

ISSUES AND POLICY CONSIDERATIONS REGARDING HAZARDOUS WASTE EXPORTS

I. INTRODUCTION

The plight of the recent "New York garbage barge" signifies the "any place but here" attitude toward the difficult issue of waste disposal. Disposal of the tremendous volume of waste produced in the United States and other industrialized countries poses perplexing scientific, economic, diplomatic, and legal problems. Solutions to these problems are important because of the severe risks involved. The risks range from contamination of groundwater and crops to birth defects and cancer.¹ An insidious part of the problem is that many toxic wastes have a long life span in our environment, which increases the chances of human exposure.² Further, their effect on humans may not appear until years after exposure.³ Thus, governments and companies all over the world are faced with the increasingly difficult task of disposing of their waste in an environmentally safe and responsible manner.

The task of disposing of wastes in the United States is becoming more and more difficult. Today, there are over 50,000 generators⁴ that produce 255 to 275 million metric tons of waste,⁵ compared to nine million metric tons produced in 1970.⁶ This increase in volume, together with rising disposal costs⁷ and a shortage of suitable disposal sites in some regions,⁸ have led to illegal, surreptitious disposal in our own backyards,⁹ and increased export of wastes to other countries.¹⁰

1. Porterfield & Weir, *The Export of U.S. Toxic Wastes*, THE NATION, Oct. 3, 1987, at 325, 341 [hereinafter Porterfield].

2. Hahn, *An Evaluation of Options for Reducing Hazardous Waste*, 12 HARV. ENVTL. L. REV. 201, 206-07 (1988) [hereinafter Hahn].

3. *Id.*

4. *Waste Exports: Hearings Before the Subcomm. on Environment, Energy, and Natural Resources*, 100th Cong., 1st Sess. 2 (1988) (testimony of Rep. John Conyers, Jr., Congressman) [hereinafter *1988 Hearings*] (Unpublished at this time. Copies on file at the offices of the *Houston Journal of International Law*).

5. Office of Technology Assessment, U.S. Congress, Pub. No. OTA-M-196, *Technologies and Management Strategies for Hazardous Waste Control* 8 (1983).

6. Porterfield, *supra* note 1, at 341 (citing unidentified General Accounting Office Report).

7. For example, average disposal costs in 1976 were \$10 per metric ton. Today, they range from \$60 to \$140 per metric ton. Porterfield, *supra* note 1, at 341.

8. *1988 Hearings*, *supra* note 4, at 1 (testimony of Bonnie Ram, Bernard Schwartz Fellow in Energy and Environment, Federation of American Scientists).

9. *Id.*

This comment focuses on the export of hazardous waste, a subclassification of wastes. Recent media revelations have uncovered a host of incidents of shipments and plans for shipments of hazardous waste to developing nations, most of which do not have the technical expertise or regulatory infrastructure to properly handle these dangerous substances. Nevertheless, they make particularly good targets for some exporters because they desperately need capital influx into their economies.

In light of this situation, international organizations are considering ways to protect these countries and to better regulate the transportation and disposal of hazardous wastes.¹¹ In addition, three bills are pending in the United States Congress¹² that may either add restrictions to U.S. regulations already in place or ban the export of wastes, except where already authorized by treaty.¹³ This comment gives a brief overview of what hazardous wastes are, some of the current events that have prompted concern regarding their export, and reviews international regulatory efforts, European Community policy, and U.S. laws regarding hazardous waste export. The international efforts and the three U.S. congressional bills are then evaluated to determine which alternatives should be favored.

II. OVERVIEW OF HAZARDOUS WASTE

One of the first issues to address in devising or evaluating any regulatory scheme involving waste is what should be considered "hazardous." Indeed, one of the problems that international negotiations must resolve is the variation in classification of hazardous material between countries.¹⁴ This paper defines "waste" as material which no longer has worthwhile economic value. "Hazardous waste" is a subset of "waste" that poses a significant potential threat to human health or the environment.¹⁵ Examples include chemical solvents, wastewater treatment

10. The number of shipments documented have risen from 30 in 1980, to over 400 in 1986. Porterfield, *supra* note 1, at 341.

11. The Organization for Economic Cooperation and Development (OECD), a group of 20 industrialized nations, is expected to be ready to sign an agreement by the end of 1988. The United Nations Environmental Program is expected to complete negotiations in March of 1989. French, *Combating Toxic Terrorism*, WORLD WATCH, Sept.-Oct. 1988, at 6, 7 [hereinafter French].

12. S. 2598, 100th Cong., 1st Sess., 131 Cong. Rec. S8798-02 (1988); H.R. 5018, 100th Cong., 2d Sess. (1988); H.R. 5434, 100th Cong., 2d Sess. (1988).

13. Resource Conservation and Recovery Act of 1976, 42 U.S.C. §§ 6901-91i (1982 & Supp. III 1985) (reenacting the Solid Waste Disposal Act of 1965, 42 U.S.C. §§ 3251-59 (1982)); amended by Hazardous and Solid Waste Amendments of 1984, Pub. L. No. 92-616, 98 Stat. 3224 (1984) (codified in scattered sections in Title 42 of the United States Code).

14. 1988 Hearings, *supra* note 4, at 6 (testimony of Sheldon Meyers, Acting Associate Administrator for International Activities, U.S. Environmental Protection Agency).

15. Hahn, *supra* note 2, at 206.

sludges, and spent solutions produced from industrial processes.¹⁶

The U.S. Environmental Protection Agency (EPA) bases its definition of hazardous waste on four characteristics: ignitability, corrosivity, reactivity, and toxicity.¹⁷ Waste from production processes that involve listed hazardous wastes, mixtures containing listed hazardous wastes, and residue derived from the treatment, storage, or disposal of a listed waste may be considered hazardous waste.¹⁸ Nevertheless, the definition of "hazardous" is sometimes debatable—particularly since hazardous wastes are more expensive to dispose of than nonhazardous waste. This characteristic introduces political and economic considerations that may allow some wastes to qualify for an exception or exclusion from the hazardous waste classification.¹⁹

III. CURRENT REVELATIONS REGARDING EXPORT OF HAZARDOUS WASTE

Recently, news articles have revealed efforts by companies in industrialized countries to export hazardous waste to developing nations. The exporters are charged a much lower cost for disposal of waste and, in return, the developing nation gets needed cash.²⁰ These transactions may be handled by a labyrinth of middle men between the generator and the party actually accepting the waste in the import country, which increases the risks of mishandling and subterfuge.²¹ Most developing nations lack the technical expertise to handle these wastes. Also, they may not realize what they are receiving due to mislabelling²² and deliberate mixing with harmless material.²³ The exports not only cause health and environmental risk, but may poison foreign relations between nations as well.²⁴ Thus, a review of recent hazardous waste export schemes to third-world countries should be considered.

