for major emitters diligently to pursue reduced emissions. Given the need to confine trading regimes to a limited number of industrial sectors and a limited number of pollutants,[61] it is somewhat questionable whether an international trading regime—the type of program that would really be necessary to protect the global environment—is even feasible.

Another way to avoid excess permits is to tie the total level of emissions allowed to the level of discharges made by a particular industry at the time of the trading

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56. This is true to the extent that the company must lower its pollution output or acquire the right to pollute more based on its emission allocation.

57. This situation will occur when the company already emits less than its allocation.

58. This course of action has been pursued by various law school environmental societies and by certain environmental organizations. *See Free-Marketeers Hope to Clean Up Pollution*, WASH. TIMES, Nov. 27, 1993, at A11, 1993 WL 6455151; William Fulton, *The Big Green Bazaar*, GOVERNING, June 1996, at 38; Laurie Morse, *Price of Polluting Drops in US*, FIN. TIMES, March 30, 1995, at 28, LEXIS, News Library, FINTME File.

59. This is because new devices will be installed only if the price of the device is less than the price of acquiring permits.

60. *See* Dudek & Palmisano, *supra* note 48, at 234-36.

61. *Cf. id.* at 234-36 (describing the incentives created in a pollution credit regime to invest in more expensive pollution-reduction technology as offsets become more difficult to create).

regime's inception.[62] This creates two potential problems. First and foremost, there will be an ongoing need to continually reduce the total permit allocation. If this is not done, as pollution controls installed over time reduce emissions, the need for permits will decrease, thereby reducing the trading price for permits; this situation would in turn lower the incentive to continue to update pollution-control devices. However, if allocation reductions are implemented too quickly, the business cost of complying with the law could become prohibitively expensive. Equally important is the likelihood that if the reductions are too fast, industry is likely to rebel on a political level by rejecting the permit approach, since steep reductions could result in the need to install the latest technology continuously. This need would change the regime from a profit-maximizing choice by involved businesses to a mandated expenditure for such technology. Thus, in a permit trading regime there will be the expense and administrative burden of determining and adjusting the total permit allocation.

Second, if permits are allocated based on prior emission patterns,[63] any new enterprise in the industrial sector covered by the permits faces an unfair market-access barrier to competition that other enterprises in the sector did not face.[64] The new enterprise cannot operate unless it can acquire permits from other businesses subject to the trading regime. Thus, the new enterprise may be denied lawful access to the marketplace as a result of the lack of available permits. Admittedly, this seems unlikely given the expected permit-availability increase resulting from other companies' reductions, though the increase would depend on how quickly allocations are reduced. However, even if permits are available, the new marketplace entrant must make an additional expenditure not faced by its competitors; it must buy permits to begin polluting, whereas established businesses were granted a certain level of cost-free emission based on prior activities. Adding insult to injury, an established business can generate additional revenue for itself by selling a portion of the permits allocated to it. In other words, a new business may have to pay its competitors to obtain the legal right to compete. Although this may not prevent competition coming from new entities, it certainly places them at a disadvantage.

Another complaint sometimes lodged against pollution-permit trading regimes is that by issuing permits, the government is essentially licensing people to pollute. This disturbs some people's sense that pollution is a wrongful act and as such should not be sanctioned as a permissible activity that one has the right to pursue by license.[65] Compounding this "moral" unacceptability is the fact that the very nature of the economic-incentive-based trading regime means that virtually all of the allocation granted by the permits will be used. Put another way, if there are excess permits, their price will drop until they reach a price at which it is cheaper for a business to buy the permits than to install additional pollution controls. However, if emissions are decreasing faster and more efficiently under a trading regime than under traditional command-and-control approaches, the moral objection seems relatively unimportant

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62. For example, when the United States's SO_2 program went into effect, permits were allocated to each company in the program based on the amount of SO_2 emitted by the company in prior years. Nash, *supra* note 11, at 505.

63. This was the approach used in the SO_2 program in the United States. *Id.*

64. ROODMAN, *supra* note 11, at 154; Nash, *supra* note 11, at 505-06.

65. ROODMAN, *supra* note 11, at 155.

relative to the environmental gains being achieved.

2. Pollution Taxes

Although the tradable permit approach has become the preferred alternative for modernizing U.S. environmental law, there is another way to give businesses an incentive to pollute less by forcing them to internalize the costs of pollution. Any mechanism that makes a consumer pay as close as possible to the full value of the resource being consumed causes the internalization of the cost of using that resource.[66] There is no way to use resources such as raw materials and energy without paying for them.[67] Unfortunately, industries have historically polluted clean air and water without paying for their use. Thus, the government must create a mechanism that forces emitters to pay for (and thereby internalize) the pollution they create. Put simply, the other way to force the internalization of pollution costs is to tax the amount of pollution discharged by a business.[68]

Currently, a number of countries use pollution taxes and tax credits to create economic incentives to help the environment. These incentives take various forms: credits for utilizing particular technologies, taxes on the use of certain raw materials that contribute to environmental contamination, taxes on the use of certain environmentally unfriendly technologies, taxes on products that do not meet certain environmental standards when utilized, and taxes on the quantity of a pollutant discharged.[69] Despite the fact that most of these taxes have been hailed as successful, few pollution taxes have been imposed directly upon businesses' discharges, and no nation has adopted a comprehensive shift to pollution taxes as the primary mechanism for protecting the environment.[70]

Like a permit trading approach, an emissions tax creates an ongoing economic incentive to develop and utilize superior pollution-control technology.[71] Both similarly legitimize pollution by licensing companies to pollute.[72] However, unlike

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66. WESTIN, *supra* note 16, at 43-52; *see also* ROODMAN, *supra* note 11.

67. Pollution taxes, such as the high gasoline taxes in most of Europe, may also be levied on such resources, particularly when consumption of them contaminates the environment. These taxes increase the cost of use, thereby discouraging use. Although discussion of this type of pollution tax is beyond the scope of this Article, for a thorough analysis of various types of pollution taxes and their potential compatibility with GATT/WTO, see generally WESTIN, *supra* note 16.

68. WESTIN, *supra* note 16, at 43-52; Howard Gensler, *The Economics of Pollution Taxes*, 10 J. NAT. RESOURCES & ENVTL. L. 1, 6-12 (1994-95); *see also* ROODMAN, *supra* note 11, at 144-66.

69. For an overview of the various types of taxes and the countries that are utilizing them, see ROODMAN, *supra* note 11, at 144-66; WESTIN, *supra* note 16, at 25-42.

70. *See generally* ROODMAN, *supra* note 11, at 144-66; WESTIN, *supra* note 16, at 25-42. The leaders in the movement toward emissions-based pollution taxes have been Holland, Denmark, and Sweden, with a few other European nations following suit. However, such taxes have generally covered only a limited number of pollutants. WESTIN, *supra* note 16, at 25-42; *see also* ROODMAN, *supra* note 11, at 151-52.

71. Nash, *supra* note 11, at 528; *see also* ROODMAN, *supra* note 11, at 151-52.

72. For discussion of this "moral" complaint against market-based pollution-control regimes, see ROODMAN, *supra* note 11, at 155-56; *supra* Part II.C.1.

an emissions trading program, which sets a maximum overall pollution output based on the number of permits issued, a pollution tax places no inherent limit on the amount of pollution that will be created. As long as a company is willing to pay the tax, it can pollute as much as it wants. Although some will object to its concomitant lack of certainty, this approach nevertheless stresses the importance of setting the tax at the correct level to create an incentive for businesses to utilize newly developing environmental protection technologies. Like setting the total level of permissible pollution in a permit regime, setting the tax rate is the critical component in a pollution tax regime.[73] If the tax is too low, businesses will pay the tax rather than install more expensive pollution-control devices; but, if the tax is too high, industry, the economy, and consumers may suffer as products become too expensive to be commercially viable. Likewise, the continual progress of environmental technology will mean that, over time, a business's emissions tax burden will become so low as to create little or no incentive to install further pollution-control devices. Thus, just as the continual need to reduce the total number of permits exists in a trading regime, the tax rate per unit of a pollutant will need to rise periodically in order to continue the incentive effect of the pollution tax.[74] However, the difficulties of setting and adjusting a pollution tax do not seem more burdensome than repeatedly determining a "safe" ambient air-quality standard or the proper technology required under a command-and-control approach, particularly when one considers the benefits of a market-based-incentive approach generally and those of a pollution tax in particular.[75]

One of the major advantages of a pollution tax approach compared to an emissions trading approach is that the tax approach does not create competitive advantages for established industries. As discussed above, trading regimes create a market-access barrier, and overcoming this barrier will often result in the entrant having to purchase its pollution allocation from established competitors, thereby giving those who are established a financial advantage.[76] A tax regime, on the other hand, burdens all competitors equally. Furthermore, the tax regime generates revenue for the government, which could be utilized to develop additional pollution-control technologies or to help remedy existing pollution and hazardous waste problems, whereas the tradable allowances regime merely generates revenue for certain private industries at the expense of others.

Both the tradable permit and pollution tax approaches have been proposed as ways to move beyond the United States's traditional command-and-control approach.[77]

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73. Jonathon Baert Wiener, *Global Environmental Regulation: Instrument Choice in Legal Context*, 108 YALE L.J. 677, 728 (1999); *cf.* Shapiro & McGarity, *supra* note 8, at 745-48; Young, *supra* note 10, at 129. *See generally* WESTIN, *supra* note 16, at 54-56; David M. Driesen, *Choosing Environmental Instruments in a Transnational Context*, 27 ECOLOGY L.Q. 1, 45 (2000) (explaining avoidance of taxation schemes through public-choice political theory).

74. ROODMAN, *supra* note 11, at 157. Additionally, a pollution tax regime could be further refined by having different tax rates for different industries, so as not to overburden some industries with the costs of controlling a particular pollutant while underburdening others.

75. WESTIN, *supra* note 16, at 54-56. *Contra* Shapiro & McGarity, *supra* note 8, at 748; Driesen, *supra* note 35, at 339-43; Wiener, *supra* note 73, at 775-77.

76. *See supra* Part II.C.1.

77. Wiener, *supra* note 73, at 679-80.

Although each alternative has a number of similar benefits,[78] each has somewhat different disadvantages, as has been discussed.[79] To date, commentators have weighed in on both sides,[80] but few have considered the potential international implications of modifying the bulk of America's environmental laws and regulations to rely on emissions taxes to protect the environment.[81]

Emissions trading affects only those industries included in the regime. Given that each nation has a sovereign right to mandate its own environmental protection laws (or lack thereof),[82] a trading regime will be effective only for those countries that voluntarily choose to participate. While creating such a regime would no doubt improve the global environment, the time and difficulties involved in creating such a regime—coupled with the virtual certainty that numerous nations would not join the regime—will result in limited protection for the global commons. Although it is certainly possible in theory for a number of nations to band together to create a multilateral permit trading regime in which individual companies could participate,[83]

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78. For example, both internalize the costs of polluting, thereby promoting an efficient use of our natural resources. Also, both create an ongoing economic incentive to continually develop newer, cheaper, more efficient ways to reduce pollution to maximize profits either (1) by lowering one's taxes or (2) by making it possible to sell more permits or reducing one's need to buy permits. *See supra* Part II.C.1.

79. *See* Young, *supra* note 10, at 129-30; *supra* text accompanying notes 59-64, 74, 76; *see also* WESTIN, *supra* note 16, at 52-53.

80. *See supra* note 48.

81. *But see* Wiener, *supra* note 73, at 708; Young, *supra* note 10, at 129. *Cf.* Jeffrey C. Fort & Cynthia A. Faur, *Can Emissions Trading Work Beyond a National Program?: Some Practical Observations on the Available Tools*, 18 U. PA. J. INT'L ECON. L. 463 (1997). Additionally, a number of international-law commentators have analyzed and advocated the potential use of taxes of various types (including tax rebates for U.S. exports) and embargoes in international trade to either level the playing field for industries subjected to domestic environmental regulations or to help better protect the global environment. Robert E. Hudec, *Differences in National Environmental Standards: The Level-Playing-Field Dimension*, 5 MINN. J. GLOBAL TRADE 1 (1996); Robert E. Hudec, *GATT Legal Restraints on the Use of Trade Measures Against Foreign Environmental Practices*, *in* 2 FAIR TRADE AND HARMONIZATION: PREREQUISITES FOR FREE TRADE? 95 (Jagdish Bhagwati & Robert E. Hudec eds., 1995); *see also* WESTIN, *supra* note 16. Admittedly, global effects are not normally considered in the context of examining alternative domestic environmental protection regimes. However, if certain approaches can yield global environmental benefits that others cannot, such benefits must be considered in evaluating policy alternatives. For an overview of the international limitations of other domestic alternatives, see *infra* Part V.C.

82. Royal C. Gardner, *Exporting American Values: Tenth Amendment Principles and International Environmental Assistance*, 22 HARV. ENVTL. L. REV. 1, 26-27 (1998) [hereinafter Gardner, *Exporting American Values*]; Royal C. Gardner, *Taking the Principle of Just Compensation Abroad: Private Property Rights, National Sovereignty, and the Cost of Environmental Protection*, 65 U. CIN. L. REV. 539, 540 (1997) [hereinafter Gardner, *National Sovereignty*]; *see also* Andrew L. Strauss, *From GATTzilla to the Green Giant: Winning the Environmental Battle for the Soul of the World Trade Organization*, 19 U. PA. J. INT'L ECON. L. 769, 783-95 (1998); *infra* Part V.A.

83. In fact, tradable emissions allowances on a national level are permitted under the Kyoto Protocol (if it goes into effect), and at least one nation, Germany, is considering creating an internal trading regime to help the nation meet its obligations under the protocol. *German Plan*,

such a regime seems far off at best, and none of the businesses in countries not requiring such a permit would be adversely affected by the regime. Furthermore, given the generally perceived need for emissions trading to limit the number of pollutants and industries involved, there is some doubt as to the feasibility of creating an effective global pollution-permit trading system.[84]

A similar complaint could be made about a traditional pollution tax, by which a company is taxed on all the pollution it produces, since companies outside of the taxing territory would not be subject to the tax. However, if a nation taxes all goods by the amount of pollution that was used to produce them, such a tax could be applied by one country to any product sold inside its borders regardless of where the item was made. This indirect extraterritorial effect would give manufacturers around the globe an incentive to reduce pollution in order to lessen their tax burdens on exported goods. Although the incentive on foreign manufacturers would not be as great as that on domestic manufacturers,[85] the United States—as the world's largest market—could still provide a significant incentive for foreign manufacturers to install at least the cheaper forms of environmental controls to lower their taxes.[86] Provided such a tax is permissible under GATT/WTO rules,[87] the benefits of a pollution tax regime outweigh those of a tradable permits regime.

III. THE LIMITATIONS OF INTERNATIONAL ENVIRONMENTAL LAW

In recent years it has become abundantly clear that pollution is not confined by national boundaries.[88] Given this fact, the environmental policies of virtually every nation have a potential impact on the environmental well-being of every other nation as well as on the resources all nations must share, such as the oceans. However, laws protecting the environment are a relatively modern development, with the United States leading the way in the 1960s into the era of modern environmental regulation.[89] Although many nations, particularly the more economically developed ones, have followed suit,[90] others still either have few environmental laws or do not rigorously enforce the laws they have.[91] Additionally, state sovereignty means that each nation has significant latitude in choosing its environmental policies.[92] Compounding this

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supra note 55. However, to date there has been no concrete action toward creating an international emissions trading program in which private industries can participate.

84. *See supra* Part II.C.1. *But see* Wiener, *supra* note 73; Young, *supra* note 10.

85. This is because the foreign manufacturer would typically have fewer of its products subjected to the tax.

86. For further discussion of this incentive effect, see *infra* Part V.A.

87. Emission taxes on imported products that are part of a consistent, domestic pollution tax program should be GATT/WTO compliant. *See infra* Part V.B.

88. Gray, *supra* note 1, at 95; Hudnall, *supra* note 13, at 178-79.

89. GRAD, *supra* note 7, § 1.01, at 1-3; *see also* Rodgers, *supra* note 7, at 1009-10.

90. *See* Gray, *supra* note 1, at 83-84; Richard H. Steinberg, *Trade-Environment Negotiations in the EU, NAFTA, and WTO: Regional Trajectories of Rule Development*, 91 AMER. J. INT'L L. 231, 232-33 (1997).

91. *See, e.g.*, Rueda, *supra* note 20, at 678-82 (discussing post-NAFTA status of Mexican environmental law and enforcement programs).

92. Gardner, *Exporting American Values*, *supra* note 82, at 26-27; Gardner, *National*

problem is the fact that in the modern world of the Internet, global trade, and multinational corporations, it is relatively easy for manufacturers to move to a nation with limited environmental regulation—a "pollution haven"—in order to help minimize the costs of production.[93]

Given the migratory nature of pollution and the sovereign right of nations to set their own environmental policies, the need for some supranational environmental protection regime appears relatively clear.[94] Currently, of course, there is no international governing body with the authority to establish an environmental protection law/policy for all the nations of the world, nor does the creation of such an entity appear likely in the near future.

