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Taking Back the Trash: Comparing European Extended Producer Responsibility and Take-Back Liability to U.S. Environmental Policy and Attitudes

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Taking Back the Trash: Comparing European Extended Producer Responsibility and Take-Back Liability to U.S. Environmental Policy and Attitudes

ABSTRACT

The European Union and many individual European countries have in recent years developed waste management schemes that require manufacturers to take back products at the end of their useful life and shoulder responsibility for their recycling or disposal. The United States currently has no such national scheme. As the generation of waste increases, the United States will likely be forced to examine the merits of such a national policy. The traditional approach to environmental liability and the individualistic culture of the United States, however, present unique obstacles to take-back mandates. The Author addresses those obstacles and possible solutions to them. The feasibility of developing such a system in the United States is also examined. The Author argues that such an environmental liability scheme could be developed in the United States, although there are many lessons to be learned from the systems used by members of the European Union.

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I. INTRODUCTION

In 2001, the United States alone produced more than 7.8 billion tons of trash.¹ Increased waste generation is not unique to the United States; it is a global problem that will not go away.² Recycling is a popular solution, but there is room for growth in the development of waste management techniques.³ The speed at which technological development makes products obsolete is a growing problem.⁴ An estimated 60 million new computers enter the U.S. market every year.⁵ New product development creates an even faster growing pile of electronic waste as old products are discarded. It is estimated that by 2007, 500 million computers will be obsolete and in need of a place for disposal.⁶ As the problem of waste generation continues to grow, governments struggle to create new coping strategies.

1. See EPA OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, RESOURCE CONSERVATION CHALLENGE: A YEAR OF PROGRESS, ANNUAL REPORT 2002-2003 1 (2004), at <http://www.epa.gov/epaoswer/osw/conserves/resources/rcc-rpt1.pdf> [hereinafter A YEAR OF PROGRESS].

2. See Susan McInerney, *Computer Firms Improve E-Waste Scores, but U.S. Still Lags Behind Japan, EU Efforts*, 26 INT'L ENV'T REP. 108, 109, Jan. 15, 2003.

3. See Jim Glenn, *The State of Garbage in America*, BIOCYCLE, Apr. 1999, at 60 [hereinafter *State of Garbage 1999*].

4. A YEAR OF PROGRESS, *supra* note 1, at 1.

5. McInerney, *supra* note 2.

6. Catherine A. Kin, et. al, *Globalization, Extended Producer Responsibility and the Problem of Discarded Computers in China: An Exploratory Proposal for Environmental Protection*, 14 GEO. INT'L ENVTL. L. REV. 525, 530 (2002).

The European Union and individual European countries have implemented extended producer responsibility legal mandates to address rapid waste generation.⁷ Extended producer responsibility, also known as “take-back,” requires manufacturers and sellers of products to take back from the consumer used products at the end of their useful life and to pay for their recycling and disposal.⁸ The first country to adopt such a strategy was Germany.⁹ Germany’s policy in turn inspired the European Union to issue directives for packaging materials, waste, end-of-life automobiles, and other environmental problems.¹⁰ The popular European approach is to create private entities to contract with manufacturers for disposal.¹¹ This approach is one, however, that does not come without obstacles, including high costs.¹²

This Note explores the mandates adopted by the European Union and individual European states and examines the feasibility of their implementation in the United States. Part II outlines the current extended producer responsibility schemes in Europe and the current waste disposal system in the United States. Part III examines the societal and cultural differences that account for varying environmental attitudes in Europe and the United States, with a focus on Germany. Part IV discusses the feasibility of developing national take-back requirements in the United States by examining legislative obstacles and other barriers. Part V offers a conclusion and recommendation for the United States that builds on the strengths of the European regimes’ schemes while recognizing the weaknesses of those plans.

