

EXTENDED PRODUCER RESPONSIBILITY: A TOOL FOR ACHIEVING SUSTAINABLE DEVELOPMENT

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I. INTRODUCTION

“We have to abandon the old standard of mere profitability, productivity, or efficiency and realize that--in the terms of the grant to us of the use of the world--we have other standards to meet . . . We have the right to use--but not use up--the things that we need and are dependent upon.”¹

The major environmental problems that the world currently faces such as deforestation, loss of biodiversity, ozone depletion, global climate change, pollution and over-consumption of natural resources directly impact our ability to develop our economies while at the same time sustaining the health of people as well as plants and animals. Trade, labor and environment are inseparable, critical elements of an equitable international trade system. The development of international trade without due consideration for social and environmental issues forms the basis for most criticisms of globalization.

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1. Jack Jezreel, *Care for the Earth is a Local Call: Jack Jezreel interviews Wendell Berry*, US Catholic (June 1999), <http://www.uscatholic.org/1999/06/cov9906.htm>.

Scholars have long recognized the interdependence of economic, environmental and social factors as a triangular relationship. The first clear enunciation of this interdependence came as the result of a report commissioned by the United Nations Commission on Economic Development known both as the Brundtland Report and *Our Common Future*.² This report defined the term “Sustainable Development” as “development which meets the needs of the present without compromising the ability of future generations to meet their own needs.”³ This paper examines a policy mechanism known as extended producer responsibility (“EPR”) as a method of integrating sustainable development principles into international trade based on an international environmental law principle known as the Polluter Pays Principle. This paper also seeks to explore the different proponents of EPR and how these groups influence each other in the context of international trade. In the United States (“US”), industry is implementing EPR mechanisms while in the European Union (“EU”), the impetus comes from the government. Prior to addressing the EPR case study, a timeline for the history of sustainable development and two major trade regimes, the North American Free Trade Agreement (“NAFTA”) and the World Trade Organization (“WTO”) will be presented to give the reader a context for understanding how EPR can fit into the current environmental and trade law regime.

II. BACKGROUND

A. *Pre-Earth Summit*

As early as the 1972 United Nations Conference on the Human Environment held in Stockholm, environmental awareness has been a priority of the international community who recognized that economic security and development are directly tied to the health of the environment. At Stockholm, the Declaration of the United Nations Conference of the Human Environment, which is commonly referred to as the Stockholm Declaration, was adopted.⁴ Principle 21, which holds a state responsible for harm originating in that state which harms another state, is the most famous of the Stockholm Declaration principles and has been deemed customary international law.⁵ Besides the Stockholm Declaration, the most

2. World Commission on Environment and Development, *OUR COMMON FUTURE* (Oxford University Press 1987).

3. *Id.*

4. Stockholm Declaration, Adopted by U.N. G.A. Res. 2998 of December 15, 1972, UN Doc A/CONF.48/14 (1972).

5. *Id.* at Principle 21.

important outcome of the Stockholm conference was the formation of the United Nations Environmental Program (UNEP), which still functions today.⁶

In the mid-1980's policy makers determined that though the Stockholm Declaration and the formation of the UNEP had started the path towards addressing economic, environmental, and social issues, many issues still had not been addressed. After the publication and adoption by the UN of the Brundtland Report, the UN General Assembly passed a resolution in 1989 to convene the Earth Summit in 1992 to re-affirm the Stockholm Declaration, to chart a pathway for implementation of sustainable development principles, to address biological diversity issues, climate change problems, and deforestation.⁷

B. Earth Summit — Rio de Janeiro, Brazil

In 1992, the United Nations Conference on Environment and Development, also known as the Earth Summit, was held in Rio de Janeiro on the twentieth anniversary of the Stockholm Declaration. Representatives from 172 nations attended the conference along with many non-governmental groups never before allowed to participate in a UN event of this type. The Rio Declaration, an aspirational, non-binding document was signed at the Earth Summit.

This Declaration reaffirmed the principles of the Stockholm Declaration and added some additional principles to insure the integrity of the global environment.⁸ The Rio Declaration contains 27 principles. Principle 3 outlines the principle of sustainable development: "The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations."⁹ Also relevant to the topic of this paper is Principle 16, known as the Polluter Pays Principle, which reads: "National authorities should endeavor to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to

6. Shanna L. Halpern, *The United Nations Conference on Environment and Development: Process and Documentation*, <http://www.ciesin.org/docs/008-585/unced-intro.html>.

7. The Decision of the General Assembly to convene the United Nations Conference on Environment and Development (A/RES/44/228-85 of 22 December 1989).

8. Rio Declaration on Environment and Development, June 13, 1992, U.N. Doc.A./CONF.151/26 (1992).

9. *Id.* at Principle 3.

the public interest and without distorting international trade and investment.”¹⁰

Four other instruments were developed at the Earth Summit: the United Nations Convention on Biological Diversity,¹¹ the United Nations Framework Convention on Climate Change,¹² a non-binding statement regarding Forest Conservation and Agenda 21. Most relevant to this paper, is Agenda 21, which in forty chapters attempted to construct a comprehensive plan for putting sustainable development into place by the inception of the 21st Century. The United Nations General assembly created the Commission on Sustainable Development to implement Agenda 21.