One method of helping to protect the global environment is to recognize new international environmental obligations as part of international law. If certain minimum environmental standards were required as part of international law, any nation that did not adhere to the standards could be stigmatized as a violator. Unfortunately, most international-law standards are relatively vague and difficult to precisely discern.[95] As such, they are not well suited to controlling environmental contamination, which generally requires complex and detailed regulations.[96] Furthermore, even if a nation clearly violated its obligations under international law, there would be no real enforcement mechanism.[97] Clearly, one nation will not invade another over a failure to abide by international environmental norms,[98] and even

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Sovereignty, *supra* note 82, at 540; Rueda, *supra* note 20, at 667-68 (discussing *Shrimp-Turtle*). However, it must be noted that the potentially migratory nature of many forms of pollution place certain relatively limited constraints on the ability of a nation—pursuant to its sovereignty power—to disregard environmental contamination completely, since the sovereignty power is limited by the duty not to do harm to other nations. In other words, if mobile pollution from one nation will harm another, this situation places a limitation on the polluting nation's sovereign right to do as it wishes within its own boundaries. However, to date nations have rarely succeeded in international environmental disputes based upon this limiting principle. *See generally* Jeffrey L. Dunoff, *Reconciling International Trade with Preservation of the Global Commons: Can We Prosper and Protect?*, 49 WASH. & LEE L. REV. 1407, 1433-48 (1992).

93. Alan R. Jenkins, *NAFTA: Is the Environmental Cost of Free Trade Too High?*, 19 N.C. J. INT'L L. & COM. REG. 143, 159-60 (1993). It must be noted, however, that the tendency of corporations to move to pollution havens to avoid pollution-control costs is highly debatable. Significant existing evidence suggests that companies relocate or open new facilities based on potential labor savings, availability of an adequately skilled workforce, and the availability of necessary resources and infrastructure; although potential environmental savings may be an added benefit of a new site, it has not been a reason for opening new facilities or relocating. Rueda, *supra* note 20, at 668.

94. *See* William Beardslee, *International Law & the Environment: The Need for an Aggregate Organization*, 5 J. INT'L L. & PRAC. 379 (1996).

95. *Cf.* Beardslee, *supra* note 94, at 384-92; Brotmann, *supra* note 5, at 345-46 (indicating difficulties of enforcing international treaties and the ambiguities of interpretation).

96. *Cf.* Beardslee, *supra* note 94, at 384-92; Brotmann, *supra* note 5, at 345-46.

97. *See* Beardslee, *supra* note 94, at 386-87.

98. In fact, an armed conflict is likely to worsen environmental contamination. *See* Robin L. Juni & Elliot Eder, *Ecosystem Management and Damage Recovery in International Conflict*, 14 NAT. RESOURCES & ENV'T 193 (2000).

economic sanctions may not be permitted due to other international legal obligations.[99]

Another transnational approach to environmental protection is the use of treaties that obligate signatories. A treaty will not only bind the signatories but also may form the basis for customary international law over time.[100] Thus, it is not surprising that the number of international environmental treaties has grown tremendously in recent years[101] and that many international environmental scholars tend to focus on environmental treaties as the mechanism best suited to protect the global environment.[102]

While it seems obvious that additional international environmental treaties will help improve the global environment and that they may be the best solution to minimizing contamination of the planet in the long term, this approach has a number of weaknesses and limitations, particularly in the short term. First, treaties are often difficult and time consuming to negotiate and draft,[103] and even after negotiations are complete, it may be years before they come into force.[104] Given (1) the damage that has already been done to the planet, (2) the harm that will continue to be done even if somehow no more pollutants were released, and (3) the level of new contamination that will occur as a reality of modern commerce even if every nation fully committed itself to protecting the environment tomorrow, time consuming solutions (like treaties) are not enough by themselves.

Second, a nation is not generally obligated to enter a treaty.[105] Thus, certain nations may choose not to become parties, thereby diminishing the effectiveness of the treaty regime. Furthermore, even those parties interested in negotiating and joining a treaty do so from the perspective of their economic, environmental, and political needs. As

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99. A major limitation comes from GATT/WTO under the concepts of national and most-favored-nation treatment. *See infra* Part V.B.1-2.

100. I.A. SHEARER, STARKE'S INTERNATIONAL LAW 39-40 (11th ed. 1994). However, when a norm of customary international law is developing, a nation may opt out of its obligations. *Id.* at 39. Thus, holdout nations that do not sign a treaty may be equally able to evade the norm that eventually develops out of the treaty.

101. Gray, *supra* note 1, at 83; *see also* Winter, *supra* note 4, at 230. There are currently over 200 international environmental treaties and instruments in place. Edith Brown Weiss, *Understanding Compliance with International Environmental Agreements: The Baker's Dozen Myths*, 32 U. RICH. L. REV. 1555, 1555 (1999) (citing over 1000 international legal instruments concerning the environment); *see* UNITED NATIONS ENV'T PROGRAMME, REGISTER OF INTERNATIONAL TREATIES AND OTHER AGREEMENTS IN THE FIELD OF THE ENVIRONMENT (1996).

102. *See, e.g.*, Gray, *supra* note 1; Michael J. Kelly, *Overcoming Obstacles to the Effective Implementation of International Environmental Agreements*, 89 GEO. INT'L ENVTL. L. REV. 447 (1997); Wickham, *supra* note 1, at 644; Winter, *supra* note 4. Admittedly, many of these scholars want not only more treaties but also stronger enforcement mechanisms in such treaties. *See* Kelly, *supra*, at 459-62; *cf.* Sean T. Fox, *Responding to Climate Change: The Case for Unilateral Trade Measures to Protect the Global Atmosphere*, 84 GEO. L.J. 2499 (1996).

103. Jennifer A. Bernazani, *The Eagle, the Turtle, the Shrimp, and the WTO: Implications for the Future of Environmental Trade Measures*, 15 CONN. J. INT'L L. 207, 210-11 (2000).

104. *Id.*

105. The very notion of a treaty is a voluntary undertaking not otherwise required by international law.

a consequence, the compromises that are generally necessary for an effective environmental treaty acceptable to large number of countries often result in a treaty with relatively modest goals, requirements, and obligations.[106] Thus, it is not surprising that most environmental treaties in force today have few true obligations and are instead filled with hortatory goals, vague and unenforceable standards, and no real enforcement mechanisms.[107] Furthermore, like customary international-law violations, clear treaty violations may even result in no—or very limited—sanctions for the violator, both because such treaties often lack meaningful penalty provisions[108] and because of the same reasons why customary international law is difficult to enforce generally.[109]

In sum, additional environmental treaties and customary international-environmental-law norms are probably a major part of the long-term solution to protecting the global commons. However, in the short term what is needed is an incentive that can legally have an effect on the environmental practices of businesses in nations with weak or unenforced environmental laws. A pollution tax of the form proposed in this Article is just such an incentive.

IV. THE TENSION BETWEEN TRADE LAW AND INTERNATIONAL ENVIRONMENTAL LAW

Given that the GATT developed out of the Bretton Woods Conference shortly after World War II[110] and that public and political concern over the environment has really been a phenomenon of the last forty years,[111] it is hardly surprising that free trade agreements historically have failed to address environmental issues.[112] When the

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106. Wirth, *supra* note 5, at 1390; *see* Fox, *supra* note 102, at 2505; Todd Sandler & Keith Sargent, *Management of Transnational Commons: Coordination, Publicness, and Treaty Formation*, 71 LAND ECON. 145 (1995). *See generally* Kelly, *supra* note 102.

107. *See* Kelly, *supra* note 102, at 483-85; Wirth, *supra* note 5, at 1391-94. However, several newer treaties have made significant strides toward containing greater enforcement mechanisms. *Cf.* Ronald A. Brand, *Sustaining the Development of International Trade and Environmental Law*, 21 VT. L. REV. 824, 839-40 (1997).

108. *See* Kelly, *supra* note 102, at 483-85; Wirth, *supra* note 5, at 1391.

109. However, if enforcement is based on a treaty as opposed to mere custom, it may be easier to discern when a violation has in fact occurred, since a treaty, by being written, has the potential to create more precisely defined obligations (although most environmental treaties do not do so at this time).

110. WESTIN, *supra* note 16, at 5-6; John H. Jackson, *The Uruguay Round and the Launch of the WTO: Significance & Challenges*, *in* THE WORLD TRADE ORGANIZATION: MULTILATERAL TRADE FRAMEWORK FOR THE 21ST CENTURY AND U.S. IMPLEMENTING LEGISLATION 5-7 (Terence P. Stewart ed., 1996) [hereinafter MULTILATERAL TRADE FRAMEWORK]; Amelia Porges, *The Marrakesh Agreement Establishing the World Trade Organization*, *in* MULTILATERAL TRADE FRAMEWORK, *supra*, at 65-67; Tiefenbrun, *supra* note 12, at 260-67; Winter, *supra* note 4, at 227; Wisthoff-Ito, *supra* note 20, at 249-50.

111. GRAD, *supra* note 7, § 1.01, at 1-3; *see also* Brotmann, *supra* note 5, at 332; Gray, *supra* note 1, at 83; Rodgers, *supra* note 7, at 1009-10.

112. For a comprehensive, if somewhat dated, discussion of the potential tensions between free trade law and environmental protection, see ESTY, *supra* note 16.

North American Free Trade Agreement (NAFTA)[113] and its environmental side agreement[114] were being negotiated, proponents of the treaty hailed the package as the most environmentally friendly trade agreement in history.[115] While this was arguably true,[116] NAFTA had virtually no competition for this honor since prior trade agreements had rarely even considered environmental issues in a meaningful way.[117]

However, since 1970, the industrialized nations have seen the proliferation of modern environmental laws within their territories[118] and the world has seen the development of numerous environmental treaties.[119] With this rise in laws protecting the environment has come the potential for conflict between a nation's obligations under free trade treaties, primarily GATT/WTO, and its domestic environmental laws or obligations under international environmental treaties.[120]

At the heart of this controversy is the attempt by free trade agreements to eliminate barriers to trade. There are essentially three types of trade barriers an imported product can face. First there are tariffs, taxes imposed on the product as a condition of importation.[121] Generally speaking, tariffs are the preferred form of barrier to trade since they are readily apparent to anyone trying to engage in trade, are easily quantified, and changes in them are comparatively easy to negotiate over time.[122] Not surprisingly, the GATT/WTO prefers tariffs to other forms of trade barriers, and as the GATT/WTO treaty has been modified over the last fifty years, there has been a regular attempt to convert other types of trade barriers into tariffs.[123] Additionally, GATT/WTO has been enormously successful in lowering tariff barriers during successive rounds of negotiation.[124]

The second type of barrier, import quotas, limits the total quantity of a particular product from a particular country. Thus, a ban on a particular product, from one or more countries, is essentially an import quota of zero.[125] Import quotas are probably

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113. North American Free Trade Agreement, *opened for signature* Dec. 8, 1992, U.S.-Can.-Mex., 32 I.L.M. 289 [hereinafter NAFTA].

114. North American Agreement on Environmental Cooperation, *opened for signature* Sept. 18, 1993, U.S.-Can.-Mex., 32 I.L.M. 1480.

115. Jenkins, *supra* note 93, at 144; Rueda, *supra* note 20, at 669-70.

116. Rueda, *supra* note 20, at 669-70.

117. *Id.* at 669-70; *see also* Patti A. Goldman, *Resolving the Trade and Environment Debate: In Search of a Neutral Forum and Neutral Principles*, 49 WASH. & LEE L. REV. 1279, 1289 (1992).

118. Gray, *supra* note 1, at 84.

119. *Id.* at 83; *see also* Winter, *supra* note 4, at 229-30.

120. *See* Winter, *supra* note 4, at 223-24. However, to date there has not been a GATT/WTO dispute concerning a multilateral environmental treaty. *Id.*

121. *See* Jackson, *supra* note 13, at 1232.

122. *Cf.* Tiefenbrun, *supra* note 12, at 263-64 (detailing GATT principles and tariff concession exchanges).

123. *See* Chalifour, *supra* note 13, at 584-85.

124. *See* Chalifour, *supra* note 13, at 584-85; Jackson, *supra* note 13, at 1232; Tiefenbrun, *supra* note 12, at 263-64.

125. Although tariffs and quotas exist primarily to protect domestic producers from foreign competition, bans may exist for other reasons, such as to boycott a particular nation for political reasons or to protect a country's citizens from certain types of products that the nation considers hazardous, such as drugs, pornography, etc.

the least preferred type of trade barrier, and GATT/WTO has been reasonably successful in persuading signatories to convert quotas to tariffs, which can then be lowered over time.[126]

The final type of trade barrier, product standards and specifications,[127] prohibits importation of products unless they meet certain standards. Examples include mandatory inspections or approvals for health and safety reasons (agricultural products and pharmaceuticals), design specifications (ten-mile-per-hour bumpers or emissions control devices on cars), and labeling requirements (nutritional information on food packaging). Many, if not most, such barriers are designed to accomplish a legitimate purpose unconnected to trade or protectionism and typically apply to domestic products as well. Most of these protections concern matters that a nation would be unwilling to relinquish control over in the name of freer trade, and not surprisingly, many are permissible under GATT/WTO provided they are applied equally to domestic and foreign producers.[128]

However, other nations and free trade agreements tend to view these barriers with suspicion.[129] After all, if a company has to modify its products substantially to comply with the standards of every nation or if it has to get inspections and approvals both in its own jurisdiction and in each jurisdiction to which it is exporting products, these requirements can create substantial delays, administrative difficulties, and expense. In other words, these barriers, even when based on legitimate purposes, can nonetheless be highly effective barriers to foreign competition, so there is a real concern that a country might set such standards, in the name of a valid reason, when in fact its real goal is to protect domestic industry.[130]

Therefore, free trade agreements such as GATT/WTO must walk a delicate balance between allowing legitimate standards and specifications that nations impose to protect their citizens and invalidating those restrictions that are promulgated in the name of a legitimate purpose while actually serving only to protect a nation's industry from competition.[131] This can be an enormously difficult task.[132] Due to this potential

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126. *See* Chalifour, *supra* note 13, at 584-85.

127. *See* Jackson, *supra* note 13, at 1232, 1235-39.

128. *See infra* Part V.B.

129. Matthew A. Cole, *Examining the Environmental Case Against Free Trade*, J. WORLD TRADE, Oct. 1999, at 183, 183; Goldman, *supra* note 117, at 1289; Jackson, *supra* note 13, at 1235.

130. Tiefenbrun, *supra* note 12, at 259.

131. *See* Robert E. Hudec, *GATT/WTO Constraints on National Regulation: Requiem for an "Aim and Effects" Test*, 32 INT'L LAW. 619, 629 (1998); Tiefenbrun, *supra* note 12, at 259.

132. For example, was a Canadian law taxing beverages in aluminum cans more than those in glass bottles a measure designed to promote conservation and to protect the environment (since glass is cheaper and easier to recycle and is more frequently recycled) or was it designed to make American products (which are more commonly distributed in cans than bottles) comparatively more expensive than Canadian products (which are more commonly distributed in bottles than cans)? *See* GATT Dispute Panel Report on Canada—Import, Distribution, and Sale of Alcoholic Drinks by Canadian Provincial Marketing Agencies, Feb. 18, 1992, GATT B.I.S.D. (39th Supp.) at 27, 38, 40, 64-66, 85, 89 (1991-92) [hereinafter *Canada Beer II*]; GATT Dispute Panel Report on Canada—Import, Distribution, and Sale of Certain Alcoholic Drinks by Provincial Marketing Agencies, Mar. 22, 1988, GATT B.I.S.D. (35th Supp.) at 37, 81-84 (1987-88) [hereinafter *Canada Beer I*].

for abuse, a high percentage of GATT/WTO disputes involve possibly disguised barriers to trade.[133]

Unfortunately, many domestic environmental laws and regulations potentially fall into this gray area of trade law. On their faces, the laws are designed to protect the health and welfare of a nation's citizens, as well as the environment generally, but complying with these laws often results in additional costs and expenses for a manufacturer, expenses a foreign company may not be in a position to undertake. Additionally, many developing nations harbor hostility toward the industrialized nations imposing high environmental standards on them,[134] primarily for three reasons.

First, the standard of living in many developing nations is such that their governments are more concerned with creating jobs and income for their citizens than with requiring aggressive environmental controls that may retard development due to their costs.[135] Second, environmental regulation is traditionally within a nation's sovereign jurisdiction.[136] Thus, an outsider's attempt to impose its standards on activities within another nation is often seen as an encroachment upon sovereign rights. Tied to the sovereignty issue is the fact that developing nations may feel that lax environmental standards provide them with one of the few competitive advantages they have in the demanding arena of international trade and investment, so they may see stricter standards imposed by developed nations as hurting competitiveness.[137]

Third, developing nations regard most of the current global pollution problems as essentially created by the industrialized nations as they were moving toward the prosperity they currently enjoy.[138] Yet these same industrialized nations seem unwilling to let the developing nations better themselves in the same way.[139] Furthermore, the industrialized nations seem to expect the developing nations to share the burden of improving the global environmental situation, even though they do not share the fault nor do they have the same level of resources available.[140] Thus, when one nation creates environmental regulations hindering another's ability to get its products into the stream of commerce in the regulating nation, the producing nation may bring a trade dispute, for the provisions of free trade agreements provide such a mechanism for determining whether the regulation is a valid provision or a disguised restriction on trade.

To date, most such environmental disputes brought before the GATT/WTO have

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133. *See* Jackson, *supra* note 13, at 1232.

134. *See* Sheila C. Lahey, *Trade and the Environment*, 16 N.Y.L. SCH. J. INT'L & COMP. L. 181, 182-83 (1996); Rueda, *supra* note 20, at 667-68; Tiefenbrun, *supra* note 12, at 259.

135. *See* Lahey, *supra* note 134, at 191-93; Tiefenbrun, *supra* note 12, at 259; Torres, *supra* note 52, at 160-62.

136. Dunoff, *supra* note 92, at 1423-26; Royal C. Gardner, *Taking the Principle of Just Compensation Abroad: Private Property Rights, National Sovereigny, and the Cost of Environmental Protection*, 65 U. CIN. L. REV. 539, 540 (1997); Lahey, *supra* note 134, at 182-83, 191-93; Rueda, *supra* note 20, at 667-68.