II. WASTE DISPOSAL AND ENVIRONMENTAL CONTROL

A. Introduction to Take-Back Laws

In response to the growing problem of excessive waste, several countries adopted liability schemes in which manufacturers must take responsibility for their products, attempting to slow the filling of

7. See James Salzman, *Sustainable Consumption and the Law*, 27 ENVTL. L. 1243, 1274-75 (1997).

8. See, e.g., Robert M. Sussman & Greg S. Slater, *Domestic Legislation with Cross-Border Implications: International Trends in Product Take-Back Requirements*, SB79 ALI-ABA 183, 183 (May 15, 1997).

9. Salzman, *supra* note 7, at 1271.

10. *Id.* at 1274.

11. Notice published under Article 19(3) of Council Regulation No 17 – Case 34.950 – Eco-Emballages, 2000 OJ (C 227) 43 [hereinafter Eco-Emballages]; Steven P. Reynolds, *The German Recycling Experiment and Its Lessons for United States Policy*, 6 VILL. ENVTL. L.J. 43, 50 (1995).

12. See, e.g., Reynolds, *supra* note 11, at 72.

landfills and the release of hazardous substances from discarded products.¹³ Such laws, known as “take-backs,” are requirements imposed on manufacturers, importers, and sellers to take back their products from end users at the end of the product’s useful life.¹⁴ One catalyst to the emergence of take-backs is the growing support for “producer responsibility.”¹⁵ This idea of extended producer responsibility (EPR) focuses on creating producer responsibility after the product is sold, when manufacturers traditionally cease to be responsible for their products.¹⁶ The greatest take-back activity has been in Europe, where government-sponsored take-back initiatives arose from concerns about scarce landfill space and potentially hazardous substances in component parts.¹⁷ The United States, in contrast, imposes no take-back requirements at the federal level, partly because the U.S. Environmental Protection Agency (EPA) lacks the authority to promulgate them.¹⁸

Take-backs challenge the traditional view that “a product’s price reflects the producer’s costs of manufacture, distribution, and marketing plus a profit margin.”¹⁹ Normally, once the product is sold, the manufacturer no longer has responsibility for its ultimate disposal.²⁰ Therefore, all costs of waste disposal are paid by the consumer, typically through municipal taxes.²¹ Manufacturers have had little incentive to reduce the wastes associated with product disposal because they have not paid these costs.²²

The main goal of EPR is to reduce pollution that results from a product’s disposal.²³ The other goals of EPR take-back laws, however, have much more long-term significance.²⁴ James Salzman asserts that the additional goals of EPR include (1) encouraging

13. See Sussman & Slater, *supra* note 8, at 187-88.

14. *Id.*; see also Salzman, *supra* note 7, at 1249 (describing Extended Producer Responsibility as “expanding the responsibility of actors to reduce products’ environmental impacts throughout the lifecycle”); Michael P. Vandenberg, *The Social Meaning of Command and Control*, 20 VA. ENVTL. L.J. 191 n.124 (2001) [hereinafter Vandenberg, *Social Meaning*] (defining take-back requirements as requiring the manufacturer or importer of a consumer good to take the good back from the consumer at the end of its useful life).

15. Sussman & Slater, *supra* note 8, at 183.

16. See Salzman, *supra* note 7, at 1270.

17. *Id.* at 1274.

18. Sussman & Slater, *supra* note 8, at 187; see also Linda Roeder, *Hazardous Waste: Roeder, Electronics Coalition Considers Plan to Charge Consumers for Recycling*, DAILY ENV’T REP., June 17, 2003, at A3 (discussing the need for approval of a national take-back plan by Congress) [hereinafter Roeder, *Electronics Coalition Considers*].