C. Post-Earth Summit

Two major international trade agreements were negotiated following the Earth Summit: NAFTA and WTO. NAFTA created a free trade area for North America between Canada, Mexico and the United States and went into force on January 1, 1994. NAFTA has two side agreements — one addressing environmental issues and the other addressing labor issues. The environmental side agreement has no enforcement power and can only publish decisions.¹³ The labor side agreement on the other hand does have enforcement powers through a monetary system if an alternate action plan cannot be agreed upon.¹⁴ Despite these side agreements, NAFTA has not been considered to be effective in protecting environmental or labor rights.¹⁵

The WTO was created in January 1995 following the Uruguay Round negotiations which were held from 1986-1994. The preamble to the Marrakesh Agreement establishing the World Trade Organization¹⁶ recognized sustainable development as one of the goals of the WTO:

10. *Id.* at Principle 16.

11. Convention on Biological Diversity, June 5, 1992, 31 I.L.M. 818 (1992), <http://www.biodiv.org>.

12. United Nations Framework Convention on Climate Change, May 29, 1992, 31 I.L.M. 849, <http://www.unfccc.de/>.

13. North American Agreement on Environmental Cooperation between the Government of Canada, The Government of the United Mexican States, and the Government of the United States, 32 I.L.M. 1480 (1993).

14. North American Agreement on Labor Cooperation between the Government of Canada, The Government of the United Mexican States, and the Government of the United States, 32 I.L.M. 1480 (1993).

15. See The Public Citizen Website, <http://www.citizen.org/trade/nafta/index.cfm>.

16. Marrakesh Agreement Establishing the World Trade Organization, Apr. 15, 1994 (LT/UR/A/2), <http://www.wto.org>.

Recognizing that their relations in the field of trade and economic endeavour should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of **sustainable development**, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development.¹⁷

The WTO has been criticized for failing to fully consider the social, cultural and environmental impacts of the trading regime.¹⁸ Indeed, the WTO does not have an agreement addressing environment or social/labor issues. However, the Dispute Settlement Understanding (“DSU”), which prescribes the procedure for resolving WTO disputes, allows for the panels to consider customary international law in making decisions.¹⁹ In addition, the Agreement on the Application of Sanitary and Phytosanitary Measures (“SPS Agreement”) allows Member States to adopt or enforce measures necessary to protect human, animal or plant life or health, subject to the requirement that these measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between Member States where the same conditions prevail or a disguised restriction on international trade.²⁰ It remains to be seen where the WTO will stand on environmental and social issues but there are indications from the Appellate Body that they will uphold international environmental law principles if applied in a non-restrictive manner.

In addition to NAFTA and WTO, there have been two major UN conferences since the Earth Summit, as well as several local and regional meetings and agreements, to determine how to better implement sustainable development. In 1997, The Earth Summit +5 was held in New York. Prior to the Earth Summit +5 a number of goals proposed in Rio were met including the Global Conference

17. *Id.*

18. See The Public Citizen Website, <http://www.citizen.org/trade/wto/index.cfm>.

19. Understanding on Rules and Procedures Governing the Settlement of Disputes, Apr. 15, 1994 (LT/UR/A-2/DS/U/1), <http://www.wto.org>.

20. Agreement on the Application of Sanitary and Phytosanitary Measures, Apr. 15, 1994 (LT/UR/A-1A/12), <http://www.wto.org>.

on the Sustainable Development of Small Island Developing States (May 1994), the UN Convention on Desertification (which entered into force on 26 December 1996), the UN Agreement on Straddling and Highly Migratory Fish Stocks (opened for signing on 4 December 1995), and a UN Intergovernmental Panel on Forests to promote the sustainable management of forests worldwide. In addition, the two international legal agreements opened for signing in Rio — the Convention on Biological Diversity and the Convention on Climate Change — entered into force.²¹

The Earth Summit +5 did not achieve much in the way of concrete obligations. This lack of consensus was attributed mainly to the North-South differences on how to make sustainable development a reality and more fundamentally who was going to pay for it.²² A Statement of Commitment, rather than a declaration, was passed which reaffirmed the Rio principles and renewed commitment to Agenda 21.

The World Summit on Sustainable Development (WSSD) was held in Johannesburg, South Africa from August 26-September 4, 2002. Many people are frustrated that ten years after Rio there has been little progress towards achieving sustainable development. This lack of progress was foreshadowed by Earth Summit +5 and the inability of the nations present to agree to any new concrete obligations. The WSSD was touted as an implementation-based conference²³ despite the fact that there were no new agreements or treaties passed at the WSSD.²⁴ “But some important new targets were established, such as: to halve the proportion of people without access to basic sanitation by 2015; to use and produce chemicals by 2020 in ways that do not lead to significant adverse effects on human health and the environment; to maintain or restore depleted fish stocks to levels that can produce the maximum sustainable yield on an urgent basis and where possible by 2015; and to achieve by 2010 a significant reduction in the current rate of loss of biological diversity.”²⁵ There were many partnerships set up at the WSSD between governments, non-governmental organizations and the private sector. Significantly, Summit Secretary-General Nitin Desai “warned, however, that the partnerships were not a substitute for government responsibilities and commitments and that the

21. UN Commission on Sustainable Development, Earth Summit +5 Press Release, <http://www.un.org/ecosocdev/geninfo/sustdev/es&5broc.htm>.