16. *Id.* (citing Identification and Listing of Hazardous Waste, 40 C.F.R. § 261.31 (1986)).

17. 40 C.F.R. §§ 261.3(a), 261.20-261.24 (1986).

18. *See Id.* at § 261.3(a).

19. Hahn, *supra* note 2, at 207 n.23.

20. Detroit divorce attorney, Robert Zeff, set up a corporation and negotiated with one of the poorest nations in the world, Guinea-Bissau, to permit import and disposal of hazardous waste in that country. *The Global Poison Trade*, NEWSWEEK, Nov. 7, 1988, at 66, 67 [hereinafter *Global Poison Trade*]. The West African country signed a five year contract to accept 15 million tons of toxic waste in return for \$600 million. The country reluctantly repudiated the contract after a public uproar. The nation would have received about \$120 million a year, which is almost equal to their gross national product, about \$150 million. Brooke, *Waste Dumpers Turning to West Africa*, N.Y. Times, July 17, 1988, at 1, col. 2 [hereinafter Brooke].

21. *Global Poison Trade*, *supra* note 20, at 66-67.

22. Brooke, *supra* note 20, at 1, col. 2.

23. *Global Poison Trade*, *supra* note 20, at 67.

24. For example, Nigeria has withdrawn its Ambassador to Italy as a result of dumping incidents. French, *supra* note 11, at 6.

A. Africa

American and European companies have solicited nearly every West African coastal state for disposal of hazardous waste.²⁵ Foreign and African officials in Nigeria, Guinea, and the Congo are in jail for charges of working with European disposal firms in illegal dumping schemes.²⁶

One example of such a scheme involved the tiny coastal town of Koko, Nigeria, where a farmer leased a residential dirt lot for \$100 a month to an Italian importer, Gianfranco Raffaelli, for storage of nearly 10,000 chemical drums.²⁷ The farmer said the importer did not tell him the contents of the drums.²⁸ Many of the people of Koko stole quantities of the substance and spread it on their crops, because they thought it was fertilizer.²⁹ Others, distillers of a local popular gin called *Ogogoro*, stole drums to hold their stock.³⁰ After newspaper reports raised questions about the drums, some of which had begun to leak,³¹ the Nigerians requested the United States' assistance in determining their contents.³² An EPA team determined that the drums contained chemical toxins, including highly carcinogenic polychlorinated biphenyls (PCB's).³³

The Nigerian government then evacuated the town³⁴ and demanded that the Italian government clean up the site and retrieve the wastes.³⁵ After heavy diplomatic pressure from Nigeria, which included detaining an Italian ship not involved with the waste,³⁶ two Italian ships were sent to retrieve the toxic waste.³⁷ At least fifty-four people, including an unknown number of Italian nationals, have been arrested in connection with the scheme.³⁸ A Nigerian government spokesman stated that his government would seek the death penalty for any person, Nigerian or foreign, caught importing toxic waste.³⁹ This incident has led to improved relations between the United States and Nigeria, but Nigerian-

25. Brooke, *supra* note 20, at 1, col. 2.

26. Helmore, *Dumping on Africa: West Exports Its Industrial Wastes*, CHRISTIAN SCI. MONITOR, July 1, 1988, at 1, col. 3 [hereinafter Helmore].

27. Brooke, *supra* note 20, at 7, col. 4.

28. *Id.*

29. Ezech, *Nigerians Who Stole Toxic Waste*, NEW AFRICAN, Oct. 1988, at 22.

30. *Id.*

31. *Global Poison Trade*, *supra* note 20, at 66.

32. *1988 Hearings*, *supra* note 4, at 7 (testimony of Dr. Frederick M. Bernthal, Assistant Secretary of State for Oceans, International Environmental and Scientific Affairs).

33. Brooke, *supra* note 20, at 7, col. 4.

34. Koko is a village of 5,000 residents. French, *supra* note 11, at 6.

35. Brooke, *supra* note 20, at 7, col. 4.

36. *Id.*

37. *Italy Agrees It Will Retrieve Toxic Waste Sent to Nigeria*, N.Y. Times, July 24, 1988, at 10, col. 4.

38. *1988 Hearings*, *supra* note 4, at 11 (testimony of Pat Costner, Greenpeace International).

39. Brooke, *supra* note 20, at 7, col. 1.

Italian relations have been strained, even though the government of Italy was not involved in the shipment.⁴⁰

In Guinea, 15,000 tons of a substance officially listed as "raw material for bricks" was discovered in an abandoned quarry on the resort island of Kassa.⁴¹ A government investigation, prompted after the island's vegetation began to shrivel, revealed that the material was incinerator ash from Philadelphia, which had contracted with a Norwegian shipping company to dispose of 85,000 tons of waste in Guinea.⁴² Ash from the city's incinerator was analyzed by the EPA in October, 1987, and was determined to contain high levels of dioxin, one of the most toxic substances known.⁴³

The Guinean government demanded that the ash on Kassa be removed by the Norwegian company.⁴⁴ On July 2, 1988, a Norwegian freighter completed removal of the waste; however, Sigmund Stromme, Norway's Honorary Consul, a shipping agent, was jailed along with at least twelve others for their alleged involvement in the affair.⁴⁵ This incident has strained relations between Norway and Guinea, even though the Norwegian government was not involved in the affair.⁴⁶

The uproar over these and other waste dumping incidents prompted most African countries to repudiate such contracts with American and European companies.⁴⁷ The sixteen-member Economic Community of West African States (ECOWAS), at the urging of Nigeria, agreed to set up a monitoring system—a "dump watch"—and resolved to tighten sanctions against dumping.⁴⁸ In a nonbinding resolution, the Organization of African Unity (OAU) condemned the export of hazardous waste.⁴⁹ These and other efforts are slowing the exportation of hazardous waste into developing countries. Nevertheless, as long as there are exporters willing to pay the price, impoverished individuals and nations will be tempted to allow their countries to become dumping grounds for industrialized nations.

40. *1988 Hearings*, *supra* note 4, at 7 (testimony of Dr. Frederick M. Bernthal, Assistant Secretary of State for Oceans, International Environmental and Scientific Affairs).