137. *See* Cole, *supra* note 129, at 184; Lahey, *supra* note 134, at 182, 191-93; Rueda, *supra* note 20, at 668; Tiefenbrun, *supra* note 12, at 259.

138. *See* Lahey, *supra* note 134, at 182, 191-93.

139. *See id.*

140. *See id.*; Torres, *supra* note 52, at 160-62.

been decided in favor of the complaining exporting nation; the environmental protection law or regulation has been held to violate the requirements of GATT/WTO.[141] In many ways this is not surprising. The people hearing the complaint are trade experts concerned with whether the terms of a trade agreement, which largely ignores environmental issues, have been violated.[142] The combination of an unfriendly jury applying an unfriendly set of rules has increasingly produced dissatisfaction with free trade in the environmental community.[143]

The controversy between free trade agreements and environmental law first became a major concern in the mid-1980s, when a GATT panel upheld a complaint by Mexico that the United States's Marine Mammal Protection Act,[144] which prohibited the importation of tuna caught by purse seine netting, violated the GATT.[145] This decision raised alarms in the environmental community by showing that domestic environmental law could be preempted due to U.S. free trade treaty obligations.[146] By the early 1990s, when the United States was negotiating with Mexico and Canada to create a North American free trade area, concerns over Mexico's environmental record and the NAFTA's potential to trump U.S. environmental law culminated in an environmental side accord as part of the NAFTA package.[147] Since that time, environmentalists have regularly condemned free trade agreements in general, and GATT/WTO in particular, for not adequately considering legitimate environmental objections.[148] This condemnation included rioting at the 1999 WTO ministerial meeting.[149]

For its part, GATT/WTO has tried to become more accommodating toward legitimate environmental concerns. The founding document of the WTO includes a call for optimal use of the world's resources in accordance with the principle of sustainable development.[150] At the end of 1994, the WTO established the Committee on Trade and the Environment to consider how best to integrate legitimate environmental concerns into the free trade framework of GATT/WTO.[151]

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141. *See* Winter, *supra* note 4, at 224 n.4; Wisthoff-Ito, *supra* note 20, at 274.

142. *See* WESTIN, *supra* note 16, at 10-12; Brotmann, *supra* note 5, at 332-33.

143. *See* WESTIN, *supra* note 16, at 10-12; Tiefenbrun, *supra* note 12, at 273-74; Winter, *supra* note 4, at 245.

144. Marine Mammal Protection Act (MMPA) of 1972, Pub. L. No. 95-522, 86 Stat. 1027 (codified as amended at 16 U.S.C. §§ 1361-1421h (1994 & Supp. IV 1998)).

145. *See Dolphin-Tuna II*, *supra* note 17; *Dolphin-Tuna I*, *supra* note 17; WESTIN, *supra* note 16, at 11, 81-84.

146. *See* WESTIN, *supra* note 16, at 11, 81-84.

147. *See generally* Rueda, *supra* note 20.

148. *See* WESTIN, *supra* note 16, at 10-11.

149. *See* Chalifour, *supra* note 13, at 576; Gantz, *supra* note 12, at 355-57; Tiefenbrun, *supra* note 12, at 273-74, 257-60; Winter *supra* note 4, at 245; *Pacts Should Address Environment to Boost Public Confidence, NWF Says*, 17 Int'l Trade Rep. (BNA) 55 (Jan. 13, 2000); Sam Howe Verhovek & Steven Greenhouse, *Seattle Is Under Curfew After Disruptions*, N.Y. TIMES, Dec. 1, 1999, at A1.

150. Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Apr. 15, 1994, LEGAL INSTRUMENTS—RESULTS OF THE URUGUAY ROUND vol. 1 (1994), 33 I.L.M. 1125 (1994) [hereinafter Final Act]; *see also* Hudnall, *supra* note 13, at 179-80.

151. Brotmann, *supra* note 5, at 333-34; Tiefenbrun, *supra* note 12, at 278; Winter, *supra*

Additionally, recent environmental disputes have shown increasing sensitivity to the legitimacy of environmental protection laws.[152] To date, however, the environmental working group has made no significant progress,[153] and environmental disputes before WTO dispute-resolution panels continue to be resolved in favor of freer trade at the expense of domestic environmental legislation.[154]

Finally, in addition to the potential preemption of domestic environmental laws by free trade agreements, there is the issue of the interaction of free trade agreements with environmental treaties. On a number of occasions, a GATT/WTO dispute-resolution panel has indicated a greater willingness to accept environmental protections that would normally constitute violations of GATT/WTO if they arise out of a multilateral treaty rather than out of unilateral action.[155] In spite of the tremendous growth in environmental treaties over the last thirty years, however, a GATT/WTO panel has never had to resolve a dispute involving an environmental protection derived from a multilateral environmental treaty.[156] In large part this is due to the vague standards and lack of enforcement mechanisms in most environmental treaties. Without concrete obligations and the power of parties to the treaty to enforce sanctions, most environmental treaties cannot be easily invoked as the reason for noncompliance under GATT/WTO.[157] Although this has led some commentators to call for more detailed and enforceable environmental treaties, it is unclear whether such treaties are likely in the near future.[158]

Furthermore, even if such treaties were adopted, it is not clear that they would constitute governing law in the event of a conflict with GATT/WTO. Under the Vienna Convention on the Law of Treaties, in the event of an unresolvable conflict between the governing provisions of several treaties, the one that is last in time governs.[159] Given that GATT/WTO has been modified a number of times through various "rounds" and that future rounds will occur periodically, an argument can be made that any environmental treaty that was concluded prior to the most recent round of GATT/WTO is not last in time.[160]

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note 4, at 239-40; Wisthoff-Ito, *supra* note 20, at 284.

152. *See, e.g.*, Winter, *supra* note 4, at 241-42.

153. Tiefenbrun, *supra* note 12, at 278; Winter, *supra* note 4, at 240; Wisthoff-Ito, *supra* note 20, at 284.

154. *See* Winter, *supra* note 4, at 224 n.4.

155. *Id.* at 234-35, 242.

156. *Id.* at 234-35; Chalifour, *supra* note 13, at 591-92.

157. For example, the United States was chastised in *Shrimp-Turtle* for acting unilaterally and for not engaging in extensive multilateral negotiations; ultimately, the United States lost the dispute. *Shrimp-Turtle*, *supra* note 17, ¶¶ 166-69, 188. However, protecting sea turtles, as an endangered species, was already an obligation for the United States under the Convention on International Trade in Endangered Species of Wild Fauna and Flora, *opened for signature* Mar. 3, 1973, 27 U.S.T. 1087, 993 U.N.T.S. 243 [hereinafter CITES], and several other treaties. Of course, these conventions did not specifically authorize a shrimp ban in order to protect turtles. *See* Brotmann, *supra* note 5, at 345-47; Rueda, *supra* note 20, at 662.

158. *See supra* Part III.

159. Vienna Convention on the Law of Treaties, May 23, 1969, art. 30(3), 1155 U.N.T.S. 331, 339 [hereinafter Vienna Convention].

160. *See* Chalifour, *supra* note 13, at 591-92; Hudnall, *supra* note 13, at 192; Winter, *supra* note 4, at 237-38.

Nevertheless, based on the rhetoric of GATT/WTO panels and the increasing pressure on the WTO to be more environmentally sensitive, there is strong reason to believe this technical argument would not prevail if a WTO panel were confronted with a dispute based upon an action taken pursuant to the terms of a sufficiently clear environmental treaty. Likewise, over time GATT/WTO will probably incorporate provisions making domestic environmental protections less likely to violate a nation's obligations under GATT/WTO.[161] However, no one knows how long such developments will be in coming, and until they arrive, the world remains confronted with serious environmental problems, a number of nations that are unwilling to take environmental protection seriously, and a trade-based dispute-resolution regime that can preempt domestic environmental laws.

V. A TAXING SOLUTION

A. A Domestic Approach with International Overtones

Given the limitations of current international environmental law, and the GATT/WTO complications affecting attempts to regulate the global commons, the question remains, What can be done by any single nation to protect the planet's environment? Of course, any further domestic environmental progress that is made, through whatever regulatory method, will have a collateral benefit for the global environment. However, with the bulk of the world's population and industry located outside the United States,[162] it seems unlikely that U.S. domestic progress alone will be enough to solve problems such as the greenhouse effect, the hole in the ozone, and acid rain. Far more promising is the notion of a pollution tax.

A tax on the amount of pollution that a company produces provides an ongoing incentive, as technology progresses, continually to improve the environmental quality of the production process.[163] Provided the expense of installing and utilizing the more environmentally friendly technology is less than the long-term cost of the tax, a company is financially better off using the technology.[164] If the tax rate is sufficiently high, older, less efficient technologies will be replaced continually by newer, cheaper, more efficient technologies.

Thus, taxing a factory on its output of pollution will surely help the environment,

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161. *See* Gantz, *supra* note 12, at 364.

162. *See* U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES: THE NATIONAL DATA BOOK 832-35 (119th ed. 1999); Int'l Monetary Fund, INT'L FIN. STAT., Mar. 2000, at 62-63.

163. *See supra* Part II.B.

164. One exception to this occurs if it appears likely that the cost of the technology will soon drop dramatically in price or that a cheaper or more efficient technology is eminent. This is because taxes must be paid annually but the cost of the technology is often largely a one-time capital cost. Thus, the first year that a technology is installed may actually be more expensive than the cost of the taxes for that year, but over a number of years, the savings from installing the environmentally friendly technology make taking such an action worthwhile. Thus, if it appears major developments may be forthcoming soon, a company must compare the cost of successively installing the two technologies against the cost of paying higher taxes short term and then installing the superior (or drastically reduced price) technology.

but how can the United States tax companies in other countries for their pollution? Although the United States could potentially reach the factories of U.S. companies abroad, as well as the foreign subsidiaries of U.S. companies,[165] taxing a foreign-owned and foreign-based corporation for activities wholly outside the United States violates basic jurisdictional concepts.[166] Furthermore, why would a foreign company pay such a tax? The United States clearly has little ability to pursue enforcement of such a claim in a foreign court. Even if the United States can reach the party it wishes to tax due to activities or assets in the United States, a producer facing such a tax that ships only limited quantities to the United States may forgo those sales entirely to avoid paying an exorbitant tax, thereby limiting options for U.S. consumers.

The answer to this dilemma derives from the fact that the United States is the world's single largest market,[167] and thus imports significant levels of goods from around the world. Since the United States imports a meaningful percentage of the production of virtually every country on earth,[168] most companies have a strong desire for continued access to this market. Thus, many of the world's manufacturers would be willing to pay a pollution tax as a condition of access to the U.S. market, provided that the tax is reasonable in amount and is equally burdensome to all manufacturers so that costs can effectively be passed along to U.S. consumers.

This tax will be levied upon every item sold or created in the United States based on the amount of pollution attributable to its production.[169] In other words, if one

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165. *See* Robert J. Fowler, *International Environmental Standards for Transnational Corporations*, 25 ENVTL. L. 1, 27-28 (1995); *cf.* 1 ROBERT C. CASAD & WILLIAM B. RICHMAN, JURISDICTION IN CIVIL ACTIONS §§ 4-1, 4-3[5], 4-6 (3rd ed. 1998); Mark Gibney & R. David Emerick, *The Extraterritorial Application of United States Law and the Protection of Human Rights: Holding Multinational Corporations to Domestic and International Standards*, 10 TEMP. INT'L & COMP. L.J. 123, 125, 127-32 (1996) (discussing the extraterritorial application of Title VII); Jennifer K. Rankin, *U.S. Laws in the Rainforest: Can a U.S. Court Find Liability for Extraterritorial Pollution Caused by a U.S. Corporation? An Analysis of* Aguinda v. Texaco, Inc., 18 B.C. INT'L & COMP. L. REV. 221, 223-26 (1995).

166. *See* Rankin, *supra* note 165, at 225-26. Additionally, this would appear to violate GATT/WTO. *See infra* Part V.B.

167. *See* Int'l Monetary Fund, *supra* note 162, at 62-63. As an individual country, the United States constitutes the largest market on earth. However, various trading blocks, particularly the European Union and the area covered by NAFTA (which includes the United States), constitute larger markets. *See id.* The proposal set forth would apply with even greater effectiveness if one or more of these trading blocks chose to adopt similar policies.

168. *See id.*; U.S. CENSUS BUREAU, *supra* note 162, at 805-08.

169. There are other forms of pollution taxes that could also be applied to all products sold in the United States, but these would not have the extraterritorial pollution-reduction benefits of a tax based on the level of emissions discharged in the manufacture of a product. For example, the government could tax all goods sold in the United States with the amount of the tax being either a set amount or a percentage of sales price. Such a tax, similar to the ubiquitous sales and value-added taxes that almost all nations have, would clearly be permissible under current international trade law. *See infra* Part V.B. However, a uniform tax eliminates a major benefit of pollution taxes, the incentive for polluters to use more environmentally safe technology. This incentive is generated by taxing the amount of pollution emitted, but a set tax or a tax based on sales price burdens all sellers equally regardless of the manufacturing process, and thus, provides no motivation to invest in cleaner production methods. In fact, the only way

takes the entire amount of a particular pollutant that a factory emits in a year and divides by the total number of items produced, the result is the amount of pollution discharged per item. The tax to be paid would then be the quantity of discharges attributable to that item multiplied by the applicable tax rate for that pollutant.[170] This creates a regime giving foreign companies that export any meaningful amount of product into the United States an incentive to install pollution-control devices, while not creating such a burdensome regime as to discourage them from exporting to the U.S. market, particularly since domestic companies face the tax as well. Admittedly, a foreign factory, which likely sells in multiple countries, will not face the same level of taxation as a factory that produces in the United States or one that sells almost exclusively in the United States. It will not have the same incentive to install expensive and technologically advanced equipment as factories facing higher taxes. However, it is generally agreed that pollution-control devices are exponentially expensive.[171] In other words eliminating the first fifty percent of the pollution from a factory is relatively inexpensive, whereas eliminating the last five to ten percent is often more expensive than eliminating the first ninety to ninety-five percent. Thus, significant benefits for the global environment can be obtained through a system that creates moderate financial incentives to install some, or more advanced, pollution-control devices in nations with minimal or nonexistent environmental regulation.

Of course, for U.S. companies, the government can legally establish virtually any taxing regime it desires,[172] so a pollution tax should present no legal difficulties domestically. However, as proposed, U.S. companies would overpay somewhat relative to foreign producers since they would have to pay not only on items sold domestically, but also on those produced domestically but sold abroad. This burden is offset by nearly forty years of U.S. environmental regulation that has resulted in the level of pollutant emissions for individual U.S. factories being lower than for many other nations. Thus, this disparity should not create a meaningful competitive advantage for foreign producers. Furthermore, since this disparity runs against domestic producers, it would not be objectionable under GATT/WTO,[173] but the

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this could even be considered a "pollution tax" is if the proceeds were dedicated to providing grants for companies to install pollution-control devices. For a discussion of the permissibility of such subsidies, both domestically and abroad under GATT/WTO, see *infra* Part V.F. Such a subsidy could provide significant improvements to the global environment, especially if the revenues were used to assist in the installation of pollution-control devices in countries with limited domestic environmental protection obligations. However, tax revenues from an emissions tax could also be utilized in this manner to obtain the same benefit.

170. Obviously, this regime would require pollution-emissions record keeping. For discussion of this matter, see *infra* Part V.D.

171. JAMES E. KRIER & EDMUND URSIN, POLLUTION AND POLICY: A CASE ESSAY ON CALIFORNIA AND FEDERAL EXPERIENCE WITH MOTOR VEHICLE AIR POLLUTION 1940-1975, at 25-26 (1977); Hanna, *supra* note 36, at 541.

172. For a discussion on limits on the federal government's power to tax, see Derek Devgun, *International Fiscal Wars for the Twenty-First Century: An Assessment of Tax-Based Trade Retaliation*, 27 LAW. & POL'Y. INT'L BUS. 353, 401-19 (1996).

173. GATT Dispute Panel Report on United States—Taxes on Petroleum and Certain Imported Substances, June 17, 1987, GATT B.I.S.D. (34th Supp.) at 161-63 (1986-87) [hereinafter *U.S. Superfund*].

concept could be modified so that all producers, even domestic ones, are taxed on only U.S. sales. A disadvantage to this approach is that it would not benefit U.S. air quality standards as much, and so, overall, it appears desirable to include all U.S. production in such a tax regime.[174]

B. Are Pollution Taxes GATT/WTO Compliant?

The primary purpose of GATT/WTO has been to eliminate nontariff barriers to free trade and progressively to decrease tariff barriers through a series of successive rounds of negotiation.[175] Exporters from developing nations, who generally do not meet the environmental standards of more developed nations, tend to regard those standards as nontariff barriers to trade, and thus, lodge complaints with GATT/WTO.[176] The task of dispute-resolution panels under GATT/WTO is to determine whether these environmental protection provisions are really designed to protect domestic production from foreign competition, as the complaining party asserts, or whether they are really pursuing legitimate domestic-policy goals, as the defending nation maintains. Needless to say, in making this determination, the panel uses the provisions of GATT/WTO, which tend to view all impediments to trade suspiciously.

There are four principle articles in GATT/WTO that create obligations that may present problems for a domestic environmental regulation:[177] article I, which requires parties to GATT/WTO to treat products from all other GATT/WTO nations the same;[178] article II, which prohibits any external taxation on foreign goods in excess of the rates established in the annexes to GATT/WTO;[179] article III, which requires parties to GATT/WTO to treat imports no less favorably than domestically produced goods when applying domestic taxes and regulations;[180] and article XI, which limits the use of quantitative restrictions, such as quotas, and other nontariff barriers.[181]

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174. Additionally, since U.S. industry has already had to comply with numerous environmental regulations that will likely lower their per product tax liability compared with businesses from other nations, not taxing U.S. companies on all of their production increases the likelihood that the tax would violate GATT/WTO as a disguised restriction on trade. *See supra* Part IV.