22. UN Commission on Sustainable Development Press Release, Earth Summit Review Ends with Few Commitments, <http://www.un.org/ecosocdev/geninfo/sustdev/es5final.htm>.

23. WSSD Website, The Johannesburg Summit Test: What Will Change?, http://www.johannesburgsummit.org/html/whats_new/feature_story41.html.

24. *The bubble-and-squeak summit*, The Economist, September 7, 2002, 69-70.

25. WSSD Website, *supra* note 23.

partnerships are solely intended to deepen the quality of implementation.”²⁶ However, these partnerships may have more impact than any new declarations; in fact, some delegates called for this summit to be the end of big world conferences on sustainable development.²⁷ Rather, “smaller, more focused meetings” should follow this summit.²⁸

This emergence of partnerships on the international stage has some worried that corporations will continue to exert power over developing countries. As non-state actors, how can the international law regime hold these corporations responsible for their actions? The simple answer would be through their country of origin but in this age of globalization and multi-national corporations it is sometimes difficult to determine which country is the country of origin. Additionally, if the country of origin turns out to be the United States it may have a chilling effect since the United States has failed to live up to many of the principles set forth in the Rio Declaration, the Convention on Biological Diversity and the Climate Change Convention. It is no wonder that governments of developing nations are looking to non-governmental organizations and private industry to help them fulfill their responsibilities.

There is one saving grace though — as much of the world outside of the United States attempts to bring protocols such as Kyoto into force new world leaders in environmental protection are emerging. For example, the European Union has largely stepped in to fill the leadership gap and is now leading the way in climate change, energy and waste management. In addition several Asian countries, such as Japan and Taiwan, have put EPR programs into place.

The unwillingness of other countries to allow the US to scuttle the development of international environmental law regimes could have a positive impact on the US and international trade by default. As US companies that operate in these countries have to comply with other nations’ domestic environmental law regimes, some of these good practices may be imported back into the US. In addition, US companies that want to gain a hold in the global market have realized that though environmental laws may not be all that important in the US under the current administration, they are important outside of the US. If US corporations want to participate fully in the global market, these companies will have to abide by the sense of environmental ethics expressed by other nations. Therefore, many US companies participate in organizations such as the World

26. *Id.*

27. *The bubble-and-squeak summit, supra note 24.*

28. *Id.*

Business Council on Sustainable Development, CERES, the Sustainable Business Network, and adhere to ISO 14001 principles.

There is a legitimate danger of some corporations taking advantage of these organizations when in fact they are really engaging in anti-community and anti-environmental actions.²⁹ However, there are some very good examples of companies such as Levi-Strauss Co, Patagonia, Dupont, and Ford, which legitimately participate in these organizations and programs. Another problem is when US companies do business with developing nations that do not have good environmental laws in place or cannot enforce such laws. We must ask ourselves, "Do we realize that industry, which has been our good servant, might make a poor master?"³⁰

US companies have been known to take advantage of countries with law environmental enforcement and leave a trail of environmental destruction.³¹ Therefore, it is necessary to have both an international law regime, and a compatible domestic law regime, to keep multi-national corporations in compliance with environmental laws. Otherwise, these companies may not be accountable to anyone. We cannot vote them out of office. It is the government's responsibility to maintain control over companies that are chartered in their jurisdiction. One example of how a government's environmental regime can influence US companies to take action is through EPR programs.

III. EPR CASE STUDIES

EPR utilizes the Polluter Pays Principle from the Rio Declaration to extend responsibility for a product throughout the product's lifecycle rather than just up to the time of sale when the responsibility would normally transfer to the consumer. In the US, EPR is known as extended product responsibility to emphasize that the responsibility is shared — the producer is not the only responsible party but also the packaging manufacturer, the consumer and the retailer.³² In this paper, EPR will refer to both extended product and producer responsibility with the understanding that both the EU and US consider the responsibility to be shared.

29. For more information about "green washing" visit <http://www.corpwatch.org>.

30. Aldo Leopold, *A PLEA FOR WILDERNESS HUNTING GROUNDS* (1925).

31. See *Savages* by Joe Kane (Alfred A. Knopf, 1995). This book tells the story of the Huaroni Indians v. Texaco and builds on two articles published in the New Yorker, Joe Kane, "With Spears from All Sides," *THE NEW YORKER*, Sept. 27, 1993, at 54-79 and Joe Kane, "Moi Goes to Washington," *THE NEW YORKER*, May 2, 1994, at 74-81.

32. Gary A. Davis, Catherine A. Wilt & Jack N. Barkenbus, *Extended product responsibility: a tool for a sustainable economy*, *Environment*, Sept 1997 at 10.

EPR was first instituted in Germany in 1991 by passage of the Ordinance on Avoidance of Packaging Waste.³³ At first EPR was thought to be an advanced type of recycling program but it is much more than that.³⁴ Ordinarily producers have no responsibility for their products after sale other than through tort and consumer advocate laws. Municipalities or consumers usually pay for disposal or recycling. Normally, manufacturers have no incentive to reduce their packaging or to insure that their products or packaging are easily recyclable. EPR turns this disincentive into an incentive to be environmentally efficient. EPR encourages producers to package their products in easily recyclable materials, and more importantly, encourages producers to design their products out of materials that can be broken down and recycled without hazardous effect.