41. Brooke, *supra* note 20, at 7, col. 1.

42. *Id.*

43. *Solid Waste: EPA Studying Dioxins in Incinerator Ash as Potential Threat to Health in Philadelphia*, 18 *Env't Rep. (BNA)*, at 1623 (Oct. 30, 1987).

44. Helmore, *supra* note 26, at 8, col. 1.

45. *1988 Hearings*, *supra* note 4, at 11 (testimony of Pat Costner, Greenpeace International).

46. *Id.* at 6 (testimony of Dr. Frederick M. Bernthal, Assistant Secretary of State for Oceans, International Environmental and Scientific Affairs).

47. Brooke, *supra* note 20, at 7, col. 5.

48. See, e.g., *id.*; Helmore, *supra* note 26, at 8, col. 1.

49. Helmore, *supra* note 26, at 8, col. 1.

B. Canada

Not all of the exports of hazardous waste go to developing countries. The majority of U.S. exports of hazardous waste goes to two facilities in Canada⁵⁰—a landfill site in Quebec Province and an incinerator in Ontario.⁵¹ Nevertheless, this traffic in hazardous waste is not unidirectional; the wastes move in both directions across the border to qualified facilities for recycling or disposal.⁵² Under a bilateral agreement between the two countries, notification of intent to export by the exporter and notification of consent of the importing country is required.⁵³ According to Dr. Bernthal of the U.S. State Department, the system is working “quite well.”⁵⁴

C. Mexico

In Mexico, however, there is evidence that the system is not working as well. The United States and Mexico have a similar bilateral agreement that requires consent notification and which regulates shipments of hazardous wastes between the two countries.⁵⁵ However, a Mexican presidential decree permits the importation of hazardous wastes into Mexico for recycling only; disposal is prohibited.⁵⁶ An EPA environmental engineer stated that while most shipments are in compliance, “sham” recycling is becoming more frequent.⁵⁷

For example, in January, 1986, Mexican environmental authorities discovered an illegal dump site near Tecate, Mexico,⁵⁸ where a Mexican recycling company had dumped 10,000 gallons of heavy hydrocarbons

50. Of the notices required to be filed with the EPA before export of hazardous waste, 82% were for two facilities in Canada in 1986. *EPA's Program to Control Exports of Hazardous Waste*, EPA Off. of the Inspector Gen. Rep. of Audit, No. E1D37-05-0456-80855 (March 31, 1988) [hereinafter EPA Audit Rep.].

51. Porterfield, *supra* note 1, at 341.

52. *1988 Hearings, supra* note 4, at 3 (testimony of Dr. Frederick M. Bernthal, Assistant Secretary of State for Oceans, International Environmental and Scientific Affairs).

53. Agreement Concerning the Transboundary Movement of Hazardous Waste, Oct. 28, 1986, United States-Canada (unpublished treaty) (copy available at the Office of Treaty Affairs, U.S. State Dep't). The agreement concerns the transboundary movement of hazardous waste and was signed at Ottawa on October 28, 1986, and entered into force November 8, 1986.

54. *1988 Hearings, supra* note 4, at 3 (testimony of Dr. Frederick M. Bernthal, Assistant Secretary of State for Oceans, International Environmental and Scientific Affairs).

55. Agreement Regarding the Transboundary Shipments of Hazardous Wastes and Hazardous Substances, Nov. 12, 1986, 26 I.L.M. 25 (1987) [hereinafter Annex III]. Annex III to the Agreement on Environmental Cooperation (La Paz Agreement), August 14, 1983.

56. *Hazardous Waste: EPA Adopts New Enforcement Strategy to Curb Illegal Exports of Hazardous Waste*, 18 Env't Rep. (BNA), at 2527 (Apr. 22, 1988).

57. *Id.*

58. EPA Audit Rep., *supra* note 50, at 13.

and other material acquired from U.S. companies.⁵⁹ The Mexican company did not have a license to import or recycle, and the waste was dumped without authorization.⁶⁰ A federal grand jury, sitting in the Southern District of California, returned a forty-one count indictment in April 1986 against four officers and owners of two corporations allegedly involved in this scheme.⁶¹

In another incident, contaminated waste ink from Southern California printing presses was shipped by a waste hauling firm to a Mexican asphalt plant near Tijuana to be burned as fuel.⁶² A spokesman for Mexico's Federal Secretariat of Urban Development and Ecology, Mexico's equivalent of the U.S. EPA, said that the facility does not have a permit to burn waste ink.⁶³ He also stated that his agency had not issued permits to four other Mexican firms that appeared to be receiving U.S. wastes, as indicated in EPA documents.⁶⁴

The preceding examples of hazardous waste export, which range from the legal to the illegal, are not meant to suggest that such export is isolated to only the countries mentioned above. Almost every continent on earth is involved, from the Far East to the Caribbean, from South America to Eastern Europe.⁶⁵

IV. U.S. REGULATION OF HAZARDOUS WASTE EXPORTS

A. *The Resource Conservation and Recovery Act*

In 1976, the U.S. Congress passed the Resource Conservation and Recovery Act (RCRA)⁶⁶ to provide "cradle to grave" regulation of hazardous wastes.⁶⁷ RCRA provides the EPA with authority to issue and enforce rules governing hazardous waste management.⁶⁸ The system includes: identification and listing of hazardous waste; a manifest system used to track waste; and management standards and a permit system for treatment, storage, and disposal facilities (TSDF's).⁶⁹ The EPA promulgated rules in 1980 that required a hazardous waste generator to comply simply with manifest and labelling requirements and to notify the EPA

59. *Id.*

60. *Id.*

61. *Id.*

62. *Widespread Violations Suspected U.S. Wastes Reportedly Exported to Mexico Sites*, L.A. Times, Feb. 12, 1986, § I, at 3, col. 4 [hereinafter *U.S. Wastes*].

63. *Id.*

64. *Id.*

65. See 1988 Hearings, *supra* note 4, at 14 (testimony of Pat Costner, Greenpeace International); see generally Greenpeace Waste Trade Update, vol. 1, Nos. 1-3 (1988).

66. 42 U.S.C. §§ 6901-91i (1982 & Supp. III 1985).

67. See R. FORTUNA & D. LENNETT, HAZARDOUS WASTE REGULATION: THE NEW ERA 9 (1987) [hereinafter FORTUNA].

68. 42 U.S.C. §§ 6901-91i (1982 & Supp. III 1985); see FORTUNA *supra* note 67, at 9.