175. *See supra* Part IV. *See generally* Tiefenbrun, *supra* note 12, at 262-71 (briefly outlining the history and development of GATT and the WTO).

176. *See supra* Part IV.

177. Hudnall, *supra* note 13, at 183.

178. GATT 1947, *supra* note 18, art. I. This provision is commonly known as the "Most Favored Nation" requirement. Hudnall, *supra* note 13, at 183.

179. GATT 1947, *supra* note 18, art. II. In effect, it establishes maximum tariff rates. *Id.*

180. GATT 1947, *supra* note 18, art. III. This provision is commonly known as the "National Treatment" requirement. *See* Thomas J. Schoenbaum, *International Trade and Protection of the Environment: The Continuing Search for Reconciliation*, 91 AM. J. INT'L L. 268, 271 (1997).

181. Additionally, article XIII requires "non-discriminatory administration" of any "quantitative restrictions" permitted by article XI. GATT 1947, *supra* note 18, art. XIII. Furthermore, within the GATT framework, there is an Agreement on the Application of Sanitary and Phytosanitary Measures (measures designed to protect human, animal, or plant life or health) that could have an impact on the conformity of an environmental statute with the

However, even if one or more of these articles is violated by a domestic law, it will, nonetheless, be permitted under GATT/WTO if it fits within one of the general exceptions to GATT/WTO compliance enumerated in article XX.[182]

The task that remains is to consider these provisions in detail to determine whether any of the basic articles pose an insuperable barrier to the proposed pollution tax, and if so, whether article XX provides a valid exception.[183]

1. Article I—the Most-Favored-Nation Principle

Article I of GATT/WTO provides in pertinent part:

> With respect to customs duties and charges of any kind imposed on or in connection with importation or exportation or imposed on the international transfer of payments for imports or exports, and with respect to the method of levying such duties and charges, and with respect to all rules and formalities in connection with importation and exportation, and with respect to all matters referred to in paragraphs [2] and [4] of Article III, any advantage, favour, privilege or immunity granted by any contracting party to any product originating

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requirements of GATT. Agreement on the Application of Sanitary and Phytosanitary Measures, Apr. 14, 1994, WTO Agreement, Annex IA, LEGAL INSTRUMENTS—RESULTS OF THE URUGUAY ROUND vol. 1 (1994). However, this agreement does not appear to be any way implicated by an environmental tax regime, and thus, has been excluded from the scope of this Article.

182. GATT 1947, *supra* note 18, art. XX. Other exceptions exist, including article XIX, GATT 1947, *supra* note 18, art. XIX (concerning emergency action to protect domestic producers from serious injury), and article XXI, GATT 1947, *supra* note 18, art. XXI (concerning national security exemptions). However, these exemptions do not appear to be any way implicated by a broad-based emissions tax regime, and thus, have been excluded from the scope of this Article. Notwithstanding the foregoing, GATT/WTO has consistently shown considerable deference to a nation invoking an article XXI exception, respecting the nation itself as the final arbiter of what constitutes a threat to national security. *See* WESTIN, *supra* note 16, at 181-84, 200-01. Given this deference, a credible argument could be made for pollution taxes on particularly dangerous pollutants, possibly even greenhouse and ozone depleting gases. However, to apply the national security exception to all pollutants generally would seem to strain the article XXI exception past the breaking point. For an argument concerning the use of the article XXI exception for pollution taxes, see *id.* at 181-84, 198, 209-210.

183. This Article will now consider the permissibility of the pollution tax under each of these articles, as well as under the relevant prior decisions of GATT/WTO dispute-resolution bodies, which, while not binding on future panels, may shed significant light on how future panels may respond. No GATT/WTO panel has ever considered a situation such as the pollution tax proposed above, so there is no way of knowing definitively how a WTO panel will react to a per-unit-of-production-based pollution tax. To date virtually all of the domestic environmental laws that have been questioned under GATT/WTO have involved importation bans on certain products, so there has been analysis of both article XI and of whether the exceptions in article XX were met for domestic laws that violate article XI. *See, e.g., Shrimp-Turtle, supra* note 17; *Reformulated Gasoline, supra* note 17; *Dolphin-Tuna II, supra* note 17; *Dolphin-Tuna I, supra* note 17. Similarly, there have been disputes concerning whether a tax regime provides national treatment under article III, *see, e.g., Canada Beer II, supra* note 132; *Canada Beer I, supra* note 132; *U.S. Superfund, supra* note 173, but little in the way of analysis of an environmental tax that has implications for the production process.

> in or destined for any other country shall be accorded immediately and unconditionally to the like product originating in or destined for the territories of all other contracting parties.[184]

Thus, the most-favored-nation principle of article I prohibits a party from discriminating among "like products" based on their national origin.[185] In essence, it requires each member of GATT/WTO to provide unconditionally all advantages it grants to products from any country to any like product from all other members.[186] This obligation applies not only to rules and customs associated with imports and exports, but also to any internal taxes, charges, laws, and domestic regulations of a product's distribution, sale, and use.[187]

Clearly, the crux of article I is the phrase "like product." First, GATT/WTO panels use the ordinary sense of "like," meaning the same or similar, when determining whether a product is a "like product" for GATT/WTO purposes.[188] However, items need not be identical to be "like."[189] Rather the concept of "like product" can apply if two products share similar features, such as physical characteristics, end use, or a common tariff classification.[190] Additionally, the idea of "like product" is to be applied objectively to the products in question, based on their characteristics, not subjectively by taking into account the purpose behind the regulatory measure in

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184. GATT 1947, *supra* note 18, art. I(1).

185. *Id.*; Chris Wold, *Multilateral Environmental Agreements and the GATT: Conflict and Resolution?*, 26 ENVTL. L. 841, 848 (1996).

186. GATT 1947, *supra* note 18, art. I(1). It should come as no surprise to anyone familiar with the special treatment provided to members of free trade areas that there are a variety of significant standing exceptions to article I(1). A number of these exceptions are set forth in the remainder of article I and in article XXIV, concerning customs unions and free trade areas. GATT 1947, *supra* note 18, arts. I(2), XXIV.

187. *See* Wold, *supra* note 185, at 848.

188. GATT Dispute Panel Report on United States—Taxes on Automobiles, DS31/R (Sept. 29, 1994), 1994 GATTPD LEXIS 8 [hereinafter *Taxes on Autos I*].

189. This makes sense considering few products are truly identical. A Jeep Grand Cherokee is similar to, but certainly not identical to, a Nissan Pathfinder.

190. *Taxes on Autos I*, *supra* note 188. In fact, the panel in WTO Appellate Body Report on Japan—Taxes on Alcoholic Beverages, WT/DS8/AB/R, WT/DS10/AB/R, WT/DS11/AB/R (Oct. 4, 1996), http:www.wto.org/ddf/ep/A3/A3951e.wpf [hereinafter *Taxes on Alcohol II*], noted that the definition of a "like product" can change depending on which article of GATT is being evaluated:

> [T]here can be no one precise and absolute definition of what is "like." The concept of "likeness" is a relative one that evokes the image of an accordion. The accordion of "likeness" stretches and squeezes in different places as different provisions of the WTO Agreement are applied. The width of the accordion in any one of those places must be determined by the particular provision in which the term "like" is encountered as well as by the context and the circumstances that prevail in any given case to which that provision may apply.

Id. at 21-22.

Thus in interpreting article III(2), a provision where likeness is narrowly construed, it was possible to find that Sochu and Vodka are alike but automobiles that cost more than $30,000 are not like automobiles costing less than $30,000. *See id.* at 37; *Taxes on Autos I*, *supra* note 188.

question.[191]

It is hard to imagine how the proposed pollution tax might implicate any of these elements. If all products are subjected to the same rate of tax based on the quantity of pollutants attributable to them, similarity of items is not even an issue. An analogy is a one percent sales tax on imports levied at the border to build domestic highways: although such a tax may violate other provisions of GATT/WTO,[192] there is no danger of like products being treated in a disparate manner.

In point of fact, such a border tax, or the pollution tax, could be set at different rates for different types of products without violating the concept of "like treatment" of "like products" on the criteria discussed so far. The rate of tax on sulfur dioxide emissions, for example, could be set at one rate per metric ton in car production and at a different rate in glass bottle production without treating like products differently, just as the highway border tax could be set at one percent of sales price for oranges and one half of a percent for cars. In fact, such differentiation might be highly useful in making sure proper incentives are maintained for various industries to use the relevant available pollution-control devices without driving certain industries out of business.[193]

Most importantly for purposes of the proposed pollution tax, the concept of "like product" also refers to the product itself and not to its method of production.[194] Thus if there is no tax or duty on car imports from one member country, there cannot be a tax or duty on the cars from another member, even though different production processes were employed in the manufacture of the two.

What is somewhat less clear, however, is whether the actual amount of tax can vary based on differences in the production process so long as the rate of tax is based on the same criteria for like products. Clearly, like products do not have to be taxed exactly the same—a $20,000 car can be taxed less than, but at the same rate as, a $22,000 car. The cars are being treated as like products in the percentage rate of tax applied, but not in the total amount of tax to be paid. However, in some sense the difference in treatment is based on a way in which the cars, as products, differ on their price; not on a difference in the way in which they were manufactured. This ambiguity need not be definitively resolved at this time since the pollution tax would also be applied to domestic production, not just to "like" foreign goods, so the terms of article III, concerning domestic taxes should govern most potential disputes.[195]

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191. *Taxes on Alcohol II*, *supra* note 190, at 6, 21-23.

192. In fact such a border tax would violate article II as a tax in excess of the stated maximum tariffs that is not also applied to like domestic goods. *See infra* Part V.B.2.

193. As is discussed in more detail in Part II.B, reducing emissions of a particular pollutant may be much more costly for one industry than for another, and of course, different industries have varying abilities to absorb or pass on the costs of such a tax (or pollution-control technologies) to consumers. In other words, a tax set high enough to create an incentive for all industries to install better pollution-control devices might be so high on certain industries (even after using available pollution-control technologies, given the amount consumers are willing to pay for this product and the costs such taxes and technology add to the product) that such industries' products will not be purchased by consumers.

194. *See* Ilona Cheyne, *Environmental Unilateralism and the WTO/GATT System*, 24 GA. J. INT'L & COMP. L. 433, 437-38 (1995) (discussing *Dolphin-Tuna I*).

195. Furthermore, since a similar rule exists under article III, GATT 1947, *supra* note 18,

2. Articles II and III—Internal and External Taxes and National Treatment

As a general matter, GATT/WTO has a strong preference for taxes over other forms of trade barriers.[196] It was the goal of the GATT from its inception to eliminate nontariff trade barriers or at least to convert them into tariffs.[197] Based on this history and the outcomes of several major environmental trade disputes,[198] some commentators have concluded that a similar statement can be made about the GATT/WTO Secretariat's attitude toward attempts to improve the environment: the Secretariat favors the use of "carrots," economic incentives such as taxes and pollution trading regimes, to the "sticks" of command-and-control regulation.[199] However, the question remains just what type of taxes will be permissible under GATT/WTO.

GATT/WTO distinguishes between two types of taxation, external and internal. External taxes, like customs, duties and other import charges, are governed by article II(1), (2)[200] which provide in relevant part:

> 1. (a) Each contracting party shall accord to the commerce of the other contracting parties treatment no less favourable than that provided for in the appropriate Part of the appropriate Schedule annexed to this Agreement.
>
> (b) The products described in Part I of the Schedule relating to any contracting party, which are the products of territories of other contracting parties, shall, on their importation into the territory to which the Schedule relates, and subject to the terms, conditions or qualifications set forth in that Schedule, be exempt from ordinary customs duties in excess of those set forth and provided for therein. Such products shall also be exempt from all other duties or charges of any kind imposed on or in connection with importation in excess of those imposed on the date of this Agreement or those directly and mandatorily required to be imposed thereafter by legislation in force in the importing territory on that date.
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> (c) . . . . [Subparagraph (c) mimics subparagraph (b) for products in Part II, with conforming changes since these products are entitled to preferential treatment, and adds a stipulation that contracting parties may maintain eligibility requirements for such preferential rates of duty.]

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art. III, *as amended by* Protocol Modifying Part II and Article XXVI of the General Agreement on Tariffs and Trade, Sept. 14, 1948, 62 U.N.T.S. 80, 82 (requiring like foreign products to be treated no less favorably than their domestic counterparts), the analysis of whether a difference in tax based on production processes is permitted under article III should also provide significant insight into the issue of whether such a difference is acceptable under article I.

196. Taxes are more transparent than nonquantitative restrictions, and once various forms of nonquantitative restrictions have been eliminated or converted into quantitative restrictions (taxes, duties, and charges), subsequent trade liberalization becomes easier through successive negotiations to lower the quantitative barriers. *See supra* Part IV.

197. *See supra* Part IV.

198. *See infra* Part V.B.3 (discussing *Dolphin-Tuna I* and *Dolphin-Tuna II*).

199. Howard F. Chang, *Carrots, Sticks and International Externalities*, 17 INT'L REV. L. & ECON. 309, 309-10 (1997); *see also* Thomas J. Schoenbaum, *International Trade and Protection of the Environment: The Continuing Search for Reconciliation*, 91 AM. J. INT'L L. 268, 305 & n.276 (1997).

200. Schoenbaum, *supra* note 199, at 306.

> 2. Nothing in this Article shall prevent any contracting party from imposing at any time on the importation of any product
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> (a) a charge equivalent to an internal tax imposed consistently with the provisions of paragraph [2] of Article III in respect of the like domestic product or in respect of an article from which the imported product has been manufactured or produced in whole or in part . . . .[201]

Thus, article II primarily serves to establish the maximum rates of duty that can be charged in connection with the importation of a product into the country.[202] However, paragraph 2 explicitly excludes any charge that is the equivalent of an internal tax, provided the charge is applied in a manner consistent with article III. This is true even if the tax is collected at the border at the time of importation.[203] As a result, a pollution tax only on foreign goods would be impermissible as an import charge to the degree the tax would cause the total of all importation fees to exceed the maximum permitted by the appropriate schedule to GATT/WTO, but would be permissible, as an internal tax, if the same charge were applied to domestic goods as well. Since virtually all nations already apply the maximum tariff permitted by GATT/WTO on practically all products,[204] the only way a pollution tax collected at the border could be GATT/WTO compliant is if it is an internal tax permitted under article III. In other words, the key issue as to the acceptability of a pollution tax turns not on article II, but on article III.

Article III permits internal taxes—taxes imposed on domestic products—to be imposed on imported products in a nondiscriminatory manner. It provides in pertinent part:

> 1. The contracting parties recognize that internal taxes and other internal charges, and laws, regulations and requirements affecting the internal sale, offering for sale, purchase, transportation, distribution or use of products, and internal quantitative regulations requiring the mixture, processing or use of products in specified amounts or proportions, should not be applied to imported or domestic products so as to afford protection to domestic production.
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> 2. The products of the territory of any contracting party imported into the territory of any other contracting party shall not be subject, directly or indirectly,

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201. GATT 1947, *supra* note 18, art. II(1), (2).

202. Note how article II prohibits (or limits) the border tax, *see supra* Part V.B.1, provided that the other tariffs and duties imposed by such a nation are at (or near) the maximum permitted by the appropriate schedule to GATT/WTO.

203. "Any internal tax . . . which applies to an imported product and to the like domestic product and is collected or enforced in the case of the imported product at the time or point of importation, is nevertheless to be regarded as an internal tax . . . ." GATT 1947, *supra* note 18, Annex I, ad art. III, *as amended by* Protocol Modifying Part II and Article XXVI of the General Agreement on Tariffs and Trade, Sept. 14, 1948, 62 U.N.T.S. 80, 104.

204. This should not be surprising given the multiple rounds of tariff reductions that have occurred to the GATT schedules since its inception in 1947. With this history of past rounds, together with the prospect of future rounds, only the most foolhardy of nations would unilaterally lower its tariffs below the maximum permitted. Such lowering would not only expose domestic producers to additional competition, but also undermine the nation's bargaining position at a future tariff reduction negotiation (since it would be hard to argue for much of a concession from other nations for lowering a maximum tariff rate that is not being enforced to its highest level).

> to internal taxes or other internal charges of any kind in excess of those applied, directly or indirectly, to like domestic products. Moreover, no contracting party shall otherwise apply internal taxes or other internal charges to imported or domestic products in a manner contrary to the principles set forth in paragraph 1.
> 3. ....
> 4. The products of the territory of any contracting party imported into the territory of any other contracting party shall be accorded treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use....[205]

Three obligations clearly arise from the plain text of article III. First, paragraph 1 prohibits both quantitative and nonquantitative restrictions from being used to afford protection from foreign competition. This is an overarching obligation running through various articles concerning taxes and those concerning nontariff barriers that could be used to invalidate an otherwise valid charge or nontariff barrier if it could be shown that this action had been taken for the purpose of protecting domestic production.[206] Although this does not occur often, it might be shown where the legislative history of a domestic law shows it was enacted to protect domestic industry.

Of course, this would not apply to the proposed tax unless Congress in adopting it offered some commentary indicating it did so to protect domestic manufacturers from foreign competition. Although this might seem to be a stretch for a tax based on the amount of pollution attributable to the production of a product, it must be remembered that all U.S. companies have been subjected to stringent environmental controls for nearly forty years,[207] and so, foreign producers may, in fact, face potentially higher tax burdens than their domestic competitors that have already installed various pollution-control devices, a fact that would not escape the attention of Congress.