There are, of course, criticisms of EPR. In fact the 1991 German law has been criticized in three major ways: (1) It was too expensive because there was not enough recycling capacity in the country so materials were shipped out of the country primarily to Asian countries where it is unknown how they were ultimately disposed of; (2) It was too ambitious because it did not address the side effects of mandatory take-back schemes; and (3) It did not address the fundamental problem of consumption.³⁵ However, since this early attempt to address producer responsibility, refinements have been made, making the programs much more effective.

A. Government Driven EPR: The European Union & Waste Electrical and Electronic Equipment

The European Commission adopted a proposal for the Directive on Waste Electrical and Electronic Equipment (WEEE) and a proposal for a Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment on June 13, 2000.³⁶ As of November 8, 2002, a new draft has been made of the WEEE Directive, which will likely be published as part of the EC statutes by March 2003.³⁷ The Commission found that more than 90% of WEEE products are directly land filled without any pre-treatment.³⁸

33. Nigel Foster, *GERMAN LAW AND LEGAL SYSTEM* 150 (1993).

34. James Salzman, *Sustainable Consumption and the Law*, 27 *ENTL* 1243 (1997).

35. *Id.* at 1277.

36. European Commission Press Release, *Commission tackles growing problem of electrical and electronic waste*, June 13, 2000 (IP/00/602) accessed at http://europa.eu.int/rapid/start/cgi/guesten.ksh?p_action.gettxt=gt&doc=IP/00/602|0|RAPID&lg=EN.

37. Dr Mark Downs, Head, Recycling Policy and Producer Responsibility, UK Department of Trade and Industry, *WEEE Update* Oct. 15, 2002 accessed at http://www.dti.gov.uk/support/weee_update.pdf.

38. *Id.*

Based on the Polluter Pays Principle, the WEEE directive will make producers responsible for taking back and recycling their WEEE products at no cost to consumers.³⁹ Therefore, this directive provides an incentive for producers to design their products taking into consideration the life cycle of their products. The WEEE Directive has been carefully designed over several years to encompass all essential parts for a successful, modern government driven EPR program. Since the WEEE Directive has not gone into force yet, it is impossible to tell how successful this program will be. It is hopeful though, because as described below, the WEEE directive contains essential legal elements and grants enforcement power. In part two of this section, potential impacts on international trade and the global environment will be analyzed.

1. WEEE Directive Legal Elements

The WEEE Directive has several specific articles to make the EPR system functional based on lessons learned from early EPR programs. Specifically the WEEE Directive is holistic in nature addressing each of the following essential areas: product design, collection, treatment, recovery/reuse/recycling, financing, and information. Article 4 addresses product design.⁴⁰ Member States shall encourage producers to design products taking into account that the product will be eventually recovered or dismantled. Designs should not defeat this purpose unless there is an overriding health or safety reason.

Article 5, which applies to all WEEE categories, requires the Member State to organize separate collection of WEEE.⁴¹ In addition, if a distributor supplies a new product, they must take back a similar WEEE free of charge provided it is not contaminated. Producers, or their third party designees, are required to arrange WEEE collection for non-private consumers.

39. *Id.* The objectives of the proposed Directive on Waste Electrical and Electronic Equipment (WEEE) are: 1. the prevention of waste electrical and electronic equipment; 2. to increase re-use, recycling and other forms of recovery thereby contributing to a higher level of environmental protection and encouraging resource efficiency; 3. to improve the environmental performance of all operators involved in the life cycle of electrical and electronic equipment, particularly those involved in the treatment of WEEE. United Kingdom Department of Trade and Industry, EPR Directive Summary, accessed at <http://www.dti.gov.uk/support/summary.htm>.

40. Directive of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE), Draft dated November 8, 2002, accessed at http://www.dti.gov.uk/support/weee_text.pdf at Article 4. [Hereinafter WEEE Directive].

41. *Id.* at Article 5.

Treatment for all WEEE categories is addressed in Article 6.⁴² Article 6 specifies that producers, or their third party designees, are required to establish systems for WEEE treatment. Treatment procedures must be the best available. Article 6 specifies that if material is exported out of the community that it must be certified to meet the standards under the WEEE directive in order to be counted towards the required quota.

WEEE recovery and reuse is addressed in Article 7.⁴³ Article 7 outlines specific goals for each WEEE category and also the dates by which the targets should be met. Member States shall encourage the development of new technologies for recovery and reuse.