69. FORTUNA, *supra* note 67, at 9-10.

in writing four weeks before an initial export of hazardous waste in each calendar year.⁷⁰ The receiving country was not required to give its prior written consent.

B. *Comprehensive Environmental Response, Compensation, and Liability Act*

In 1980, Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA),⁷¹ or "Superfund," which provides for emergency response to and cleanup of hazardous waste sites in the United States.⁷² It also imposes strict liability on generators, transporters, and owners (past and present) or operators of hazardous waste facilities for the cost of remedial action and damage to the environment.⁷³ CERCLA does not address pollution victim compensation.

C. *The Hazardous and Solid Waste Amendments*

In 1984, RCRA was amended by the Hazardous and Solid Waste Amendments (HSWA).⁷⁴ These amendments represent a move by Congress to limit the EPA's discretion in administering RCRA regulations,⁷⁵ which were not being implemented due to the Reagan administration's deregulation policy.⁷⁶ The HSWA set forth additional specific restrictions on the disposal of hazardous wastes on land, such as a requirement of at least two liners and a leachate collection system for new landfills and surface impoundments.⁷⁷ The HSWA also imposed a scheduled, progressive ban on land disposal of certain hazardous wastes that becomes effective automatically, unless the EPA determines by the specified time that the substance may be disposed of on land.⁷⁸ By 1990, 450 hazardous wastes must be evaluated or they will be automatically banned from land disposal.⁷⁹ The RCRA and HSWA regulations have severely limited the option of land disposal,⁸⁰ and consequently, have raised the

70. EPA Audit Rep., *supra* note 50, at 9.

71. Pub. L. No. 96-510, 94 Stat. 2767 (codified as amended at 42 U.S.C. §§ 9601-9657 (1982)).

72. See Florio, *Congress as Reluctant Regulator: Hazardous Waste Policy in the 1980's*, 3 YALE J. ON REG. 351, 355 (1986) [hereinafter Florio].

73. *Id.*

74. Pub. L. No. 92-616, 98 Stat. 3224 (codified in scattered sections in Title 42 of the United States Code).

75. See FORTUNA, *supra* note 67, at 11-20.

76. *Id.*; see also Florio, *supra* note 72, at 352.

77. 42 U.S.C. § 6924 (Supp. II 1984).

78. *Id.*

79. EPA Audit Rep., *supra* note 50, at 11.

80. The HSWA gave facilities that handle hazardous waste until November 8, 1985, to either certify they were in compliance with certain interim requirements and apply for final permit, or close. By April 1986, EPA's Office of Waste Programs Enforcement reported that

price of hazardous waste disposal.⁸¹ Although this situation encourages firms to recycle wastes and reduce waste generation, it also increases incentives for illegal dumping⁸² and export to countries where disposal costs are less.

As a result, Congress, at the time of HSWA enactment, promulgated a new Section 3017 of RCRA to tighten controls over export of hazardous waste.⁸³ Since November 8, 1986, hazardous waste cannot be exported unless the EPA is notified of the intended export before shipment, the government of the receiving country consents to accept the waste, the written consent of the receiving country is attached to the manifest accompanying each waste shipment, and the shipment conforms to the terms of consent set by the receiving country.⁸⁴ The statute also requires that all hazardous waste exporters file annual reports to the EPA summarizing the types, frequency, quantities, and destination of all exports during the previous calendar year.⁸⁵ Bilateral national agreements, such as those between the United States and Mexico and Canada, are exempt from these requirements.⁸⁶ The EPA promulgated final regulations to implement these requirements in August 1986.⁸⁷

Congress also enacted Section 3008(d) of RCRA which imposes criminal liability upon a person who "knowingly" violates EPA regulations, including exporting hazardous waste without the consent of the receiving country or in violation of an international agreement governing such exports.⁸⁸ The term "person" includes a company, as well as an employee of the company, if the employee knew or should have known of the violation.⁸⁹ Maximum penalties include \$50,000 per day for each violation, or imprisonment for up to five years, or both, with the maximum punishment doubled for second convictions.⁹⁰

two-thirds of land disposal facilities had lost their interim status, either because they chose to close rather than comply with the stricter requirements or because they could not certify compliance with the requirements. EPA Audit Rep., *supra* note 50, at 11.

81. Hahn, *supra* note 2, at 211.

82. *Id.*

83. See FORTUNA, *supra* note 67, at 125.

84. 42 U.S.C. § 6938(a) (Supp. III 1985).

85. *Id.*

86. *Id.*

87. 40 C.F.R. § 262.50 (1985).

88. 42 U.S.C. § 6928(d) (1982); see also FORTUNA, *supra* note 67, at 325; see, e.g., Porterfield, *supra* note 1, at 342 (In 1986, a federal court in New York convicted and ordered Jack and Charles Colbert imprisoned for exporting 1,500 gallons of toxic waste to Zimbabwe under the guise of dry-cleaning solvent.)

89. *United States v. Johnson & Towers, Inc.*, 741 F.2d 662, 669 (3d Cir. 1984) (The court also held that "the government need only prove knowledge of the actions taken and not of the statute forbidding them.")

90. 42 U.S.C. § 6928(d) (1982).

D. Criticism of U.S. Hazardous Waste Export Regulation

Despite EPA's efforts to regulate the export of hazardous wastes under these regulations, their methods have been criticized. An EPA audit report of March 1988 found:

1. EPA offices should coordinate their efforts to control hazardous waste exports;
 . . .
2. [A] need to ensure that an effective nationwide monitoring program exists [in coordination] with the U.S. Customs Service;
 . . .
3. Exporters should provide a complete description of the manner in which exported waste will be handled;
 . . .
4. EPA should strengthen procedures to notify exporters when a receiving country objects to the export and
 . . .
5. The hazardous waste export program needs better accountability.⁹¹

A detailed discussion of the findings of this report is beyond the scope of this comment, but a review of some pertinent parts is beneficial.

The report found that the EPA did not know the extent of noncompliance with requirements for notification of intent to export hazardous waste or for filing annual reports stating the actual amount of waste exported.⁹² In addition, census data of Shippers Export Declarations (SED's) filed with U.S. Customs was inadequate to determine compliance.⁹³ Consequently, the EPA did not know the amount of waste exported to other countries.