However, even if the legislature does not show any intent to discriminate on the record, a facially neutral law that has the effect of providing protection to domestic production will still run afoul of paragraph 1.[208] On the one hand, given the

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205. GATT 1947, *supra* note 18, art. III, *as amended by* Protocol Modifying Part II and Article XXVI of the General Agreement on Tariffs and Trade, Sept. 14, 1948, 62 U.N.T.S. 80, 82.

206. Of course, this rule does not apply to actions taken to protect domestic production that are specifically authorized, such as in article XIX. GATT 1947, *supra* note 18, art. XIX (concerning emergency action to protect domestic production from serious injury).

207. *See supra* Part II.A.

208. This is made explicit by the last sentence of article III(2), which makes clear (by tying the permissibility of internal taxes to the prohibition against actions that have the consequence of protecting domestic production in paragraph 1) that domestic taxes on imports, even if equally applied to domestic products, are impermissible if the effect of such laws is to protect domestic production. GATT 1947, *supra* note 18, art. III(1), (2), *as amended by* Protocol Modifying Part II and Article XXVI of the General Agreement on Tariffs and Trade, Sept. 14, 1948, 62 U.N.T.S. 80, 82. For example, a Canadian law that on its face seemed to apply neutrally, by taxing both foreign and domestic beer cans at a rate higher than beer bottles, was found to protect domestic production once it became clear that Canadian manufacturers overwhelmingly produce beer in bottles, whereas U.S. manufacturers, exporting the largest

potentially lower tax burden for domestic manufacturers, due to pollution-control devices that have already been installed to comply with current environmental regulations, the tax could potentially violate article III. On the other hand, given the exponential costs of pollution controls[209] and the fact that domestic producers will be taxed on all their emissions whereas foreign producers will be taxed only on products sold in the United States, domestic producers may not receive a competitive advantage. Thus, before enacting the proposed tax, Congress should study whether the tax would in fact protect domestic production, which would violate GATT/WTO. If the tax would protect domestic manufacturers,[210] a different, lower rate of tax could be applied to foreign producers temporarily, since the other obligations of article III merely require that internal taxes on foreign goods not exceed those on domestic goods.[211]

The second obligation is that a party to GATT/WTO cannot charge internal taxes in excess of those it charges on like domestic products.[212] This clarifies, by implication, that nations may subject imports to the full range of taxes, charges, and fees to which domestic items are subject. This obligation in many ways folds neatly into the third one: that foreign products be treated no less favorably than like domestic ones.[213] Foreign products are entitled to "national treatment," the same

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quantity of beer into Canada, produce a majority of their beers in cans. *See Canada Beer II*, *supra* note 132; *Canada Beer I*, *supra* note 132. A similar analysis applied to a EU dispute where France imposed different tax rates for cars with engines with less than 16CV than for cars with engines larger than 16CV. While appearing to be an internal tax applied equally to like domestic and foreign products, it was held to be, in effect, a law protecting domestic production since virtually all French car manufacturing was of cars with horsepower low enough to qualify for the lower tax rate. Case 112/84, Humblot v. Directeur des Services Fiscaux, 1985 E.C.R. 1367. For a discussion of the need for internal taxes to treat like products comparably, see *infra* notes 212-30 and accompanying text.

209. *See* KRIER & URSIN, *supra* note 171, at 25-26; Hanna, *supra* note 36, at 541.

210. This protection would exist only during a transition period when foreign companies are adding new basic pollution-control devices, an expense domestic producers do not share.

211. Unfortunately, given the requirement of most-favored-nation treatment from article I for like products, a different tax rate could not be applied to nations that have a history of strong environmental regulation (which would not need the lower tax rate since their manufacturers would presumably not be at a competitive disadvantage with U.S. manufacturers) than the one applied to nations with a history of lax or nonexistent environmental regulation without violating article I. *See* Robert F. Housman & Durwood J. Zaelke, *Trade, Environment, and Sustainable Development: A Primer*, 15 HASTINGS INT'L & COMP. L. REV. 535 (1992); Stefan R. Miller, Comment, *NAFTA: A Model for Reconciling the Conflict Between Free Trade and International Environmental Protection*, 56 U. PITT. L. REV. 483, 492 (1994). However, a different rate could be used between various nations if the tax meets the requirements of an article XX exemption, since the exemptions are for violations of other articles, such as I, III or XI. *See* GATT 1947, supra note 18, art. XX; *infra* Part V.B.4.

212. GATT 1947, *supra* note 18, art. III(2), *as amended by* Protocol Modifying Part II and Article XXVI of the General Agreement on Tariffs and Trade, Sept. 14, 1948, 62 U.N.T.S. 80, 82.

213. GATT 1947, *supra* note 18, art. III(4), *as amended by* Protocol Modifying Part II and Article XXVI of the General Agreement on Tariffs and Trade, Sept. 14, 1948, 62 U.N.T.S. 80, 82.

treatment applied to like domestic products.[214] Thus, the obligation not to tax the foreign product more than the domestic one is expanded to include the right not to be subjected to different or additional legal requirements of other sorts, such as inspections, labeling, permitting procedures and requirements. Prima facie, the pollution tax seems to comply with article III. Prior GATT/WTO decisions have made clear that the GATT/WTO does not distinguish between taxes with different policy purposes, provided the purpose is not to protect domestic production from foreign competition.[215] As the GATT panel stated in *U.S. Superfund*:

> [T]he tax adjustment rules of the General Agreement distinguish between taxes on products and taxes not directly levied on products; they do not distinguish between taxes with different policy purposes. Whether a sales tax is levied on a product for general revenue purposes or to encourage the rational use of environmental resources, is therefore not relevant for the determination of the eligibility of a tax for border tax adjustment.[216]

Thus, the fact that the purpose of the tax is for pollution control is irrelevant to an article III analysis.[217]

Once again, the key issue is what constitutes a like product. A per-unit-of-production pollution tax looks not only to the finished product but also to the production process used to make it by taxing based on the pollution generated in connection with production.[218] Thus, as has been noted, all products are treated as like

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214. *See id.*

215. *See, e.g., U.S. Superfund, supra* note 173; *see also* Schoenbaum, *supra* note 199, at 308.

216. *U.S. Superfund, supra* note 173, at 161. For a comparison of direct and indirect taxation and for a discussion of the border-tax-adjustment mechanism, see *infra* text accompanying notes 220-26.

217. Thus, the types of pollution taxes described in note 169 are clearly permissible under GATT/WTO. A tax that is a set amount or that is based on a fixed percentage of sales price that is applied equally to all products, both foreign and domestic, complies with both paragraphs 2 and 3, for all products are treated alike. *See* GATT 1947, *supra* note 18, art. III(2), (3), *as amended by* Protocol Modifying Part II and Article XXVI of the General Agreement on Tariffs and Trade, Sept. 14, 1948, 62 U.N.T.S. 80, 82. Foreign products are not being subjected to higher taxes or other legal requirements not imposed on domestic products. In fact, different percentage tax rates or set amounts of tax could be used for different categories of products so long as like products are treated the same (so there could be a different rate for automobiles than for lumber, for example). The fact that the revenues from such taxes are used for pollution control or remediation activities would not affect the validity of the tax.

218. With regard to pollution taxes based on sales prices or a fixed amount of tax, there is ample history under GATT/WTO and sufficient government experience to make the classification of products relatively easy so long as it is based on their finished characteristics and so long as categories are not too finely differentiated. Of course, any classification scheme can have controversies at the margins, and there are easy examples of times when products should be treated as like products where treating them differently would clearly be erroneous. However, drawing the line between what is a like product and what is not, based solely on the finished product and its characteristics, is something governments do all the time and thus presents no meaningful conceptual difficulties for such a pollution tax regime that are not encountered by luxury-tax systems, differing inspection, permitting and safety-standard

products in the sense that they are subject to the same rate of tax. However, products that in every way appear identical could be subject to a different rate of tax based on the production method used, and are, therefore, in some sense not being treated as like products. The question is whether a higher total tax on a foreign product that is substantially the same as a domestic product other than the fact that it was manufactured using a process that discharges more pollutants violates the article III requirement that foreign products cannot be taxed at a higher rate than a like domestic product.

The answer to this question derives from the fact that such an environmental tax is an internal tax, a tax applied to domestic products too, that is subject to article III. This tax will be collected not at the point of sale but rather at the point of entry, at the border, to equalize the taxes paid by similar domestic products at their point of production.[219] In other words, the tax is controlled by GATT/WTO's border-tax-adjustment rules ("BTA"). BTA is a mechanism that allows imported products to be charged the same amount of internal taxes as similar domestic products. Since its inception, GATT/WTO has distinguished between two types of taxes—direct taxes and indirect taxes.[220] Indirect taxes are those imposed on products themselves such as sales, excise, value added, franchise, transfer, stamp, inventory, and equipment taxes and other taxes that are not direct taxes.[221] Direct taxes are taxes on wages, interest, rents, royalties, and all other forms of income, and taxes on the ownership of real property.[222] Only indirect taxes are eligible for BTA under GATT/WTO.[223] Is a per-unit-based-production pollution tax a direct or an indirect tax?

The GATT Working Party on Border Tax Adjustments made clear that direct taxes such as social security and payroll taxes were not subject to BTA.[224] Most direct taxes are taxes on incomes related to the product,[225] whereas a pollution tax has nothing to

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requirements, and many other governmental regulations that subject various products to one or more special types of treatment compared with other products.

219. Even though this tax is collected at the border, it is still considered an internal tax, for as note *ad* article III makes clear: "Any internal tax . . . which applies to an imported product and to the like domestic product and is collected or enforced in the case of the imported product at the time or point of importation, is nevertheless to be regarded as an internal tax . . . ." GATT 1947, *supra* note 18, Annex I, ad art. III, *as amended by* Protocol Modifying Part II and Article XXVI of the General Agreement on Tariffs and Trade, Sept. 14, 1948, 62 U.N.T.S. 80, 104.

220. Schoenbaum, *supra* note 199, at 306.

221. Paul Demaret & Raoul Stewardson, *Border Tax Adjustments Under GATT and EC Law and General Implications for Environmental Taxes*, J. WORLD TRADE, Aug. 1994, at 5 (citing note annexed to the 1979 Subsidies Code), *reprinted in* WESTIN, *supra* note 16, at 65, 73; Schoenbaum, *supra* note 199, at 307.

222. Demaret & Stewardson, *supra* note 221, at 5 (citing note annexed to the 1979 Subsidies Code), *reprinted in* WESTIN, *supra* note 16, at 65, 73; Schoenbaum, *supra* note 199, at 307.

223. Demaret & Stewardson, *supra* note 221, at 5 (citing note annexed to the 1979 Subsidies Code), *reprinted in* WESTIN, *supra* note 16, at 65, 73; Schoenbaum, *supra* note 199, at 307 (citing GATT Working Party on Border Tax Adjustments, Dec. 2, 1970, GATT B.I.S.D. (18th Supp.) at 97, 100-01, ¶ 14 (1972)).

224. Schoenbaum, *supra* note 199, at 307 (citing GATT Working Party on Border Tax Adjustments, Dec. 2, 1970, GATT B.I.S.D. (18th Supp.) at 97, 100-01, ¶ 14 (1972)).

225. In other words, various people earned money in connection with the product and that

do with income. Similarly, it is unclear how a pollution tax is a tax related to the ownership of property, as is a tax on the land where the factory is located. Thus on a narrow reading of the descriptions of direct taxes made by the WTO and its predecessors, it is not entirely clear whether a pollution tax would be a direct tax. However, it looks to the production process, just as a property tax or an income tax does, and is in this sense "direct." This was enough to convince at least one commentator that a pollution emissions tax is a direct tax that would be an impermissible differentiation of otherwise like products under GATT/WTO article III.[226]

However, unlike taxes on property ownership and income, a tax on the pollution emitted in connection with the production of a product can be seen as a tax on the consumption of a resource that went in to the finished product.[227] In the *U.S. Superfund* case, the GATT panel indicated that a tax on an input into a product that is incorporated into the finished product itself (in other words, a tax on raw materials or feedstocks that are used to make a product) could be subject to BTA and could comply with article III.[228] Given that a WTO panel decision has held clean air to be an exhaustible resource,[229] it is at least conceivable that a tax based on the amount of pollution created during production, as a measure of the consumption of clean air, water, or land as a resource, could be subject to the BTA if it is considered to be a raw material consumed during production. However, in the situation of taxing feedstocks, there is a physical item being incorporated into the finished product, even if the item is completely consumed. With a pollution tax, it is far harder to claim a physical input is being taxed. Thus, there is some hope that an emissions tax might not violate article III by treating like products differently, but it seems unlikely to succeed.[230]

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income is what the tax is being levied upon.

226. Schoenbaum, *supra* note 199, at 307 (citing GATT Working Party on Border Tax Adjustments, Dec. 2, 1970, GATT B.I.S.D. (18th Supp.) at 97, 100-01, ¶ 14 (1972)); *see also infra* Part V.B.4 (regarding the GATT panel position that tuna produced using dolphin-safe and dolphin-endangering methods of harvesting were like products for purposes of application of internal regulations under article III(4), since the production process was the only difference between the two, not the finished product).

227. Clean air, water, or land were consumed or destroyed by the production process.

228. *U.S. Superfund*, *supra* note 173, at 163-64 (finding that a BTA on chemical feedstocks used in the production process was acceptable even though the tax was based on the amount of the chemicals used rather than based on the finished product itself); *see also* WESTIN, *supra* note 16, at 66, 80, 100-01.

229. *Reformulated Gasoline*, *supra* note 17, at 612 (summarizing WTO Dispute Panel Report on United States—Standards for Reformulated and Conventional Gasoline, WT/SD2/R (Jan. 29, 1996), 35 I.L.M. 274, 299 (1996)).

230. Schoenbaum, *supra* note 199, at 310. Furthermore, the permissibility of a BTA, in the form of a tax remission for an export, based upon materials consumed during production has been held to be acceptable. *See U.S. Superfund*, *supra* note 173. However, there has not been a dispute to date over a BTA tax imposed on an import based on the consumption of feedstocks. Thus, it is possible the rules might be somewhat different depending upon the type of BTA involved.

3. Article XI—General Elimination of Quantitative Restrictions

Article XI provides in relevant part:

> No prohibitions or restrictions other than duties, taxes or other charges, whether made effective through quotas, import or export licenses or other measures, shall be instituted or maintained by any contracting party on the importation of any product of the territory of any other contracting party or on the exportation or sale for export of any product destined for the territory of any other contracting party.[231]

In essence, article XI serves to eliminate most forms of quotas, import restrictions, bans, and licensing affecting the importation of goods from another contracting party.[232] As has been noted, a major goal of GATT/WTO has been to move away from all forms of trade barriers other than tariffs.[233] Although a pollution tax should not be affected by article XI in any way,[234] this article has been at the forefront of many of the GATT/WTO environmental disputes.[235] Since much of the authority concerning environmental disputes under the GATT/WTO has been produced under this provision, it is worth examining its scope.

There have been several disputes involving bans on the importation of products produced in a way that harms the environment. In particular, U.S. embargoes against tuna caught in a manner that kills dolphins[236] and against shrimp caught in a manner that endangers sea turtles.[237] As bans on importation, it would seem relatively clear that each of these violated article XI unless an exception could be found in paragraph 2,[238] and that the entire proceeding should focus on whether an article XX exemption applies.

However, in the *Dolphin-Tuna I* case, the United States tried to argue that the ban was in effect an internal regulation governed by article III(4), as a regulation relating to the sale of a like product.[239] The GATT panel rejected this argument, concluding, inter alia, that the banned tuna and the permitted tuna were like products, that the differences between them were in their production processes and that differences in the production process do not remove the two types of tuna from the purview of like products.[240] Because both types of tuna are like products, article III(4) requires that

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231. GATT 1947, *supra* note 18, art. XI; *see also id.* art. XI(2) (listing various exceptions).

232. Housman & Zaelke, *supra* note 211, at 542.

233. *See supra* Part IV.

234. GATT 1947, *supra* note 18, art. XI(1), (2). Article XI prohibits actions other than taxes, which are governed by other articles. *See* GATT 1947, *supra* note 18, arts. I, III.

235. *See, e.g., Shrimp-Turtle, supra* note 17; *Dolphin-Tuna II, supra* note 17; *Dolphin-Tuna I, supra* note 17.

236. *Dolphin-Tuna II, supra* note 17; *Dolphin-Tuna I, supra* note 17.

237. *Shrimp-Turtle, supra* note 17.

238. These exceptions would not apply since they relate to export prohibitions regulating the food supply and regulations regarding the classification or grading of commodities. GATT 1947, *supra* note 18, art. XI(2)(b).

239. *Dolphin-Tuna I, supra* note 17, at 164-68.

240. *Id.* at 193-96.

they be treated the same, and since they are not, the embargo is effectively a nonquantitative restriction governed by article XI.[241]

Dolphin-Tuna I potentially clarifies several important issues.[242] First, it highlights that article III(4) permits the complete ban of a product as an internal regulation provided that the regulation applies equally to domestic products.[243] In other words, a nation can opt for no trade in a commodity but cannot unfairly protect domestic trade in it.