WEEE financing is addressed in Article 8, "Member States shall ensure that 30 months after the entry into force of this directive that producers are financing the collection, the treatment, recovery and environmentally sound disposal of WEEE from private households deposited at collection facilities."⁴⁴ Holders of WEEE from private households must be able to return such waste free of charge. Producers may comply by means of collective or individual systems. For products placed on the market before the producers' financing obligation enters into force, all existing producers must share the costs of financing. Article 9 addresses WEEE from users other than private households. The financing of the costs is the responsibility of the producers, although the Directive does allow for other agreements stipulating other financing methods.⁴⁵

Information requirements are outlined for consumers in Article 10,⁴⁶ for treatment facilities in Article 11,⁴⁷ and reporting requirements in Article 12.⁴⁸ Household consumers must be given certain information such as how to return a WEEE and what type of collection systems exist. Producers must place the specific symbol from the WEEE Directive on their products (a crossed-out garbage can). Producers must also provide certain information to treatment facilities, for example to identify different components and materials in the equipment. Member States must provide information about equipment put on the market, collected and recycled, and information on their implementation of the Directive.

42. *Id.* at Article 6.

43. *Id.* at Article 7.

44. *Id.* at Article 8.

45. *Id.* at Article 9.

46. WEEE Directive at Article 10.

47. *Id.* at Article 11.

48. *Id.* at Article 12.

2. *WEEE Directive Potential Impact on the International Environment, and Trade (and People too)!*

*We travel together, passengers on a little spaceship,
dependent upon its vulnerable reserves of air and soil,
all committed for our safety to its security and place,
preserved from annihilation only by the care, the work
and, I will say the love we give our fragile craft.*

*We cannot maintain it half fortunate, half miserable,
half confident, half despairing, half slave to the
ancient enemies of mankind and half free in a
liberation of resources undreamed of until this day.
No craft, no crew, can travel safely with such vast
contradictions. On their resolution depends the
security of us all.*

Adlai Stevenson, July 1965

As usual, the issues of international trade, the environment and human health are inseparable. As the EU gets ready to enact the WEEE Directive, and other countries in Asia have begun to operate "Take-Back" schemes, a global market has developed in dealing with WEEE. As discussed above, the WEEE Directive is a government EPR program that utilizes the Polluter Pays Principle and makes the producer responsible, at no cost to the consumer, for treatment, reuse or recycling of WEEE. On their own initiative, several US companies such as IBM, HP and Dell have started their own "Take-Back" programs for WEEE adding to the global market for WEEE disposal.⁴⁹ However, the US programs differ significantly from the government programs because the consumer must pay for disposal. However, what will happen to these US companies once the WEEE directive enters into force? Each company producing EEE that imports into the EU must comply with the WEEE directive. Therefore, these companies will have to pay for this themselves while still requiring US consumers to pay for recycling or treatment before disposal.

Does the WEEE directive violate the GATT? On its face the WEEE directive could be interpreted as violating the GATT because

49. *Dell offers recycling option to consumers*, ENN News, Oct. 31, 2002, accessed at http://enn.com/news/enn-stories/2002/10/10312002/s_48826.asp; *HP Planet Partners program* accessed at <http://www.hp.com>; *IBM to debut Computer Recycling*, ENN News, 11/14/2000 accessed at http://enn.com/news/wire-stories/2000/11/11142000/ap_ibmrecycle_40178.asp.

requiring the producer to pay for treatment is a tariff. However, the EU has been very careful to ensure that there is valid science to back up the human health and environmental basis for the WEEE Directive. As such, the WEEE Directive will comply with the requirements of the SPS Agreement⁵⁰ in addition to Article XX of the GATT.⁵¹ In addition, all producers must meet the WEEE Directive requirements, so there is no violation of the national treatment obligation. Therefore, it is unlikely that US companies will be able to avoid compliance with the WEEE Directive through WTO invalidation. If US companies producing EEE want to engage in the EU market, they will have to comply with the WEEE Directive just like all the European companies.

There is another element to the WEEE issue that was touched upon in Article 6 of the WEEE Directive. Materials that are exported outside of the EU for treatment must meet the standards set out in the WEEE Directive such as use of best available treatment methods if they are to be counted towards the target goals for WEEE recovered. This provision is an important safeguard for ensuring that the health and environment of a foreign country is not negatively impacted by exportation of hazardous waste. There are multiple treaties dealing with the actual cross-boundary transport of hazardous waste but none to date dealing with material that will be recycled or recovered. As a result, several developing nations have begun to see serious health and environmental consequences of improper disposal of WEEE.

China serves as a good example to discuss in this context.⁵² China is a popular destination for WEEE because of the significantly lower costs due to cheap labor and lower environmental standards.⁵³ Consequently, there is illegal importation of "foreign garbage."⁵⁴ China's ability to import WEEE for less money has given it a competitive advantage for the small price of environmental

50. Agreement on the Application of Sanitary and Phytosanitary Measures, GATT Doc. MTN/FA II-A1A-4, (Dec. 15, 1993).

51. GATT 1947 Article XX in *The Results of the Uruguay Round of Multilateral Negotiations - The Legal Texts* 519 (WTO 1994).

52. Catherine K. Lin, Linan Yan & Andrew N. Davis, *Globalization, Extended Producer Responsibility and the Problem of Discarded Computers in China: An Exploratory Proposal for Environmental Protection*, 14 *Geo. Int'l Env'tl. L. Rev.* 525 (2002).

53. *Id.* at 528. According to a recent study, the cost of recycling a computer is approximately U.S. \$ 0.38 per pound in the United States, but only U.S. \$ 0.15 to U.S. \$ 0.30 per pound overseas, including all costs. One U.S.-based company claims that it can recycle computers in China for U.S. \$ 0.05 per pound. Other reports suggest that extracting metals from electronic scraps costs about U.S. \$ 2.00 per day per worker in China. *Id.* at 533.