Another important focus of the report was the Agency's coordination with U.S. Customs. The report concluded that coordination with Customs needed improvement because hazardous waste manifests often did not identify the port of exportation.⁹⁴ Further, the EPA should complete development of exporter profiles and target ports of exit through which illegal exports of hazardous waste were likely to occur.⁹⁵

The report also concluded that the EPA needs to make the information required on notifications of intent to export more definite in order to provide a complete description of the manner in which the hazardous

91. EPA Audit Rep., *supra* note 50, at 2-7.

92. *Id.*

93. *Id.* at 18.

94. *Id.* at 30.

95. *Id.* at 4.

wastes are to be handled.⁹⁶ This would help to prevent sham recycling or other illegal treatment methods.

In response to this report, the EPA has initiated steps to address the findings and recommendations. These steps should improve the hazardous waste export system to make it more effective and to improve compliance with existing regulations.⁹⁷ However, a major shortcoming of U.S. policy, even after improvements in the EPA's program, is that the federal government does not have the authority to stop a hazardous waste shipment, even an obviously inappropriate shipment, if the host country agrees to accept it.⁹⁸ Furthermore, RCRA's notification requirements do not apply to wastes not listed as hazardous under the Act, such as incinerator ash from Philadelphia or garbage from New York.⁹⁹

V. INTERNATIONAL REGULATION OF HAZARDOUS WASTE EXPORTS

A. *United Nations*

The United Nations (U.N.) is the largest international organization that could affect the trade in hazardous waste. Article 55 of the U.N. Charter provides that member nations shall promote "solutions of international economic, social, health, and related problems."¹⁰⁰ Further, Principle 21 of the 1972 Stockholm Declaration of the U.N. Conference on the Human Environment provides: "States have . . . the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."¹⁰¹ These two lines of authority provide the

96. *Id.* at 5.

97. 1988 Hearings, *supra* note 4, at 6 (testimony of Sheldon Meyers, Acting Associate Administrator for International Activities, U.S. Environmental Protection Agency).

98. *Id.* at 4 (testimony of Bonnie Ram, Bernard Schwartz Fellow in Energy and Environment Federation of American Scientists).

99. *Id.* at 6-7 (testimony of Dr. Frederick M. Bernthal, Assistant Secretary of State for Oceans, International Environmental and Scientific Affairs). In a related case to the one outlined in *supra* notes 41-46, involving Philadelphia incinerator ash, the city also contracted to have a portion of the waste disposed of in Panama. The waste, not considered hazardous by U.S. regulations, was loaded on the *Khian Sea* and began the journey to Panama. The government of Panama objected to the importation and the *Khian Sea* attempted to unload the waste in Haiti. The Haitian government objected, but not before 2,000 tons had been unloaded there. *Id.* at 5. The *Khian Sea* then began an epic journey to ports in Africa, Europe, and the Far East. Finally, without successfully finding a place to dispose of its cargo legally and after 27 months at sea, the ship appeared off the Singapore coast with its holds empty. Evidence suggests that the 10,000 tons of waste was dumped in the Indian Ocean. See Greenpeace Waste Trade Update, vol. 2, No. 1 (1989).

100. U.N. CHARTER, art. 55, at para. 1.

101. Report of the U.N. Conference on the Human Environment, U.N. Doc. A/Conf. 48/14, at 2-65, and Corr. I (1972). The Declaration from the Conference contains a set of "common principles to inspire and guide the peoples of the world in the preservation and enhancement of the human environment." See Sohn, *The Stockholm Declaration on the Human Environment*, 14 HARV. INT'L L.J. 423 (1973) [hereinafter Sohn].

U.N. Environment Programme (UNEP), which was created by the 1972 Stockholm Conference,¹⁰² the mandate to promote an international agreement on the regulation of hazardous waste exports.

To this end, UNEP has been instrumental in drafting guidelines for "Environmentally Sound Management of Hazardous Wastes" (U.N. Cairo Guidelines of 1987), which is a legally nonbinding document that covers the management of wastes from "cradle" to "grave."¹⁰³ Since the Guidelines are not legally binding, the Governing Council of UNEP instructed the Executive Director of UNEP to start preparations for a legally binding treaty.¹⁰⁴ To prepare for such a treaty, UNEP has sponsored the *Ad Hoc* Working Group of Legal and Technical Experts with a Mandate to Prepare a Global Convention on the Control of the Transboundary Movements of Hazardous Wastes.¹⁰⁵ In a communication from the Executive Director of UNEP to the *Ad Hoc* Working Group, he expressed his conviction that "[t]he convention should be an effective, binding instrument providing rules to govern the transboundary movements of hazardous wastes even in the absence of other bilateral or multilateral agreements on the subject."¹⁰⁶ The Convention is expected to be ready to sign by March 1989.¹⁰⁷

The *Ad Hoc* Working Group has, to date, met in three sessions. The first, held in Geneva in February 1988, considered the second draft Convention and discussed a number of amendments and annexes.¹⁰⁸ The second session, held in Caracas in June 1988, considered the third draft of the Convention, along with amendments and annexes.¹⁰⁹ The third session was held at Geneva in November 1988, to consider the fourth revised draft of the Convention and to propose a fifth revised draft.¹¹⁰

The fifth revised draft requires exporters to notify the exporting country's authorities of intended shipment, requires the importing country's consent in writing prior to shipment, and requires that the exporting country receive satisfactory information on the existence of adequate technical capacity for the disposal of the wastes in question.¹¹¹ These

102. See generally Sohn, *supra* note 101.

103. U.N. Doc. UNEP/GC.14/17, Annex II (1987).

104. *Third World Sees Threats from Industrialized Country Hazardous Wastes*, UNEP Press Release (June 3, 1988).

105. U.N. Doc. UNEP/GC.14/30, (1987).

106. *Note from the Executive Director of UNEP*, U.N. Doc. UNEP/WG.186/2, at 1 (1988).

107. French, *supra* note 11, at 7.

108. U.N. Doc. UNEP/WG.186/3, at 1 (1988).

109. *Id.*

110. U.N. Doc. UNEP/WG.189/L.2, at 1 (1988). The fourth session of the *Ad Hoc* Working Group was held in Luxembourg from January 30 to February 3, 1989. U.N. Doc. UNEP/WG.189/3, at 8.