Second, and more controversially, it brought the product-process distinction to the forefront of much GATT/WTO scholarship, with the prevailing sentiment being that GATT/WTO permits only those distinctions based on the product, not those based on the process used to create the product.[244] Such a stance appears to strengthen the argument that article III(2) should not permit a BTA for pollution taxes, since such a tax is clearly based on the production process rather than the finished product. This view takes the holding of *Dolphin-Tuna II* too far, however. The holding should be read as narrowly limited to article III(4) because it concerned a ban rather than a tax.[245] After all, the consequence of not meeting the U.S. standards resulted in the foreign product being excluded from the United States, whereas the domestic product that was in compliance was freely traded. A pollution tax, on the other hand, applies the same rate to both products equally. The only difference is the amount of the tax to be paid.

More recent dispute-panel reports have tended not to focus on the process-product distinction when deciding GATT/WTO environmental disputes.[246] Thus, one must be cautious about extending the process-product distinction in GATT/WTO jurisprudence from *Dolphin-Tuna II* too far. In fact, the *Shrimp-Turtle* decision appears to permit discrimination between products, theoretically, based on differences in production process, at least within the context of the article XX(g) exception to GATT/WTO compliance.[247] In sum, therefore, it remains somewhat unclear whether an emissions tax based on inputs consumed would violate article III(2) for treating like products disparately.[248]

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241. *Id.*

242. The author uses the word "potentially" because neither of these panel reports was adopted and because both were decided prior to the formation of the WTO (when the WTO was formed, there were a number of changes to the terms of GATT and its related agreements, particularly with regard to acknowledging the importance of environmental issues). *See supra* note 150 and accompanying text.

243. *See Dolphin-Tuna I*, *supra* note 17, at 193-96. A nation could completely ban pornography or even shampoo without the need to invoke an exception or exemption to the limits on the use of nonquantitative barriers to trade. *See* GATT 1947, *supra* note 18, art. III, *as amended by* Protocol Modifying Part II and Article XXVI of the General Agreement on Tariffs and Trade, Sept. 14, 1948, 62 U.N.T.S. 80, 82; *Dolphin-Tuna I*, *supra* note 17.

244. *Dolphin-Tuna I*, *supra* note 17, at 193-96; *see also Dolphin-Tuna II*, *supra* note 17, at 888-90.

245. *Dolphin-Tuna II*, *supra* note 17, at 889-90.

246. *See generally Shrimp-Turtle*, *supra* note 17; *Reformulated Gasoline*, *supra* note 17.

247. *See Shrimp-Turtle*, *supra* note 17, ¶¶ 138-45.

248. For further discussion of this matter, see *infra* Part V.B.4.

4. Article XX—Exemptions

Although it is clear that certain types of pollution taxes, such as those charging a fixed amount or based on a percentage of the price, are permitted under article III(2), it remains at best questionable whether a pollutant discharge tax would be in compliance with article III(2).[249] Furthermore, applying different tax rates to nations at various levels of environmental development would clearly violate article I.[250] Thus, it is important to examine the exemptions to GATT/WTO compliance since if one of these applies, violations of article I or III would be excused. The relevant portions of article XX, putting forth the general exemptions, state:

> Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries 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:
> I. (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 . . . .[251]

A party hoping to impose an measure inconsistent with GATT/WTO, whether designed to prevent environmental harm or for any other potentially exempted purpose, must meet three requirements.[252] First, the general design of the GATT/WTO inconsistent measure must fall within the general scope of the relevant provision of article XX.[253] Second, the measure must meet the specific test required by the relevant provision of article XX. For environmental matters, it must either meet the test of subparagraph (b), as necessary to protect human, animal or plant life or health, or subparagraph (g), as primarily aimed at the conservation of an exhaustible natural resource.[254] Third, it must meet the test enunciated in the introduction to article XX, known as the "chapeau test": The measure must not be applied in a manner that constitutes an arbitrary or unjustifiable discrimination against countries where the same conditions prevail, nor in a manner that constitutes a disguised restriction on trade.[255] A recent appellate body report makes clear that the examination

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249. *See supra* Part V.B.2.

250. *See supra* Part V.B.1.

251. GATT 1947, *supra* note 18, art. XX.

252. *See Shrimp-Turtle, supra* note 17, ¶¶ 118-19; *see also Dolphin-Tuna II, supra* note 17, at 890-91, 895; *Dolphin-Tuna I, supra* note 17, at 197-201. *See generally* Wold, *supra* note 185, at 862-63.

253. *Shrimp-Turtle, supra* note 17, ¶¶ 118-19; *see also Dolphin-Tuna II, supra* note 17, at 891-93, 895-96; *Dolphin-Tuna I, supra* note 17, at 197-201.

254. *Shrimp-Turtle, supra* note 17, ¶¶ 113-14; *see also* GATT 1947, *supra* note 18, art. XX(b), (g); *Dolphin-Tuna II, supra* note 17, at 890-99; *Dolphin-Tuna I, supra* note 17, at 197-201.

255. *Shrimp-Turtle, supra* note 17, ¶ 147; *see also Dolphin-Tuna II, supra* note 17, at 873, 876; *Dolphin-Tuna I, supra* note 17.

must proceed in this order, as well.[256]

Turning to the first element, one must ask whether a GATT/WTO inconsistent measure falls within the general scope of an article XX exemption. For environmental matters, this means that the policy supporting the measure must either be aimed at protecting human, animal, or plant life or health under subparagraph (b) or related to the conservation of exhaustible natural resources under subparagraph (g).[257] This requirement has easily been met in the major environmental disputes under GATT/WTO and appears not really to be an issue.[258] An emissions tax is clearly designed to help minimize the level of contamination in the air and water, which obviously protects the life and health of humans, animals, and plants. With regard to the conservation of exhaustible natural resources, previous WTO panels have held that nonmineral items, such as animals[259] and clean air,[260] qualify, so a pollution tax would seem to fit within the policy goal of conserving exhaustible natural resources.

Turning to the next requirement, are the specific requirements of either subparagraph (b) or (g) met? Historically, it has been virtually impossible to meet the requirements imposed by subparagraph (b) to the satisfaction GATT/WTO dispute-resolution panels.[261] This may no longer be true, given the changes to the GATT/WTO regime created by the Uruguay Round and the Marrakesh Accord that compel greater attention to environmental issues.[262] However, absent a post-WTO formation GATT panel report discussing the current standards applicable to subparagraph (b), one is compelled to consider the standards as they have historically been enunciated.[263]

According to *Dolphin-Tuna I* and *II*, the crux of the matter in deciding whether subparagraph (b) has been met turns on the word "necessary" in the phrase "necessary to protect human, animal or plant life or health."[264] The panels have applied a narrow reading to the term "necessary" concluding that for a measure to fall

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256. *Shrimp-Turtle*, *supra* note 17, ¶¶ 114-22; *see also* Wisthoff-Ito, *supra* note 20, at 266.

257. Schoenbaum, *supra* note 199, at 276-77; Wold, *supra* note 185, at 855.

258. *See Shrimp-Turtle*, *supra* note 17, ¶¶ 127-28; *Reformulated Gasoline*, *supra* note 17, at 612 (summarizing WTO Dispute Panel Report on United States—Standards for Reformulated and Conventional Gasoline, WT/SD2/R (Jan. 29, 1996), 35 I.L.M. 274, 299 (1996)); *Dolphin-Tuna II*, *supra* note 17, at 890-93; *Dolphin-Tuna I*, *supra* note 17, at 197-201; Wold, *supra* note 185.

259. *Shrimp-Turtle*, *supra* note 17, ¶¶ 127-28.

260. *Reformulated Gasoline*, *supra* note 17, at 612 (summarizing WTO Dispute Panel Report on United States—Standards for Reformulated and Conventional Gasoline, WT/SD2/R (Jan. 29, 1996), 35 I.L.M. 274, 299 (1996)).

261. *See id.* (summarizing WTO Dispute Panel Report on United States—Standards for Reformulated and Conventional Gasoline, WT/SD2/R (Jan. 29, 1996), 35 I.L.M. 274, 296-98 (1996)); *see also Dolphin-Tuna II*, *supra* note 17, at 898; *Dolphin-Tuna I*, *supra* note 17, at 200.

262. *Cf. Shrimp-Turtle*, *supra* note 17, ¶ 161. However, the appellate decision in *Shrimp Turtle* did not consider article XX(b) since it determined that the U.S. law in question came within article XX(g). *See* Wisthoff-Ito, *supra* note 20, at 267.

263. Recently, a dispute panel upheld a ban on chrysotile asbestos under article XX, but the terms of the decision have not yet been released. *WTO Panel Issues Ruling Upholding French Ban of Chrysotile Asbestos*, 17 Int'l Trade Rep. (BNA) 1180, 1180-81 (July 27, 2000).

264. *Dolphin-Tuna II*, *supra* note 17, at 896-98; *Dolphin-Tuna I*, *supra* note 17, at 198-200.

within the exemption enunciated in subparagraph (b), the measure must be the least GATT/WTO inconsistent measure reasonably available to the party to render such protection.[265] Not surprisingly, bans that can be avoided only when other parties modify their own legal regimes to comply with the embargoing country's law have not been found to be the least GATT/WTO inconsistent method.[266] It is possible, therefore, that a pollution tax could pass muster under the "least GATT/WTO inconsistent" standard since the only potential inconsistency from the requirements of GATT is in subjecting "like products" to unequal indirect taxes. However, this inconsistency exists only if the BTA is indirect, which is debatable.[267] This minor inconsistency, if it exists at all, is further diminished by the fact that, unlike product bans, a tax difference does not require other nations to change their domestic legal regimes in order for their industries to trade with the nation imposing the GATT inconsistent standard. Each company remains free to pay the tax or to install devices to reduce the tax.[268]

Probably the most troubling notion contained in one panel report was that the environmental measure, the ban, was not "necessary" because the banning nation had not exhausted all less restrictive alternative measures available to it; namely it had not engaged in extensive multilateral negotiations to form a treaty to deal with the environmental threat.[269] Assuming extensive multilateral negotiations are a prerequisite to claiming an environmental measure is "necessary," it is unclear how extensive attempts at negotiation must be before a party can act unilaterally. It is arguable that for many types of pollution taxes, extensive multilateral negotiations have already attempted to resolve many forms of environmental threats,[270] which

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265. Schoenbaum, *supra* note 199, at 276; *see also Dolphin-Tuna II*, *supra* note 17, ¶¶ 5.34-.39; GATT Dispute Panel Report on Thailand—Restrictions on Importation of and Internal Taxes on Cigarettes, Nov. 7, 1990, GATT B.I.S.D. (37th Supp.) at 200 (1991); Wisthoff-Ito, *supra* note 20, at 275.

266. *See Shrimp-Turtle*, *supra* note 17, ¶¶ 184-87 (finding that using an economic embargo to require another WTO member to adopt essentially the same regulatory program as the embargoing country violates the article XX chapeau test); *Reformulated Gasoline*, *supra* note 17, at 630-33 (same); *Dolphin-Tuna II*, *supra* note 17, at 898; *Dolphin-Tuna I*, *supra* note 17, at 199-200.

267. *See supra* text accompanying notes 220-30.

268. Admittedly, this is still unilaterally coercive toward implementing the taxing nation's standards.

269. *Dolphin-Tuna I*, *supra* note 17, at 199-200.

270. Most types of airborne pollutants are already the subject of various environmental treaties. *See, e.g.*, Convention on Long-Range Transboundary Air Pollution, *opened for signature* Nov. 13, 1979, T.I.A.S. No. 10,541, 1302 U.N.T.S. 217 (entered into force Mar. 16, 1983); Montreal Protocol on Substances That Deplete the Ozone Layer, Sept. 16, 1987, 26 I.L.M. 1550 (entered into force Jan. 1, 1987); Kyoto Protocol, *supra* note 55. However, most of these treaties do not have meaningful enforcement provisions. *See* Beardslee, *supra* note 94 at 384-92; *see also* Brotmann, *supra* note 5, at 345-46 (indicating the difficulties of enforcing international treaties and the ambiguities of interpretation). Thus, the real question becomes whether a nation must try to negotiate multilateral enforcement action before taking matters into its own hands. To date, GATT/WTO panels have appeared to consider negotiation a precondition for a unilateral action to be "necessary." *See, e.g.*, *Shrimp-Turtle*, *supra* note 17, ¶¶ 166-67; *Reformulated Gasoline*, *supra* note 17, at 612 (summarizing WTO Dispute Panel

when coupled with the less restrictive nature of a tax, might make it palatable as a necessary restraint. However, given the GATT/WTO panel rhetoric to date, it seems unlikely that the requirements of subparagraph (b) can be met, particularly since any multilateral treaty obligations the United States could point to will tend to lack any enforcement provision that the United States could claim to be acting under.[271]

Fortunately, things look much more promising under subparagraph (g) of article XX. Subparagraph (g) permits GATT/WTO inconsistent measures that are related to the conservation of an exhaustible natural resource.[272] Thus, for subparagraph (g), one must determine whether the measure is related to conservation and whether an exhaustible natural resource is conserved.

At one time, "relating to" was interpreted to mean "primarily aimed at."[273] However, subsequent panel decisions have clarified that "relating to" means "having a substantial relationship with."[274] Just as the regulations concerning gasoline standards in *Reformulated Gasoline* were found to be related to conserving clean air[275] and the ban on shrimp from noncertified countries was found to be related to conserving an endangered species in *Shrimp-Turtle*,[276] it seems virtually certain that a pollution tax would be related to conserving clean air and water. The only argument that could be made against this is that since emissions taxes do not set a maximum level of pollution that is acceptable, there is no way of knowing whether such conservation will actually occur.[277] However, the success or failure of a regulatory endeavor does not negate the goal it is attempting to achieve. After all, virtually every air control standard set under the CAA was not met by its respective deadline,[278] but few would argue that the law was not related to conserving clean air.

The "relating to" standard also requires that the measure be "taken in conjunction with domestic restrictions on the use of the resource."[279] In *Reformulated Gasoline*, "in conjunction with" was interpreted to mean "together with" or "jointly with."[280] The proposed tax satisfies this interpretation because it is applied to domestic and foreign producers as part of the nation's environmental-law regime.

Finally, the "relating to" standard requires that the measure be "primarily aimed at

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Report on United States—Standards for Reformulated and Conventional Gasoline, WT/SD2/R (Jan. 29, 1996), 35 I.L.M. 274, 296-98 (1996)); *Dolphin-Tuna II*, *supra* note 17, at 853, 896-98; *Dolphin-Tuna I*, *supra* note 17, at 199-200.

271. *See, e.g.*, *supra* note 157.

272. GATT 1947, *supra* note 18, art. XX(g).

273. *Dolphin-Tuna II*, *supra* note 17, at 893.

274. *See Shrimp-Turtle*, *supra* note 17, ¶¶ 135-42; *Reformulated Gasoline*, *supra* note 17, at 621-23 (stating that the phrase "relating to" needs "to be read in context and in such a manner as to give effect to the purposes and objects of the *General Agreement*").

275. *Reformulated Gasoline*, *supra* note 17, at 623.

276. *Shrimp-Turtle*, *supra* note 17, ¶¶ 135-42; Rueda, *supra* note 20, at 659.

277. *See supra* Part II.B (discussing the limitations of emissions-discharge taxes as a pollution-control device).

278. *Cf.* WILLIAM H. RODGERS, JR., ENVIRONMENTAL LAW 138 (2d ed. 1994).

279. Housman & Zaelke, *supra* note 211, at 550.

280. *Reformulated Gasoline*, *supra* note 17, at 624; *see also Shrimp-Turtle*, *supra* note 17, ¶¶ 143-45.

rendering the domestic restriction effective."[281] This language has been interpreted to mean that the measure affecting the foreign products must be in conjunction with a like domestic measure that has come into effect.[282] Since the proposed taxing regime will come into application at the same time for both foreign and domestic goods, this element of the "relating to" standard is also met. Overall, a recent panel has summarized that the "relating to" requirement is met "if such measures are made effective in conjunction with restrictions on domestic product or consumption,"[283] which would be the case with the proposed emissions tax.

To pass the second prong of subparagraph (g), one must determine whether the conservation is of an exhaustible natural resource. Although some nations have tried to argue that "exhaustible natural resource" should be interpreted to mean nonrenewable, nonliving matter (basically, minerals),[284] recent panel reports have clarified that clean air is an exhaustible natural resource[285] and that under certain conditions plants and animals may be exhaustible natural resources.[286] Thus, a pollution tax designed to help conserve clean air would conserve a natural resource, and there can be little doubt that a tax intended to conserve clean water would receive a similar analysis.[287]

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281. Housman & Zaelke, *supra* note 211, at 550; Wisthoff-Ito, *supra* note 20, at 276.

282. Wold, supra note 185, at 860-61.

283. *Reformulated Gasoline*, *supra* note 17, at 624.

284. For examples of commentary supporting this view, see Steve Charnovitz, *Exploring the Environmental Exceptions in GATT Article XX*, J. WORLD TRADE, Oct. 1991, at 37; Steve Charnovitz, *Green Roots, Bad Pruning: GATT Rules and Their Application to Environmental Trade Measures*, 7 TUL. ENVTL. L.J. 299 (1994).

285. *Reformulated Gasoline*, *supra* note 17, at 612 (summarizing WTO Dispute Panel Report on United States—Standards for Reformulated and Conventional Gasoline, WT/SD2/R (Jan. 29, 1996), 35 I.L.M. 274, 299 (1996)).

286. *Shrimp-Turtle*, *supra* note 17, ¶¶ 127-34; Rueda, *supra* note 20, at 659.