54. *Id.*

degradation and major health risks.⁵⁵ This is the materialization of the oft-quoted, “race to the bottom.”

People preach to China the gospel of globalization when they want to share its huge market, but demonize it when the same process turns China into a formidable competitor. . . . If one embraces globalization, one has to endure the suffering that goes with it.

Yang Fan, a Chinese economist.⁵⁶

The EU WEEE Directive is designed to address the “race to the bottom” by requiring that exported waste be treated as specified by the WEEE Directive. In order to receive EU WEEE, China will have to meet the EU standards for treatment. This will likely have a positive outcome on the economic, environmental and social elements of international trade. China’s economy will benefit because China will be able to raise their prices for enhanced WEEE treatment services in line with the WEEE Directive while continuing to maintain a competitive advantage due to low labor costs. By adhering to EU standards for treatment, China’s environment will necessarily benefit because standards will be followed which will enhance protection of natural systems. Consequently, the people of China will benefit because they will not be forced to breath toxic air, drink toxic water and grow their food

55. *Id.* at 553-54. For example, in Guiyu Township, Guangdong Province where residents and migrant laborers have conducted extensive computer scrapping, water in local rivers and lakes and even groundwater turned brown and became non-drinkable. Residents had to buy drinking water for drinking for the past five out of the six years that Guiyu has been engaged in computer scrapping. Military conscription centers failed to find young people physically qualified for enlistment. Many residents contracted pneumonia. Some female workers were reported to have had dark colored amniotic fluid and had given birth to babies with pitch-black skin. Analysis of sediment samples taken from Guiyu by the advocacy group Basel Action Network (“BAN”) showed severe contamination, including as much as: 1,330 parts per million (“ppm”) of barium (as compared to the Soil Screening Benchmark established by Region IV of the U.S. EPA of 165 ppm for barium; comparable EPA standards are shown in parentheses after each analytical parameter); 70,000 ppm of chromium (370 ppm); 20, 300 ppm of copper (40 ppm); 49,900 ppm of iron (200 ppm); 23,400 ppm of lead (50 ppm); and 11,400 ppm of zinc (50 ppm). Surface water samples taken by BAN tell the same story: 0.079 ppm of antimony (as compared to the U.S. EPA drinking water standard of 0.006 ppm); 0.01 ppm of cadmium (0.005 ppm); and 1.9 ppm of lead (0.015 ppm). BAN did not sample for the presence of dioxins or PAHs, therefore, the extent of contamination caused by the burning of plastics containing brominated fire retardants remains unquantified at this time. On the other hand, BAN was able to identify among the scrap piles labels identifying the discarded PCs as originally belonging to a number of private companies and government agencies located in the United States. *Id.*

56. *Id.* at 546.

in toxic soil. The EU's WEEE Directive actually implements sustainable development by allowing economic growth within environmental constraints.

Conversely, US companies' voluntary "Take-Back" programs often end up in developing nations in unlined landfills leaching harmful chemicals into the local water supply as described in footnote 55. Specifically, "both Hewlett-Packard's product recycling manager and the National Safety Council have intimated that the waste materials, including CRTs, that are sent to recyclers are eventually sold as mixed scrap to brokers who export in bulk shipments to China."⁵⁷ US companies are not held accountable for where their WEEE goes or how it is treated. Disposing of WEEE without any environmental controls is unethical, especially considering that consumers pay for this waste to be safely disposed of, not dumped on the ground of a developing country.

Government run EPR programs, such as the WEEE Directive, have the potential to make sustainable development a reality. First, the WEEE Directive creates an incentive for producers to eliminate hazardous substances from their products and to design them so that they can easily be disassembled or reused. Second, the WEEE Directive sets up mandatory goals for the Member States to reach for WEEE recovery and also requires the Member State to set up a collection system. Third, producers are financially responsible. Fourth, requirements are specified for treatment and recovery encouraging technological and scientific innovation. Finally, there is a provision that requires exported WEEE to meet the same requirements as EU treated WEEE in order to count toward the mandatory recovery goals. As discussed above, this protects developing countries from the "race to the bottom," and instead encourages them to use their comparative advantage without sacrificing the environment or the health of the population.

B. Industry Driven EPR: US Carpet Industry

In the United States, we do not have any federally driven EPR programs. However, we do have a tremendous example of how an industry can independently move towards sustainability through use of a voluntary EPR program. The US carpet industry has several major companies who have revolutionized the way that

57. *Id.* at 543-44, *Citing* Henry Norr, Drowning in e-Waste: Safe Disposal of Mountains of Old PCs, Monitors is a Snowballing Problem We've only Begun to Face, S. F. CHRON., May 27, 2001. *See also* NATIONAL RECYCLING COALITION, PROPER MANAGEMENT OF CATHODE RAY TUBES (CRTs), ELECTRONICS RECYCLING INITIATIVE, Jan. 13, 2000 at 8-11 (expressing same concern regarding state electronics recycling programs and shipping of CRTs to China for repair and recycling).

carpeting is imagined, designed, produced and reused. In order to understand how this revolution occurred, a case study of the forerunner of these companies, Interface, Inc. will be presented followed by an analysis of how EPR is being extended to other carpet manufacturers through a historic public-private partnership administered through a third party organization, Carpet America Recovery Effort (CARE). Finally, an analysis of how the US government could help facilitate the adoption of EPR in other industries will be discussed.