111. U.N. Doc. UNEP/WG.189/3, Annex I, at 17 (1988).

provisions are similar to current U.S. laws. However, U.S. representatives at the Geneva session in late 1988 had to reserve approval on the last provision because U.S. authority to implement such a provision is limited under RCRA.¹¹² Developing countries want this provision because industrialized nations, primarily exporting countries, are in a better position to evaluate the hazards.¹¹³ Other issues left to be resolved are the rights of transit countries, the duty to reimport upon an aborted export plan, the control of illegal traffic, traffic between a contracting party and a non-contracting party, liability and compensation for damages,¹¹⁴ and defining which wastes are hazardous.¹¹⁵

The third session of the *Ad Hoc* Working Group considered two annexes submitted at the Caracas session. The annexes were submitted by, and are applicable to, developing countries. They were incorporated into the fifth revised draft of the Convention and provide for: 1) technical assistance and financial help from the exporting country to the importing country (developing nation) in the case of aborted disposal, along with establishment of a revolving fund for providing emergency response in assisting developing countries in case of an accident involving transboundary shipments of hazardous waste; and 2) establishment of a global system to survey hazardous waste management to help developing countries in strengthening and developing their technical capacities in that field.¹¹⁶

B. *Organization for Economic Cooperation & Development*

Another large international organization that has addressed the matter of regulation of hazardous waste exports is the Organization for Economic Cooperation and Development (OECD).¹¹⁷ OECD, a group of twenty industrialized nations,¹¹⁸ was expected to have a treaty ready

112. *Id.*; 1988 Hearings, *supra* note 4, at 6 (testimony of Sheldon Meyers, Acting Associate Administrator for International Activities, U.S. Environmental Protection Agency).

113. French, *supra* note 11, at 7.

114. See generally U.N. Doc. UNEP/WG.189/3, Annex I (1988).

115. 1988 Hearings, *supra* note 4, at 3 (testimony of Bonnie Ram, Bernard Schwartz Fellow in Energy and Environment, Federation of American Scientists). The fifth revised draft's core list of wastes has resolved substantial differences in the types of wastes covered by regulations among contracting parties. International Toxic Waste Action Network Newsletter (ITWAN), No. 1, (1989). Cf. U.N. Doc. UNEP/WG.189/3, Annex I, at 18 (where a proposal provides that in the case of transboundary movement of hazardous waste where the waste is not considered to be hazardous in one country, the other country's requirements under the article apply to the country that defines the waste as hazardous).

116. U.N. Doc. UNEP/WG.189/L.1 (1988); U.N. Doc. UNEP/WG.189/3, Annex I (1988).

117. OECD, Resolution of the Council C(85)100, Paris, June 1985.

118. "The OECD was established in 1960. OECD members are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States." 1988 Hearings, *supra* note 4, at 5 n.2

to sign by the end of 1988.¹¹⁹

A current version of the draft agreement contains export notification and importing country consent provisions similar to RCRA requirements and the current UNEP Draft Convention.¹²⁰ Additionally, like the UNEP draft, the OECD draft agreement contains a provision that would require exporting countries to prohibit export if there is reason to believe the waste will not be managed in an environmentally sound manner, regardless of consent.¹²¹ United States authority under RCRA to prohibit hazardous waste exports to countries that have consented to their receipt appears to be limited to parties to international conventions in which such a prohibition is included.¹²² Legal authority to ban exports to countries not parties to these treaties is likely to be necessary if the United States is to join with others in adhering to the prospective UNEP and OECD Conventions.¹²³

C. *European Community*

The European Community (EC) is another international organization¹²⁴ with interests in regulating transboundary shipments of hazardous wastes. The EC has adopted two directives¹²⁵ that member states are obliged to adopt into national law,¹²⁶ which regulate exports of hazardous waste. Under these directives, the holder of the waste must notify the competent authority of the intended country of export and must provide the necessary information to justify authorization of the shipment.¹²⁷ The information should include proof that the party to whom the waste is shipped possesses "adequate technical capacity for the disposal of the waste in question under conditions presenting no danger to human

(testimony of Dr. William Y. Brown, Director of Environmental Affairs, Waste Management, Inc.).

119. French, *supra* note 11, at 7. In a telephone interview on February 15, 1989 with Mr. Mathew Brosius, employee of OECD's Washington D.C office, he stated that OECD had decided to implement the UNEP Convention on Transboundary Movements of Hazardous Waste when it is completed and would carry out its own version of a treaty on this issue if the UNEP negotiations were unsuccessful.

120. *1988 Hearings*, *supra* note 4, at 9 (testimony of Dr. Frederick M. Bernthal, Assistant Secretary of State for Oceans, International Environmental and Scientific Affairs).

121. *Id.*

122. *Id.*

123. *Id.* at 10.

124. The European Communities is an umbrella organization that includes the European Economic Community. The Organization is composed of member states: France, West Germany, Italy, the United Kingdom, Spain, Belgium, Greece, the Netherlands, Portugal, Denmark, Ireland, and Luxembourg. See 1 *THE EUROPA YEAR BOOK 1987: A WORLD SURVEY* 140 (1987).

125. 631 O.J. EUR. COMM. (No. L 326) 31 (1984), amended by 279 O.J. EUR. COMM. (No. L 181) 13 (1986).

126. Telephone interview with Mr. Hilbrecht, employee of the EC Delegation in Washington D.C. (Oct. 21, 1988) [hereinafter Hilbrecht].

127. See *supra* note 125.

health or the environment," as well as evidence of the consent of the country of destination.¹²⁸

In recent months, however, steps have been taken in an effort to change EC policy on transboundary shipments of hazardous waste. A political organ within the EC for advising the EC Council on legislation, the European Parliament condemned the "massive exportation of hazardous waste to developing countries."¹²⁹ Similarly, the EC Commission¹³⁰ proposed changes to the current directives that it would pursue.¹³¹ These changes include: 1) full and rapid incorporation of the present directives into member states' laws; 2) establishment of a more precise, uniform definition of hazardous waste, as well as, more precise rules for the transport and elimination of waste and more detailed information requirements; and 3) establishment of a system to provide developing countries with technical and other assistance to confront the problems posed by hazardous waste.¹³²

VI. PENDING U.S. LEGISLATION

A. Description of Congressional Bills

The U.S. Congress is also considering making changes in its regulation of hazardous waste exports. Three bills relating to this topic are presently pending in Congress.¹³³ The first, the Waste Export Control Act (Senate Bill 2598), was introduced by Senator Robert Kasten (R-Wis.) in late June, 1988.¹³⁴ Under this bill, waste exporters would be required to apply to the federal government for export permits, and to certify to the government (EPA) that the waste will be disposed of "in a manner providing environmental protection consistent with the requirements for transportation, treatment, storage, or disposal of such or similar waste within the United States."¹³⁵ Senate Bill 2598 would also require permittees to pay the government's costs of issuing the permit

128. *Id.*; cf. French, *supra* note 11, at 7 (Presently, only Belgium, Denmark, Greece and the Netherlands comply with the 1986 EC directive that permits exports only when the recipient country has proven it has capacity to handle the wastes.).