287. An additional point deserves mention with regard to a nation's attempts to conserve a natural resource under the article XX(g) exception. To date, the disputes dealing with attempts to protect or conserve have been concerned with resources either within the sovereign jurisdiction of the nation invoking the exemption or in what can clearly be called the global commons, such as the world's oceans. Although one can argue that many forms of pollution, given their migratory nature, are best understood as affecting the global commons as well as the territories of multiple nations, the pollution tax proposed herein has clear effects on, and is attempting to change conditions in, the business, economy, and environment of other sovereign nations. This pollution tax potentially reaches beyond the realm of merely having extraterritorial effects and arguably into the realm of interference with the sovereign right of other nations to set their own environmental policies. Some commentators have argued that the article XX(g) exception should be read as limited to conserving resources in the global commons. *See, e.g.*, Brotmann, *supra* note 5, at 341-42. Most of this commentary is based on the language of *Dolphin-Tuna I*, which condemned the extraterritorial nature of the U.S. law, even as applied to the global commons. *See Dolphin-Tuna I*, *supra* note 17, at 199-200. However, this position was abandoned in *Dolphin-Tuna II*. *See Dolphin-Tuna II*, *supra* note 17, at 858-59; Rueda, *supra* note 20, at 654-56; Wisthoff-Ito, *supra* note 20, at 277. Furthermore, more recent cases have made clear that the article XX environmental exceptions can be applied extraterritorially. *Shrimp-Turtle*, *supra* note 17, ¶ 133; *see also Reformulated Gasoline*, *supra* note 17, at 628-30; Tiefenbrun, *supra* note 12, at 279. However, there is some

Finally, to fall within an article XX exemption, a measure must meet the chapeau test. The measure must not be applied in a manner that constitutes an arbitrary or unjustifiable discrimination against countries where the same conditions prevail nor in a manner that constitutes a disguised restriction on trade.[288] Basically, like products from similarly situated countries cannot be unjustifiably or arbitrarily discriminated against.[289] It is well established that such discrimination can exist either between foreign products from two different countries or between domestic and foreign products.[290] However, in applying the chapeau test, "like products" is not to be given the same narrow reading as was applied to the term in determining whether another article of GATT/WTO is violated; for to do so would effectively render the exemptions in article XX moot.[291] Thus, it appears that under article XX, products made from different production methods can be considered not to be like products.[292] If this analysis is correct, a pollution discharge tax would clearly be exempt under article XX(g). There is no discrimination between various foreign products or between domestic and foreign products, because all products are subjected to the same tax system.

The only potential claim of "unjustifiable discrimination" would be against the imposition of a uniform tax rate on all countries without taking into account their respective levels of development, which is itself a bizarre notion of discrimination by equal treatment.[293] However, this could be solved through graduated tax rates based on the different levels of national development and national environmental regulation. Any attempt to apply graduated tax rates, however, would need to be pursued with the utmost care, for it opens the door to an almost certain GATT/WTO complaint that two or more similarly situated countries are being treated differently; namely, that one of them is being arbitrarily discriminated against.

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support for the position that more recent GATT/WTO decisions have required nations to meet a nexus standard with the resource to be conserved when invoking an exception. *See* Patricia I. Hansen, *Transparency, Standards of Review, and the Use of Trade Measures to Protect the Global Environment*, 39 VA. J. INT'L L. 1017 (1999). It is unclear what this standard would require. The pollution tax, by protecting resources outside the global commons, would raise extraterritoriality issues beyond those dealt with by GATT/WTO panels to date, but other exceptions, such as article XX(e), which permits abrogation of GATT/WTO obligations with regard to the products of prison labor, by their very terms have an extraterritorial effect on actions within other sovereign jurisdictions. Thus there is currently no reason to presume the article XX(g) exception would not extend to a pollution tax's effects in another nation.

288. *Shrimp-Turtle*, *supra* note 17, ¶¶ 156-62; *Dolphin-Tuna II*, *supra* note 17, at 895; *see also* Wisthoff-Ito, *supra* note 20, at 267, 279.

289. *Shrimp-Turtle*, *supra* note 17, ¶¶ 160-75. In fact, this was the basis upon which the law in controversy was held to violate GATT/WTO. *Id.*; *see also* Wisthoff-Ito, *supra* note 20, at 267.

290. *Shrimp-Turtle*, *supra* note 17, ¶ 150; *Reformulated Gasoline*, *supra* note 17, at 626-33.

291. *See, e.g.*, *Shrimp-Turtle*, *supra* note 17, ¶¶ 123-35.

292. *See id.* However, this position is not without critics. Some argued, particularly before *Shrimp-Turtle*, that GATT/WTO prohibits discrimination against products that are otherwise similar except for the way they were produced. *See, e.g.*, Wisthoff-Ito, *supra* note 20, at 277.

293. This argument is even more difficult to make in light of the article I requirement of most-favored-nation treatment for all members of GATT/WTO. *See* GATT 1947, *supra* note 18, art. I.

Furthermore, in nations, similar to the United States, where significant environmental regulations have been in place for a substantial period, most industries have already expended considerable sums on pollution-control devices. A foreign country might argue that a flat pollution tax is actually a disguised restriction on trade[294] because it forces a foreign company that has few pollution controls in place to expend more funds than a U.S. company to get to the same level of taxes per product. However, since the U.S. company will be taxed on all its production and the foreign companies will be taxed only on their goods imported into the United States, the potential tax burden, and the relative incentive to install a given level of pollution-control devices, will be quite different and should provide a credible argument that the pollution tax is not a disguised restriction on trade. Notwithstanding the foregoing, a lower tax rate for nations with less advanced environmental laws, by lowering even further the potential additional foreign tax burden due to the disparity in the nature of environmental controls already in place, would further strengthen the argument that the discharge tax is not a disguised restriction on trade.

Unfortunately, one of the latest environmental disputes handled by the WTO showed considerable concern over the fact that the United States, in imposing a ban on shrimp produced in a certain way, had acted unilaterally and had not adequately negotiated with other nations.[295] However, the reason for finding that an exception under article XX(g) was not available was that the U.S. law arbitrarily discriminated between similarly situated nations.[296] Thus the concern over unilateral action may largely have been a matter arising under the facts of the case because of the nature of the restriction. The law in dispute created an embargo, the type of restriction least favored under the GATT/WTO, and the only way to avoid the ban was to adopt the approach of the country imposing it. An embargo is highly coercive on other nations,[297] unlike a tax, which does not require a nation to modify its policies in order to continue trading. Furthermore, various nations were being treated differently.[298] Thus, the nature of the unilateral action affected whether arbitrary discrimination had

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294. Such a disguised trade restriction would violate the chapeau test for an article XX exception. *See supra* note 288 and accompanying text.

295. *Shrimp-Turtle, supra* note 17, ¶ 167.

> [I]t is not acceptable, in international trade relations, for one WTO Member to use an economic embargo to *require* other members to adopt essentially the same comprehensive regulatory program, to achieve a certain policy goal, as that in force within that Member's territory, *without* taking into consideration different conditions which may occur in the territories of those other Members.

Id. ¶ 164 (emphasis in original). This language seems particularly disturbing considering there were already multilateral conventions obligating nations to protect sea turtles. *See* CITES, *supra* note 157; *see also* Brotmann, *supra* note 5, at 345-47 (indicating the difficulties of enforcing international treaties and the ambiguities of interpretation); Chalifour, *supra* note 13, at 591-92 (discussing various international conventions potentially protecting sea turtles); Rueda, *supra* note 20, at 662 (same); Winter *supra* note 4, at 242 (same).

296. *Shrimp-Turtle, supra* note 17, ¶¶ 172-75.

297. *Shrimp-Turtle, supra* note 17, ¶¶ 161-64; *see also* Wisthoff-Ito, *supra* note 20, at 278.

298. Certification depended upon whether a nation had signed other treaties and upon its ability to show compliance with mandated U.S. technological standards for harvesting. *See Shrimp-Turtle, supra* note 17, ¶¶ 162-63.

occurred. On the other hand, it is possible that the GATT/WTO was again signaling that unilateral measures affecting territories other than one's own are not acceptable. This position is bolstered by other decisions that have also shown hostility to unilateral environmental protections.[299] However, there is nothing in a GATT/WTO opinion that goes so far as to say that only multilateral actions are acceptable, and several commentators have concluded that *Shrimp-Turtle* authorizes unilateral extraterritorial process related sanctions.[300] In fact, *Shrimp-Turtle* recognizes that if multilateral action is required to create a legitimate exemption, the result would be effectively to gut both articles XX and XXI.[301]

C. Considering the Alternatives

Having considered a pollution tax as a means of modernizing U.S. environmental law to obtain extraterritorial benefits for the global environment, it is worth briefly examining alternative domestic environmental approaches to determine whether any of them can potentially have a meaningful transnational effect on the global environment in a manner that is acceptable under GATT/WTO.[302]

Based on traditional notions of sovereignty, the only nation with jurisdiction to regulate the emissions of all the businesses located within a territory, whether through design specifications for factories, mandated pollution-control technologies, or mandatory participation in an emissions trading program, is the government of the territory in which the businesses are located.[303] Similarly, one nation has no authority to mandate a certain ambient air or water quality within the sovereign jurisdiction of another nation.[304] There are only two ways the United States could regulate a facility located abroad without the cooperation of the foreign government where the facility is located. First, under certain circumstances, U.S. law recognizes jurisdiction over branches and subsidiaries of U.S. companies.[305] However, this jurisdictional reach

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299. *Reformulated Gasoline*, *supra* note 17, at 627-33; *Dolphin-Tuna II*, *supra* note 17, at 898; *Dolphin Tuna I*, *supra* note 17, at 199-200; *see also* Winter, *supra* note 4, at 242; Wisthoff-Ito, *supra* note 20, at 279.

300. Rueda, *supra* note 20, at 667; Wofford, *supra* note 24, at 581.

301. *Shrimp-Turtle*, *supra* note 17, ¶¶ 155-60. Logically, the exceptions are set forth in order for an individual nation to be able to invoke them since a multilateral action (a treaty) that is later in time can effectively trump provisions of GATT/WTO that are earlier in time. Vienna Convention, *supra* note 159, at 339; *see also supra* Part IV.

302. For a discussion of potential extraterritorial effects of emissions trading programs, see *infra* Part II.C.2.

303. Dunoff, *supra* note 92, at 1423-26; *see also* Gardner, *National Sovereignty*, *supra* note 82, at 570-71. Admittedly, certain other nations may have jurisdiction over a limited number of businesses within another nation's territory, such as foreign branches or subsidiaries of otherwise domestic companies, *see, e.g.*, I.R.C. § 954 (1994) (taxation controlled foreign corporations); *id.* § 902 (U.S. tax credit for taxes paid abroad by foreign subsidiaries); *id.* § 862 (definition of income and taxable income from outside the U.S.), but such jurisdiction is likely limited to a small enough number of businesses and therefore represents little meaningful potential for widespread extraterritorial environmental benefits.

304. Dunoff, *supra* note 92, at 1423-26; Gardner, *National Sovereignty*, *supra* note 82.

305. CASAD & RICHMAN, *supra* note 165, § 4-6; Fowler, *supra* note 165, at 27-28; Gibney & Emerick, *supra* note 165, at 137-38.

would be unlikely to significantly effect the total pollution-control situation in any given foreign country because most businesses in any given country will be domestically owned. Second, the United States has jurisdiction to regulate products produced by foreign facilities to the degree such products are brought into the United States.[306] Thus, the United States can require the product to meet domestic design specifications or require it to utilize particular pollution-control technologies. Provided it is also applied to like domestic products, such regulation is clearly permitted by GATT/WTO.[307] Once again, however, this will have a very limited effect. Although the goods entering the United States will be environmentally friendly, other goods produced by the company (for other markets) need not comply with any U.S. design specifications nor utilize particular pollution-control technologies.[308] Furthermore, the factory producing the product can be as environmentally unfriendly as the law where it is located permits. Attempts by a jurisdiction to mandate environmentally friendly production techniques for a product as a condition to the product being imported have consistently been held to be a violation of GATT article XI and to be outside the scope of the article XX(b) and (g) exceptions.[309] Thus, the command-and-control approach, with mandatory standards to be met, would appear to have extremely limited possibilities for extraterritorial environmental benefits under current notions of sovereignty and GATT/WTO jurisprudence.

Another possible approach would be to eliminate environmental regulation in favor of full disclosure by companies of their total pollution outputs. Under this approach, the United States would require companies importing products into the United States merely to disclose the amount of pollution used to produce the product or produced by the company in total. This information could then be made available to the public and to environmental groups in the hope that such consumer information would mobilize consumers to pressure companies to be more environmentally friendly or fail to do so at the risk of potentially losing the consumers' business. As noted above, the United States has jurisdiction to require this information since the products are being imported into the United States.[310] As long as such a regulation was equally applied to domestic manufacturers and was not a disguised restriction on trade, it would appear to comply with GATT/WTO under the concept of national treatment for imported products with regard to domestic laws and regulations, as set forth in article III, although it could raise issues concerning the product-process distinction.[311] The

306. CASAD & RICHMAN, *supra* note 165, § 4-6.

307. GATT 1947, *supra* note 18, art. III, *as amended by* Protocol Modifying Part II and Article XXVI of the General Agreement on Tariffs and Trade, Sept. 14, 1948, 62 U.N.T.S. 80, 82; *see also supra* Part V.B.2.

308. A similar limitation would apply to deposit and refund schemes, since these would apply only to those products imported into the United States.

309. *See Shrimp-Turtle, supra* note 17, ¶¶ 184-87; *Dolphin-Tuna II, supra* note 17, at 890-98; *Dolphin-Tuna I, supra* note 17, at 197-201. However, the recent *Shrimp-Turtle* case appears to take a less extreme approach to the product-process distinction and provides an argument that a future process regulation might survive a GATT/WTO challenge. *Shrimp-Turtle, supra* note 17, ¶¶ 156-59, 170-76.

310. CASAD & RICHMAN, *supra* note 165, § 4-6.

311. The analysis is essentially the same as for an emissions tax, but without the potential

regulation would also almost certainly fit within the article XX(g) and possibly (b) exceptions.[312] Although this approach would be permissible, consumer activism would likely provide only a limited incentive for companies to install pollution-control technologies, in part because many consumers will purchase the cheapest product, regardless of how environmentally unfriendly its production process may have been, and in part because of the difficulty of adequately informing a large enough consumer base.[313] Coupling information disclosure with another regulatory approach may provide additional, but limited, environmental benefits, both domestically and abroad, beyond those provided by the other approach alone.

A final approach worth considering is granting environmental subsidies to businesses in the United States and abroad to encourage them to install pollution-control devices. Such an approach could greatly benefit the global environment, particularly since pollution-control devices are exponentially expensive.[314] For whatever sum of money that the United States is willing to expend on reducing pollution output, the global environment will get greater pollution reduction by allocating that sum to a large number of factories around the globe for installation of moderate pollution controls rather than using the funds so that U.S. factories have the best available pollution-control technologies. Such a program should also be GATT/WTO compliant, since environmental subsidies are generally permitted.[315] However, such a program does nothing to create an incentive for dischargers to reduce their emissions; that is, it does nothing to internalize the costs of pollution. Companies may take the subsidies, but the benefits of the program will be limited to the size of Uncle Sam's checkbook. Given the number of companies in the world, such an undertaking seems overwhelming and financially massive. Where would the money come from? Furthermore, the burden is potentially unending since such a program creates no incentive for polluters to reduce pollution themselves. Like information disclosure, a subsidy program has its benefits in helping protect the planet but is probably best suited to being used in conjunction with another approach.

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limitations caused by the BTA. *See supra* Part V.B.1-2. However, labeling potentially raises special issues under the GATT/WTO rules on technical barriers to trade. This has become a relatively controversial topic in recent years. For a more thorough analysis of the compatibility of eco-labeling with GATT/WTO, see Erik P. Bartenhagen, *The Intersection of Trade and the Environment: An Examination of the Impact of the TBT Agreement on Ecolabeling Programs*, 17 VIR. ENVTL. L.J. 51 (1997); Samuel N. Lind, *Eco-Labels and International Trade Law: Avoiding Trade Violations While Regulating the Environment*, 8 INT'L LEGAL PERSP. 113 (1996); Atsuko Okubo, *Environmental Labeling Programs and the GATT/WTO Regime*, 11 GEO. INT'L ENVTL. L. REV. 599 (1999); Elliot B. Staffin, *Trade Barrier or Trade Boon? A Critical Evaluation of Environmental Labeling and Its Role in the "Greening" of World Trade*, 21 COLUM. J. ENVTL. L. 205 (1996).

312. *See supra* Part V.B.4.

313. Kimberly C. Cavanagh, *It's a Lorax Kind of Market But Is It a Sneetches Kind of Solution?: A Critical Review of Current Laissez-Faire Environmental Marketing Regulation*, 9 VILL. ENVTL. L.J. 133, 206-10 (1998); Staffin, supra note 311, at 268-70.

314. KRIER & URSIN, *supra* note 171, at 25-26 (discussing the exponential costs associated with pollution-control devices); Hanna, *supra* note 36, at 541 (stating that as environmental regulation progresses, the compliance costs of polluters rise exponentially).

315. *See infra* Part V.E.