1. *Interface, Inc. Case Study*

*[W]e seem ultimately always thrown back on individual ethics as the basis of conservation policy. It is hard to make a man, by pressure of law or money, do a thing which does not spring naturally from his own personal sense of right and wrong.*⁵⁸

Interface, Inc. is a Georgia based company that manufactures carpeting.⁵⁹ They employ 7,000 people and sell over \$1.28 billion of products each year.⁶⁰ The person behind Interface's mission to become the first sustainable company is the company's founder and CEO, Ray Anderson. Mr. Anderson started asking some questions about his company's operations in 1996, and figured out some disturbing information. Anderson found:

Of the roughly 1.2 billion pounds (used to make a year's worth of carpets), I learned that about 400 million pounds was relatively abundant inorganic material, mostly mined from the Earth's lithosphere (its crust), and 800 million pounds was petro-based, coming from either oil, coal, or natural gas. Now here's the thing that gagged me the most: roughly two-thirds of that 800 million pounds of irreplaceable, non-renewable, exhaustible, precious natural resources was burned up — two-thirds!⁶¹

Anderson knew that this type of exploitation of resources could not go on forever. He also knew that Interface had paid for those

58. Aldo Leopold, *Conservationist in Mexico*, *American Forests*, March 1937.

59. Interface, Inc. Website, <http://www.interfaceinc.com>.

60. Shareholder Value, Interface Inc., http://www.interfaceinc.com/goals/shareholder_value.html.

61. Ray C. Anderson, *MID-COURSE CORRECTION TOWARD A SUSTAINABLE ENTERPRISE: THE INTERFACE MODEL 4* (Chelsea Green Pub Co. 1999).

materials but he wondered if the market cost was reflective of what the costs really were to use those materials and burn them up, sending these precious resources into the atmosphere. Mr. Anderson made a decision about how Interface could address these environmental issues by applying industrial ecology principles and approaching all aspects of the company in a systematic manner.

The results are impressive. Interface has a leasing arrangement, where consumers purchase the use of the carpet, while Interface retains ownership. When the lease is up, Interface takes back the carpet and grinds it up to reuse. This arrangement creates a closed-loop EPR program. Initially, Interface technology was limited to using the old carpet as backing. Today, after continuous innovation and re-thinking, Interface has two products that are made from a very high percentage of recycled content. Terratex fabrics are 100% post consumer or post-industrial material while the Sabi product is a total product recycled content of 51% (29% post-industrial and 22% post-consumer).⁶²

Interface recognizes that there is still a very long road ahead to reach the goal of being a totally sustainable company by 2020.⁶³ However by setting up a voluntary EPR program, Interface has taken responsibility for their products throughout their life cycle. Interface takes back their used products from customers, designs their products to be recyclable and reusable at a very efficient rate, and structure their manufacturing process to incorporate recycled material. Most importantly, Interface continually re-evaluates their existing processes and materials to be more efficient and more innovative. It is clear that the impetus behind this company's goal to be an environmentally sustainable company is its founder Ray Anderson. What about companies that are not led by such determined and visionary people?

2. Memorandum of Understanding for Carpet Stewardship

In the absence of individual ethics, Interface has also proven that being sustainable is also lucrative. Therefore other companies are falling in step with sustainability to maintain their competitive edge. As proof, in January 2002, a historic voluntary agreement was signed between the carpet industry, state governments, the U.S. Environmental Protection Agency, and non-governmental organizations (NGOs).⁶⁴ This agreement is known as the

62. Goals, Interface, Inc, <http://www.interfaceinc.com/goals/>.

63. *Id.*

64. EPA National Carpet Recovery Agreement, <http://www.epa.gov/epr/products/cagreement.html>.

Memorandum of Understanding for Carpet Stewardship (MOU).⁶⁵ MOU sets a national goal of diverting 40 percent of carpet from landfill disposal by 2012.⁶⁶ This goal is to be met by a combination of methods including reuse, recycling, cement kilns and waste to energy.⁶⁷ The long-term goal is to entirely eliminate landfill disposal of carpets.⁶⁸

To facilitate the MOU goals, a third party organization has been established called the Carpet America Recovery Effort (CARE).⁶⁹ CARE is funded by the carpet industry and has several goals:

Enhance the collection infrastructure for post-consumer carpet.

Serve as a resource for technical, economic and market development opportunities for recovered carpet.

Develop and perform quantitative measurement and reporting on progress toward the national goals for carpet recovery.

Work collectively to seek and provide funding opportunities for activities to support the national goals for carpet recovery.⁷⁰

In addition, CARE is responsible, along with carpet industry members and applicable government entities, “for monitoring, assessing and reporting on the progress toward the national goals for carpet recovery as agreed upon in the MOU.”