129. *Export of Toxic Waste, Communication from the Commission*, Com. No. 365, July 13, 1988 (The European Parliament's condemnation came on May 19, 1988.) [hereinafter *Communication from the Commission*].

130. The EC Commission proposes and advises legislation to the legislative body of the EC, the Council. Hilbrecht, *supra* note 126.

131. See *Communication from the Commission, supra* note 129.

132. *Id.*

133. S. 2598, 100th Cong., 1st Sess., 131 Cong. Rec. S8798-02 (1988); H.R. 5018, 100th Cong., 2d Sess. (1988); H.R. 5434, 100th Cong., 2d Sess. (1988).

134. S. 2598, 100th Cong., 1st Sess., 131 Cong. Rec. S8798-02 (1988).

135. *Id.*

and ensuring its terms and conditions were complied with.¹³⁶ For example, under this scheme, the exporter would have to pay the costs of sending EPA inspectors to the receiving country to visit and review the disposal facility's compliance with RCRA.¹³⁷

The second bill, the Waste Export Prohibition Act (House Resolution 5018), was introduced by Representative John Conyers (D-Mich.) in mid-July, 1988.¹³⁸ The bill would ban the export of all solid waste from the United States, except where provided in a bilateral agreement entered into before enactment of this bill, specifically the agreements between the United States and Mexico and Canada.¹³⁹ Another exception from the ban would be certain material destined for recycling or reuse, unless the material is listed or identified as a hazardous waste under RCRA, is a substance regulated under the Toxic Substances Control Act,¹⁴⁰ is mixed municipal solid waste, or is incinerator ash.¹⁴¹

The third bill, the "Waste Act to Save the Environment" (House Resolution 5434), was introduced by Representative John Porter (R-Ill.) in late September, 1988.¹⁴² This bill would provide for export of solid waste only in accordance with an international agreement to which the United States was a party.¹⁴³ Under House Resolution 5434, like Senate Bill 2598, the international agreement would have to provide for information exchange to assure that the waste be managed in accordance with environmental standards no less strict than those in RCRA. Also, similar to Senate Bill 2598, an exporter would have to register with the EPA.

B. Analysis of U.S. Legislative Options

There are three options regarding the U.S. hazardous waste export policy that should be considered.¹⁴⁴ One option is to simply maintain the RCRA and EPA regulations that are already in place, and tighten EPA enforcement of hazardous waste export according to the suggestions in the EPA Audit Report. However, even though this should result in significant improvements in the EPA program, the federal government will still be authorized to prevent an obviously inappropriate hazardous waste

136. *Id.*

137. 1988 Hearings, *supra* note 4, at 4 (testimony of Dr. William Y. Brown, Director of Environmental Affairs, Waste Management, Inc.).

138. H.R. 5018, 100th Cong., 2d Sess. (1988).

139. *Id.*

140. 15 U.S.C. §§ 2601-29 (1982).

141. H.R. 5018, 100th Cong., 2d Sess. (1988).

142. H.R. 5434, 100th Cong., 2d Sess. (1988).

143. *Id.*

144. 1988 Hearings, *supra* note 4, at 4 (testimony of Bonnie Ram, Bernard Schwartz Fellow in Energy and Environment, Federation of American Scientists).

shipment when the receiving country consents to the shipment.¹⁴⁵ Furthermore, wastes not considered hazardous by RCRA standards are not even subject to export regulation by the EPA.¹⁴⁶ In such a case, if the foreign country does not want the waste, the United States would be unable to respond.¹⁴⁷ In addition, efforts to maintain the status quo would substantially impair our ability to participate in prospective international agreements because of this lack of authority to prohibit hazardous waste exports.¹⁴⁸ These shortcomings demonstrate the urgent need to alter our hazardous waste export policy before it becomes a foreign policy liability.

A second policy option provides for additional regulation that would require permits (Senate Bill 2598) or registration (House Resolution 5434), and an exchange of information assuring waste management in the receiving country no less stringent than United States standards. Besides the foreign policy liabilities if something goes wrong, another problem with this approach is that, in effect, the United States may be "certifying" that the hazardous wastes will be managed properly in a receiving country if we approve the export.¹⁴⁹ If the Administrator of the EPA determines that the export and disposal can be done in an environmentally safe manner, and it is not, the United States might be held responsible. Most receiving countries will attempt to hold the U.S. government responsible for any problems created by private U.S. firms.¹⁵⁰ Further, the United States may be held morally responsible for any damage caused by waste generated by U.S. companies and disposed of in a third-world country, regardless of whether that government consented to receiving the waste.¹⁵¹ Prior consent would not protect the United States from at least some portion of the blame, but the United States would almost certainly be expected to help solve the problem.¹⁵²

The U.S. government must also consider the effect of the revelation of hazardous waste export on the importing countries' governmental stability. Revelation of such exports from the United States may cause adverse political reaction or possibly social upheaval within the importing

145. *Id.*

146. *See Id.* at 4 (testimony of Dr. Frederick Bernthal, Assistant Secretary of State for Oceans, International Environmental and Scientific Affairs).

147. *Id.* at 10.

148. *Id.* at 9.

149. Developing countries want to place responsibility on the exporting country to evaluate the adequacy of the disposal facility in the importing country. They want the exporting country to ban the export if it determines the facility is inadequate. By allowing an export, the United States would, in effect, be certifying that the facility was adequate. *See 1988 Hearings, supra* note 4, at 7 (testimony of Sheldon Meyers, Acting Associate Administrator for International Activities, U.S. Environmental Protection Agency).

150. *Id.* at 7; *see also supra* notes 35-40 and 44-46.

151. *Id.* at 7.

152. *Id.* at 8.

country. In addition, the revelation may increase anti-American sentiment within the receiving country and increase the power of anti-American factions within the importing country, which could escalate and possibly result in the ouster of the friendly government.¹⁵³

Another difficulty with this approach is its demand for a sophisticated international inspection program, feasibility studies conducted in developing countries, and possibly public hearings in the United States.¹⁵⁴ As stated by Harry Seraydarian, Director of the Toxics Division of the U.S. EPA office in San Francisco, regarding Mexican problems with wastes exported from the United States, "[t]he dilemma is that we've got enough problems on this side."¹⁵⁵ Indeed, as the EPA Audit Report concluded, the EPA's program to control hazardous waste exports needs revision.¹⁵⁶ To embark on such a complex international program would surely require more resources, manpower and funding. In this case, the U.S. government would probably be using valuable resources for marginal effects, especially in light of the small volume and extent of waste traffic to developing countries at this time.¹⁵⁷

The costs of such regulation would be significantly greater than present funding levels, but the cost the government may incur to clean up an aborted disposal site in a developing nation could be staggering. For example, the average costs to clean up a "Superfund" site in the United States is approximately ten million dollars.¹⁵⁸ This cost could be significantly higher if the technology must be exported to a developing country before cleanup.