19. Salzman, *supra* note 7, at 1270.

20. *Id.*

21. *Id.*

22. *Id.*

23. *Id.*

24. *Id.* at 1274.

companies to design products for reuse, recyclability, and materials reduction; (2) correcting market signals to the consumer by incorporating waste management costs into the product's price; and (3) promoting innovation in recycling technology.²⁵ Take-backs make these goals a reality by creating incentives for companies to redesign their products, incorporating safer materials and making products easier to recycle and reuse.²⁶

EPR is an extension of the "polluter pays" principle, which traditionally justifies charging producers for all the pollution caused by production.²⁷ Under take-back laws, when the manufacturer places a product on the market, that manufacturer must also pay for its eventual disposal.²⁸ Under this system, consumers still pay for the waste management of the packaging, but the increased costs are paid in the form of higher prices rather than in taxes.²⁹ Under EPR, producers in effect accept responsibility when they design products to minimize their environmental impact, and they accept legal, physical, and economic responsibility for the environmental effects of their products.³⁰ "In terms of legal doctrine, take-back laws may be loosely described as transforming the manufacturer's legal relationship with its product by imposing a future property interest which vests upon disposal."³¹

B. Take-Back Laws in Europe

1. European Union

The European Union (EU) recently adopted a directive on waste electrical and electronic equipment (WEEE).³² The purpose of this directive is to prevent the production of WEEE and also to encourage reuse and recycling of such waste.³³ The directive requires Member States to encourage design and production methods that take into account the later dismantling and recovery of their products.³⁴ The WEEE directive sets a goal that by 2005 a system will be in place to allow final holders of a product to return waste free of charge, with

25. See *id.*

26. See Linda Roeder, *Hazardous Waste: Advocacy Group Recommendations Promote Manufacturer Responsibility*, DAILY ENV'T REP., Mar. 16, 2004.

27. See Salzman, *supra* note 7, at 1274.

28. *Id.*

29. *Id.*

30. *Id.* at 1270-71.

31. *Id.* at 1277.

32. Directive 2002/96/EC of 27 January 2003 on Waste Electrical and Electronic Equipment (WEEE), 2003 O.J. (L 37) 46 [hereinafter Directive on WEEE].

33. *Id.* art. 1.

34. *Id.* art. 4.

distributors taking responsibility for disposal of the waste.³⁵ Member States must also ensure that users of electrical equipment have access to information about the requirement not to dispose of WEEE and the collection systems available.³⁶

The EU also adopted a directive restricting the use of certain hazardous substances in electrical and electronic equipment.³⁷ One objective of this directive is to contribute to the environmentally sound recovery and disposal of WEEE.³⁸ This directive ensures that after July 1, 2006, new electrical and electronic equipment put on the market will not contain hazardous materials.³⁹

The EU also created a liability regime for packaging. The European Packaging Directive came into force in 1994, setting boundary conditions and objectives that must be transposed into national legislation.⁴⁰ Under the Packaging Directive, each Member State must develop a system to take-back and recover or recycle used packaging.⁴¹ The packaging waste may be incinerated—facilitating energy recovery—or recycled.⁴² One goal for Member States is to collect between fifty and sixty-five percent of packaging waste and another goal is to recycle between twenty-five and forty-five percent of the total packaging material.⁴³

The EU has also shown concern for disposal of end-of-life vehicles.⁴⁴ The EU found that consumers discard between eight and nine million vehicles yearly in the EU.⁴⁵ Furthermore, dismantling operations often cause a significant environmental hazard, as residues from shredding contain significant quantities of hazardous substances.⁴⁶ The Directive on End of Life Vehicles establishes a

35. *Id.* art. 5.

36. *Id.* art. 10.

37. Directive 2002/95/EC of 27 January 2003 on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, 2003 O.J. (L 37) 19 [hereinafter Hazardous Substances Directive].

38. *Id.* art. 1. Such materials include lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), or polybrominated diphenyl ethers (PBDE). *Id.*

39. *Id.* art. 4.

40. Council Directive 94/62/EC of December 1999 on packaging and packaging waste, 1994 O.J. (L 365) 37 [hereinafter European Packing Directive]; see also Amy Halpert, Note, *Germany's Solid Waste Disposal System: Shifting the Responsibility*, 14 GEO. INT'L. ENVTL. L. REV. 135, 154 (2001) (citing European Packaging Directive, at <http://www.gruener-punkt.de/en/>).