D. Implementation Issues

What practical difficulties confront the implementation of an emissions tax?[316] Are these obstacles so daunting as to effectively render the proposal unworkable? At the outset, it is worth remembering that unlike some other forms of regulation, a taxing regime generates revenue.[317] So if costs associated with the implementation and administration of a pollution tax are higher than those for the United States's current command-and-control approach, some or all of this money could be used so that the total drain on general government resources would be no greater than the present approach. However, exorbitant costs do not seem likely.[318]

Probably the most difficult aspect of a pollution tax is determining the proper level of tax to give businesses a meaningful incentive to adopt appropriate environmental protection technologies.[319] This difficulty would be further complicated if the tax rates vary for different industries to account for the comparative difficulties some industries may have in reducing certain pollutants and the potential burdens the tax could place on such industries' abilities to remain commercially viable. Although errors will initially be made in setting the appropriate tax rates, and as has been noted, adjustments will have to occur periodically as total emissions diminish,[320] such determinations can be adjusted to correct for errors based on experience. Furthermore, recent experience with existing emissions trading programs and current emissions taxes in other countries can provide a guideline to assist in these determinations.[321] Additionally, this determination does not seem any more difficult to resolve than the current difficulties presented by making the determinations required under the CAA and the CWA.[322]

Given concerns about the fact that a pollution tax does not inherently cap the total level of pollution that will be produced and that this may lead to further degradation of certain heavily contaminated areas, the tax regime could impose a surcharge rate for pollution produced in the worst contamination basins of the United States. Although such a surcharge imposes additional burdens on businesses located in such areas, current command-and-control approaches similarly burden businesses in such areas by mandating the use of more aggressive pollution-control technologies.[323] Such a surcharge would in no way affect foreign products, and thus would not create issues under GATT/WTO, since GATT/WTO permits a nation to discriminate against

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316. The concerns confronting implementation of a domestic emissions tax and their potential solutions have been discussed at length. *See generally*, ROODMAN *supra* note 11; Arnold, *supra* note 48; Colloquy, *Pollution Tax Forum*, 12 PACE ENVTL. L. REV. 1 (1994); Cole, *supra* note 129; Driesen, *supra* note 35; Nash, *supra* note 11; Stewart, *Controlling Risks*, *supra* note 35; Stewart, *Falling Paradigm*, *supra* note 35; Symposium, *supra* note 27; Tietenberg, *supra* note 35.

317. Worldwide use of pollution taxes could generate trillions of dollars annually. ROODMAN, *supra* note 11, at 25, 156-68.

318. *Id.* at 169-83

319. *Id.* at 156-83.

320. *See supra* Part II.C.2.

321. ROODMAN, *supra* note 11, at 156-83; *see also supra* Part II.C.

322. ROODMAN, *supra* note 11, at 156-83; *see also supra* Part II.C.

323. *See* Clean Air Act §§ 160-193, 42 U.S.C. §§ 7470-7515 (1994 & Supp. IV 1998).

domestic producers.[324]

However, as has been noted, if the regime contemplates different tax rates for different nations based on their level of environmental regulation and general development, the regime runs significant risks of being attacked under GATT/WTO for treating similarly situated nations disparately.[325] Not only would differentiations be an additional administrative burden, but also the burden is particularly onerous given that any differentiations must be carefully considered and justified to avoid violating GATT/WTO.

With regard to establishing the amount of tax to be paid, each business will have to provide information regarding its level of pollution emissions and its production levels. All businesses, both domestic and foreign, know their levels of production. Determining pollution discharges presents little difficulty for U.S. businesses since the current command-and-control approach already requires the vast majority of industries to monitor their emission levels for the pollutants likely to be subject to the tax.[326] However, companies in many other countries may not currently be subjected to monitoring requirements and technology may not be in place easily to perform monitoring. Although these difficulties and costs associated with monitoring could potentially discourage some manufacturers from exporting to the United States, the costs of monitoring seem commercially bearable to U.S. businesses (since they currently are doing so), so costs should not be particularly more burdensome to foreign manufacturers. The potential loss of access to the world's largest single nation market[327] minimizes the concern over businesses choosing not to export to the United States due to the extra difficulties associated with complying with a pollution tax. However, the discharge tax regime may choose to spur the development of a new industry abroad to monitor emissions of factories for purposes of calculating their U.S. pollution taxes. In fact, to help avoid fraudulent reporting for tax calculation purposes, the tax proposal may be improved by requiring independent third party or government certification of every business's pollution and production output.

Another issue worth considering is whether the tax should be applied only to the pollution generated to produce the final product being imported or whether the emissions totals should include discharges made in the creation of any component parts.[328] Clearly a tracing approach creates a more comprehensive tax and more effectively internalizes the costs of the pollution generated. Furthermore, it eliminates the possibility of emissions tax evasion through a segregated manufacturing process

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324. *U.S. Superfund*, *supra* note 173, at 161.

325. *See supra* Part V.B.1, 4.

326. *See, e.g.*, Toxic Substances Control Act, 15 U.S.C. § 2607 (1994). U.S. companies are also preparing, apparently without concerns over costs or feasibility, to monitor additional emissions in anticipation of additional regulations. Marlon B. Allen, *Climate Change: Companies Developing Inventory System for Greenhouse Gases, Pew Center Says*, 31 Env't Rep. (BNA) 625 (Apr. 7, 2000).

327. Int'l Monetary Fund, *supra* note 162, at 62-63.

328. These approaches can be generally compared to the import duty calculation applied to some products under NAFTA, which—in determining the level of North American content in a product—does not trace back the percentage in each component but rather evaluates each component as either entirely North American or not, and the approach for automobiles, which traces back the percentage in components. NAFTA, *supra* note 113, at 349-57.

that manufactures as many components as possible separately to minimize a company's potential tax burden. However, unless the taxes will be extraordinarily high, it seems likely that many companies can minimize their tax burdens more cost effectively by installing pollution-control technologies rather than rearranging their entire manufacturing processes.[329] Additionally, a tracing requirement would significantly increase the burden upon manufacturers since they would need data from all parts suppliers. However, if empirical data shows this risk to be significant, or if many foreign companies already segregate manufacturing in this manner, a less burdensome compromise would be to require tracing for all components manufactured by the same company or corporate group.[330] However, any form of tracing creates additional potential problems with regard to whether the taxing regime is GATT/WTO compliant by placing further emphasis on the product-process distinction for each level that the discharge tax attempts to reach.[331]

Finally, since the principle behind the pollution tax is to internalize costs and create an incentive for companies to utilize superior environmental protection technologies, one must consider what should be done if the country where a product is produced imposes a similar pollution tax on one or more of the pollutants emitted. Such double taxation could be unduly burdensome for some companies, even though it would increase the incentives to enhance a company's pollution controls. Thus it seems appropriate to allow a tax credit that may be applied against the U.S. tax on the same pollutant equal to the amount of tax that has been paid on that pollutant abroad for the same item. Such a tax credit presents no conceptual difficulties since a similar approach is used currently in the United States to avoid double taxation on income.[332] This tax credit effectively would allow each government to determine what it considers to be the appropriate tax rate for a given pollutant, would tax the producer at the higher rate for products exported from the country of production to the United States, and would avoid creating a double taxation situation that could overly burden businesses. Obviously, if other nations adopted pollution tax regimes like the one proposed herein, the United States should negotiate double taxation tax relief for its manufacturers exporting to such nations to the extent such nations do not automatically grant it.

E. Use of Revenues

Finally, what should be done with the revenues of a pollution tax? An emissions tax is designed to produce environmental benefits by providing incentives to reduce one's tax burden, regardless of how the revenues are expended. As such, the revenues could be treated like any other general revenues generated by the government through

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329. This seems likely since the tax burden on foreign manufacturers will be relatively modest, creating incentives to install moderate pollution controls. Such a cost is unlikely to warrant wholesale corporate reorganization.

330. Domestically, tracing is not generally an issue since companies are taxed on all their discharges.

331. *See supra* Part V.B.

332. *See generally* JOSEPH ISENBERGH, INTERNATIONAL TAXATION: US TAXATION OF FOREIGN PERSONS AND FOREIGN INCOME ¶¶ 27.1-.7 (2d ed. 1996) (discussing tax credits for foreign taxes paid).

its taxing regimes and used for any normal government budgetary purpose. Such use would in no way implicate GATT/WTO. Several nations have already taken such an approach with regard to some of their more limited pollution tax regimes by using the revenues to cover revenue losses created by personal tax reductions, essentially shifting the tax base somewhat.[333]

Given that the main reason for establishing this tax regime is to better the global environment, it seems appropriate to consider utilizing the proceeds to further combat pollution problems. Three basic ways exist for which these tax revenues could be used to further environmental protection efforts.[334]

First, the revenues could be used to fund remediation activities for currently contaminated areas. Since such government sponsored cleanups would not be aiding a particular business in competing with other businesses, they would not be considered subsidies and should not raise concerns under GATT/WTO.[335]

Second, funds could be used for environmental technology research and development. Such grants would be government subsidies subject to regulation under GATT/WTO.[336] Similarly, if the revenues of a pollution tax are provided to individual companies to install enhanced pollution-control devices, such revenues constitute subsidies and are subject to the GATT/WTO subsidy regulations.

The GATT/WTO approach to subsidies has been described as a stop-light system.[337] There are red-light subsidies, yellow-light subsidies, and green-light subsidies. Red-light subsidies are prohibited, green-light subsidies are permitted, and yellow-light subsidies are permitted but may be actionable or be subject to countervailing duties by other nations to offset the competitive advantage provided by the subsidy.[338] Export subsidies, such as grants or tax benefits tied directly to the making of exports, and import substitution subsidies are red-light subsidies.[339] Subject

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333. *See* WESTIN, *supra* note 16, at 25-42.

334. A thorough analysis of GATT/WTO compliance issues for various forms of environmental grants and subsidies would require another article. However, a general introduction to the likely compatibility of several environmental uses of the revenues derived from an emissions tax is worth considering at this time.

335. Admittedly, given current U.S. liability standards for certain contaminated sites, one could argue that the government payment of remediation costs effectively saves the company from expenses that it would otherwise have to undertake. Although this could be seen as a form of subsidy, it will not cause injury to a foreign business, so it would not be an actionable subsidy. *See infra* text accompanying notes 337-50.

336. Subsidies are regulated under the Agreement on Subsidies and Countervailing Measures, Apr. 15, 1994, WTO Agreement, Annex IA, LEGAL INSTRUMENTS—RESULTS OF THE URUGUAY ROUND vol. 27 (1994), http://www.wto.org/english/docs_e/legal_e/24-scm.pdf.

337. JEFFREY S. THOMAS & MICHAEL A. MEYER, THE NEW RULES OF GLOBAL TRADE: A GUIDE TO THE WORLD TRADE ORGANIZATION 150-64 (1997); M. Jean Anderson & Gregory Husisian, *The Subsidies Agreement*, *in* THE WORLD TRADE ORGANIZATION: MULTILATERAL TRADE FRAMEWORK FOR THE 21ST CENTURY AND U.S. IMPLEMENTING LEGISLATION 299, 304 (Terence P. Stewart ed., 1996).

338. THOMAS & MEYER, *supra* note 337, at 150-64; Anderson & Husisian, *supra* note 337, at 308-27.

339. THOMAS & MEYER, supra note 337, at 150-64; Anderson & Husisian, *supra* note 337, at 309-12. For example, U.S. foreign-sales corporations have recently been held to be an export subsidy. WTO Appellate Body Report on United States—Tax Treatment for "Foreign Sales

to certain limits, government research and development grants and grants to help industries install updated pollution-control technologies mandated by a new regulatory regime are green-light subsidies.[340] Yellow-light subsidies are those government grants, credits, or rebates that collaterally benefit a domestic company in competing with foreign producers, which may also benefit the company relative to domestic competitors.[341] To be actionable, the yellow-light subsidy must confer a benefit to the company, a standard that is almost always met.[342] The subsidy must also be specific.[343] To be specific, a subsidy must be limited to particular companies or industries; a subsidy is not specific if it is part of a general government program available to everyone. Finally, to be actionable, a yellow-light subsidy must undercut the benefits derived from GATT/WTO tariff concessions.[344]

Government grants for the research and development of pollution-control technologies, although subject to certain limitations,[345] would be considered green-light subsidies and are permitted under GATT/WTO. Ordinarily, government grants used to fund the installation of enhanced pollution-control devices are a green-light subsidy, provided either that the devices are not mandated under a regulatory regime[346] or if mandated, the percentage of total cost limitations are met.[347] Additionally, if such funds were used in a generally available government program that makes such technology available to all entities so desiring it or to those entities that meet a set of objective criteria, the subsidy would be nonactionable due to lack of specificity,[348] and also possibly because it does not undercut a tariff advantage

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Corporations", WT/DS108/AB/R (Feb. 24, 2000), 39 I.L.M. 717, 718 (2000). However, rebates of domestic taxes on goods destined for export are not considered to be export subsidies and do not violate GATT/WTO.

340. THOMAS & MEYER, supra note 337, at 150-64; Anderson & Husisian, *supra* note 337, at 316-20. Technically, the green-light safe harbor for certain types of subsidies has expired. However, it seems likely that it will be reinstated in the near future, so this Article will discuss all three potential categories of subsidies. Until renewal occurs, all subsidies that would otherwise be considered green light must be analyzed using the yellow-light standards.

341. THOMAS & MEYER, supra note 337, at 150-64; Anderson & Husisian, *supra* note 337, at 312-16.

342. THOMAS & MEYER, supra note 337, at 150-64; Anderson & Husisian, *supra* note 337, at 312-16. An example of a subsidy that would not confer a benefit would be a tax rebate for a company that is not paying the type of taxes subject to the rebate.

343. THOMAS & MEYER, supra note 337, at 150-64; Anderson & Husisian, *supra* note 337, at 312-16.

344. THOMAS & MEYER, supra note 337, at 150-64; Anderson & Husisian, *supra* note 337, at 312-16. In other words, the subsidy cannot, in essence give the domestic company a financial benefit that offsets the benefits a foreign company receives through GATT/WTO tariff reductions, thereby placing the domestic company in a superior competitive position.

345. *See* THOMAS & MEYER, supra note 337, at 150-64; Anderson & Husisian, *supra* note 337, at 316-20.

346. This type of subsidy would be acceptable since it does not affect the competitiveness of the business receiving the funds.

347. THOMAS & MEYER, supra note 337, at 150-64; Anderson & Husisian, *supra* note 337, at 316-20.

348. Hyung-Jin Kim, *Reflections on the Green Light Subsidy for Environmental Purposes*, J. WORLD TRADE, June 1999, at 167, 172-73.

provided under the GATT/WTO.

However, a subsidy granted on revenues derived from an emissions tax present a rather unique problem. Since the tax regime is based on pollution output, any grant allowing one company to lower its tax burden by installing superior technology without paying the full cost of such technology effectively allows one company to have a competitive advantage over other companies that have not received a similar subsidy. Although the GATT/WTO has not specifically envisioned such an environmental subsidy, it seems unlikely, given the fiscal advantages it confers under an emissions tax, to remain within the green-light designation even if the numerical limitations for environmental subsidies are maintained.

Logically, such a subsidy should be considered a yellow light subsidy. As a yellow-light subsidy, if it were made generally available to all (or available to limited groups based on objective criteria) it should survive GATT/WTO scrutiny for lack of specificity. Alternatively, the subsidy could be made available only to companies outside the United States. Under such an approach, the funds would be directed where they could be of the most use, in installing devices that could provide significant pollution-reduction gains at moderate cost rather than in installing cutting edge technology to obtain even smaller domestic gains.[349] Although this approach does not benefit a domestic competitor by undercutting the benefits to be obtained by the GATT/WTO, such an approach would be subject to attack for unjustifiably treating similarly situated foreign producers differently.[350]

A final approach would be to make the revenues, or a consistent percentage thereof, available to the parties that have paid the tax, in proportion to the amount paid, for use in purchasing and installing pollution-control devices. Like the prior proposal, this approach would put a large percentage of the funds where it can do the most good.[351] It should also be permissible by failing to be specific since it is administered pursuant to objective criteria. This approach also makes it far harder for foreign businesses to argue that the benefits of the GATT/WTO are undercut by the subsidy since every one, even foreigners, receives a comparable benefit. Likewise, it does not treat similarly situated producers disparately; everyone is treated the same. Finally, the subsidy would reduce hostility to the pollution tax program by putting the funds back in the hands of those paying the tax and by effectively reducing their tax burden in subsequent years.

VI. CONCLUSION

Is a pollution tax the way U.S. environmental law should be modernized? Although it provides many of the market driven incentive benefits some commentators are currently calling for in the next generation of environmental law, most of these commentators ultimately favor an emissions trading regime. However, a properly structured emissions tax could have a surprising additional benefit most commentators have not considered: the ability to have extraterritorial effect and to protect the global commons.

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349. *See supra* Part V.A.
350. *See supra* Part V.B.2, 4.
351. *See supra* Part V.A.

In an era of global industrialization and pollution, much of which is migratory, and of weak and largely unenforceable international law, the air we breathe and the water we drink are at considerable risk. Nations appear to be moving toward better international environmental control mechanisms, but the pace is glacial while the needs are pressing. Furthermore, too many nations continue to ignore the needs of the environment in favor of increased economic development and expansion. Thus, the needs of the environment demand more than international law can presently deliver.

A domestic per unit of production pollution tax appears to be an excellent short-term solution. By taxing all products sold within its borders based on the amount of pollution emitted during their production, the United States, as the world's largest single market, can not only move its domestic environmental law to the next level, that of market-based-incentive approaches, but also help improve the global environment by giving polluters in other nations an incentive to install pollution-control devices to lessen their tax burdens. Needless to say, if other nations follow suit with similar programs, the incentive will become that much more powerful. In any event, industries unconcerned with the environmental needs of the planet will no longer be able to hide behind the sovereignty of nations that do not care about the environment.

The only question that remains is whether such a course of action is permissible for the United States to take. As a restriction on free trade, such a tax must be examined in light of the obligations of trade agreements, the most important of which is the GATT/WTO. Although it is likely, but not certain, that the tax violates the general obligations of GATT/WTO, it appears to fall within the article XX(g) exception, as it has been described in GATT/WTO jurisprudence. As such, it appears to be a workable solution to help protect the global environment today while diplomats work toward more complete and multilateral solutions for tomorrow. As an added benefit, the tax revenues could be used to further promote environmental cleanups or the installation of additional pollution-control devices.