153. For example, the discovery of the importation of hazardous waste from Italy by Lebanese Christians has sparked controversy between Moslems and Christians and between Christian factions in Lebanon. *Another Way to Die in Lebanon—Poison Waste*, Hous. Post, Nov. 24, 1988, § B, at 1, col. 1.

154. *1988 Hearings*, *supra* note 4, at 4 (testimony of Bonnie Ram, Bernard Schwartz Fellow in Energy and Environment, Federation of American Scientists).

155. *U.S. Wastes*, *supra* note 62, at 3, col. 4; *see, e.g.*, Warshauer & Stansel, *Analyzing the Relationship Between the Civil, Governmental, and Criminal Obligations and Liabilities for Hazardous Waste*, 22 TORT & INS. L.J. 37, 47 (1986) (The EPA estimated there are 32,000 to 51,000 hazardous waste sites in this country of which 1,200 to 2,000 could pose potential danger to human health or the environment.) (citing an Apr. 24, 1981 report by the Comptroller General of the United States on hazardous waste sites); Note, *Legal Incentives for Reduction, Reuse, and Recycling: A New Approach to Hazardous Waste Management*, 95 YALE L.J. 810, 811, 816 (1986) (In 1982, the EPA stated that 347 hazardous waste sites pose direct threats to drinking water supplies and an Office of Technology Assessment (OTA) Report stated that 29% of underground drinking water supplies for 954 cities are contaminated. In addition, the OTA Report stated that to clean up the approximately 10,000 presently uncontrolled hazardous waste sites will cost several hundred billion dollars as compared to the \$1.6 billion in the "Superfund.").

156. *See generally* EPA Audit Report, *supra* note 50.

157. *1988 Hearings*, *supra* note 4, at 5 (testimony of Bonnie Ram, Bernard Schwartz Fellow in Energy and Environment, Federation of American Scientists).

158. Hahn, *supra* note 2, at 203; *see, e.g.*, *Incentives for Reduction*, *supra* note 155, at 813 (The average cost to dispose of hazardous waste under RCRA requirements is \$90 per ton.

Another significant shortcoming of this approach is that it undermines the policy of reduction—the prevention of waste generation. Between thirty and eighty percent of hazardous waste entering landfills could be eliminated by reduction.¹⁵⁹ Exporting the wastes, especially to developing nations, provides a less costly alternative, thereby undermining efforts to implement reduction techniques.

In addition, the United States may experience a “boomerang effect” if the hazardous wastes are not managed properly.¹⁶⁰ In light of the United States’ two billion dollars of food imports, and since most developing nations are agriculturally-based economies, the “poison” could end up on “their dining room tables as well as ours.”¹⁶¹

Finally, another viewpoint asserts that exports of this nature violate Principle 21 of the 1972 Stockholm Declaration,¹⁶² which provides that each state is responsible for ensuring that activities within its control do not cause damage to the environment of other states. This point is arguable in the case of “equivalent standards” of waste management provided in this policy option. United States’ efforts to ensure that U.S. waste disposal standards are complied with in the receiving country should blunt arguments that assert that the export policy violates Principle 21.

On the other hand, the third policy option, banning all export of waste except where there are bilateral agreements already in place (House Resolution 5018), would alleviate many of the problems faced in the previous two options. This option would allow for recycling and reuse, as does option two, and promote waste reduction efforts. Foreign policy liabilities would not be a serious risk under this option as long as Customs and the EPA continue to work together to intercept illegal exports. In addition, high costs of implementation, bureaucratic expansion, and complex regulatory schemes would all be avoided under this option. Furthermore, the United States, already looked to as a leader in environmental protection, could set an example for nations of the world to follow by not exporting its garbage abroad.

Admittedly, waste generators may come under severe pressure in

The cost to clean up improperly disposed waste is approximately \$2,000 per ton. Some waste sites may cost as much as \$30 million to clean up.)

159. *Incentives for Reduction*, *supra* note 155, at 810 (citing Office of Technology Assessment, U.S. Congress, Pub. No. OTA-M-196, Technologies and Management Strategies for Hazardous Waste Control 6 (1983); *see also* Porterfield, *supra* note 1, at 341 (Reports estimate that the United States produces 400 million metric tons of waste per year—10 pounds per person per day. In contrast, Japan and Western Europe produce less per capita, because they are more efficient and more aware of waste problems. For example, all of Western Europe is estimated to produce 30-40 million metric tons per year.).

160. *1988 Hearings*, *supra* note 4, at 2 (testimony of Bonnie Ram, Bernard Schwartz Fellow in Energy and Environment, Federation of American Scientists).

161. *Id.*

162. *See, supra* note 101.

the short term to economically dispose of their wastes. Some amount of this cost must be borne by the waste generators. However, government should help to alleviate some of this burden, for example, by providing economic incentives for implementation of reduction technologies;¹⁶³ or, perhaps by allowing subsequent bilateral agreements on hazardous waste exports only with other industrialized nations. In this situation, the costs and risks could be shared equally, and there would be a more reasonable expectation of environmentally sound compliance.

VII. CONCLUSION

As the tide of hazardous waste exports to third world nations rises, the risks of environmental, human health, and foreign policy catastrophes increase. International cooperation is needed to assure that proper hazardous waste management techniques are employed. If the trade in waste continues on a global scale, an expensive, complex international regulatory scheme will be required to achieve the goal of proper waste management. The United States can show initiative and leadership by enacting House Resolution 5018, and banning such exports to foreign nations. By doing so, the United States avoids foreign policy entanglements, high costs of implementing a complex regulatory scheme and promotes technology to reduce waste generation. The economic pressures faced by waste generators in such a scheme could be partially offset by creating incentives for reduction, recycling, or reuse, or allowing subsequent bilateral agreements for waste disposal with other industrialized nations.

Danny Worrell

163. See generally *Incentives for Reduction*, *supra* note 155.