3. Opportunities for US Government EPR Program Development

The US carpet industry has created for itself what the EU hopes to achieve with the WEEE Directive for the Electronics Industry. If all industries and companies were fortunate enough to have a visionary as a leader, we would not need government intervention. Unfortunately, the reality is that there are not enough visionaries

65. *Id.* Full text of the Memorandum of Understanding for Carpet Stewardship is accessible at <http://www.carpetrecovery.org/about/020108-MOU.pdf>.

66. *Id.*

67. *Id.*

68. *Id.*

69. Carpet America Recovery Effort Website, <http://www.carpetrecovery.org/>.

70. About CARE, <http://www.carpetrecovery.org/about/index.asp>.

like Ray Anderson in such an influential position in the industrial sector. So what can be done?

The government can give support to the development of more industry based EPR programs. After inspiration from the EU, the EPA is assisting with the development of the National Electronics Product Stewardship Initiative (NEPSI).⁷¹ NEPSI has met several times since its inception in 2001 with “representatives from electronics manufacturers, government agencies, environmental groups, and others.”⁷² NEPSI is focused on developing a method to finance a system to maximize the reuse and recycling of used TVs and PCs.⁷³ NEPSI is not scheduled to meet again until 2003.⁷⁴

For example, Senator Jeffords introduced legislation on Earth Day 2002 called the National Beverage Producer Responsibility Act, S. 2220.⁷⁵ The Act sets a goal of 80% recovery for the beverage industry that is currently achieved in states with bottle bills.⁷⁶ In order to allow maximum room for innovation, the Act allows the industry to determine how to meet those goals rather than dictating a specific methodology.

For an EPR program to be effective and gain public confidence, government involvement is likely needed. This is because an effective EPR program has a plethora of elements many of which would be difficult for an industry group to perform while maintaining public confidence. Required EPR program elements include promulgation of technical standards, provision of incentives to participate as well as to continually reevaluate manufacturing processes and materials, dissemination of information to consumers and treatment facilities, maintain accountability for end products, perform monitoring and program re-evaluation.

For the government to maintain an EPR program with all of these elements would take a systematic commitment to sustainable development. The US has committed itself to sustainable development through many treaties such as the WTO, NAFTA and the Rio Declaration. However, due to the composition of the current administration, it is unlikely that resources will be given to the EPA or any other agency to pursue a government leadership role for developing new EPR programs. Therefore, for now it is probably best for EPA to continue to support industry groups who want to

71. EPA NEPSI website, <http://www.epa.gov/epr/products/nepsi.html>. See also the NEPSI website <http://eerc.ra.utk.edu/clean/nepsi/>.

72. *Id.*

73. *Id.*

74. *Id.*

75. EPA Product Stewardship Website, The National Beverage Producer Responsibility Act, <http://www.epa.gov/epr/products/pfed.html#bev>.

76. National Beverage Deposits, <http://www.grn.org/beverage/jeffords/index.html>.

start their own EPR programs. This support can be as simple as assisting with dissemination of consumer information and technical standards. In addition, through RCRA, EPA can help to encourage recycling and reuse by giving incentives to industries that engage in legitimate EPR programs. For example, EPA should maintain information through company self-reporting about where a product destined for recycling actually ends up. This would help instill public confidence in situations such as the WEEE disposal issue in China by US companies who were paid to safely dispose of used computers. EPA could do this by rulemaking under RCRA. Government involvement would definitely lend consumer confidence to EPR programs, in addition to providing valuable industry based incentives. However, until the US is politically able to be the leader in implementation of EPR programs, relevant agencies should, through their existing statutory mandates, assist industry groups who wish to develop their own voluntary EPR programs.

IV. CONCLUSION

Sustainable development has been a guiding principle for the international community since the 1992 Earth Summit. EPR is a valuable tool for achieving sustainable development because it creates economic, environmental and social benefits. In addition, major trade agreements such as NAFTA and WTO contain references to sustainable development.

The EU has developed a WEEE Directive, which seeks to build on the first EPR programs by building in mechanisms for accountability, and transparency, which will ensure that WEEE is disposed of safely regardless of the location of the last resting place. This element will encourage heightened environmental standards in developing nations, such as China, that often become the last stop for WEEE. Heightened environmental standards will positively enhance the health of local populations that have been dealing with the environmental consequences of untreated WEEE. Finally, the economy of developing nations will benefit because they will still maintain their competitive advantage based on low labor costs and available facilities while protecting their environment and human health.

In contrast, the US has no government driven EPR programs. Instead, the carpet industry has developed its own national voluntary EPR agreement. The impetus behind this agreement was Interface, Inc. whose founder Ray Anderson is a visionary dedicated to industrial ecology and becoming the first sustainable company. Interface was able to prove that being sustainable is also economically beneficial. There are some other national EPR

programs in development. An electronics industry group is currently negotiating a potential agreement regarding the financing for improved recycling and recovery of TVs and PCs. In addition, a congressional act has recently been passed which would make the beverage industry responsible for recovering 80% of their bottles.

It is likely that government involvement would speed the development of additional EPR programs. Government involvement can help to ensure that developing nations are not encouraged to engage in the “race to the bottom” while participating in the global waste market. An assurance that developed country recycling and material recovery is not contributing to environmental degradation in the developing world is important to maintaining consumer confidence, and consequently, economic health.