41. See European Packaging Directive, *supra* note 40, at 14.

42. Halpert, *supra* note 40, at 154.

43. *Id.*; Jonathan Schneeweiss, *Putting Packaging Waste in Its Place: The Case for Federal Legislation*, 15 VA. ENVTL L.J. 443, 456 (1995) (citing European Packaging Directive).

44. Proposal for a Council Directive on end of life vehicles, 1997 O.J. (C 337) 40 [hereinafter Directive on Vehicles].

45. *Id.* at Explanatory Memorandum part II.9.

46. *Id.*

certification program under which only treatment facilities with permits can issue a certificate of destruction once a vehicle is discarded and becomes waste.⁴⁷ Authorized treatment facilities must carry out a number of operations related to correct de-pollution and removal of parts in order both to prevent pollution and to promote the reuse and recycling of end-of-life vehicles and their components.⁴⁸ Under this directive, the last owner of a vehicle can recover the cost of transferring the vehicle to an authorized treatment facility.⁴⁹

Proponents of the EU approach describe it as harmonizing the measures of individual nations to promote the goals of protecting the environment and avoiding obstacles to trade within the EU.⁵⁰ For instance, the Packaging Directive allows individual countries to develop their own waste reduction plans by making choices between reuse, recycling, and energy recovery.⁵¹ The Directive includes definitions for key terms to ensure baseline uniformity, but it allows flexibility by expressing goals in ranges.⁵²

2. Individual States

Individual Member States of the EU have independently developed take-back programs. In 1991, Germany created the first EPR take-back program when it passed the Avoidance of Waste Packaging Ordinance, known as the "Toepfer Decree."⁵³ The basic purpose of the Toepfer Decree is to require those who introduce packaging into the market to take it back after the product is sold.⁵⁴ The decree requires manufacturers to pay the recycling costs of packaging that is not eliminated or reused.⁵⁵

In response to the Decree, a group of companies formed a new entity, the Duales System Deutschland (DSD),⁵⁶ authorized to work with local governments to collect recyclable packaging materials.⁵⁷ DSD contracts with companies to handle the recovery and the delivery of materials to sorting plants.⁵⁸ DSD then pays recyclers to take the materials.⁵⁹ Companies participating in the DSD program

47. *Id.* art. 5.

48. *Id.* art. 6

49. *Id.* art. 5.

50. Schneeweiss, *supra* note 43, at 454.

51. *Id.* at 455.

52. *Id.* at 455-56 (citing European Packaging Directive).

53. Reynolds, *supra* note 11, at 48 (citing Ordinance on the Avoidance of Packaging Waste (Verpackungsverordnung) (June 12, 1991)); Salzman, *supra* note 7, at 1271.

54. Reynolds, *supra* note 11, at 48-49.

55. Schneeweiss, *supra* note 43, at 463.

56. Reynolds, *supra* note 11, at 50

57. European Packaging Directive, *supra* note 40.

58. Reynolds, *supra* note 11, at 50.

59. *Id.*

must apply for permission to use the “green dot” symbol on their packaging materials.⁶⁰ DSD licenses the use of the green dot, which is placed on a product to signal that its packaging is recyclable and that DSD will handle the product’s packaging waste.⁶¹ Retailers must return packaging without a green dot directly to the manufacturer.⁶²

The DSD approach focuses on modifying industry practices rather than on creating extensive governmental regulations.⁶³ This system in Germany has led to creative “green” packaging ideas, which decrease the amount of packaging waste.⁶⁴ Thus, the German system has achieved the long-term EPR goals of encouraging companies to design with reuse and recycling in mind, as well as promoting technological innovation of product design.⁶⁵

DSD and the German government implemented a plan for collection. The most widespread collection system in Germany is a curbside system in which consumers collect green dot packages in bags or bins provided to households.⁶⁶ DSD collects various product categories from the bins and bags and then passes on the materials to recyclers.⁶⁷ DSD selected these product categories for collection “based on evaluations of their environmental impacts, as well as their potential for reuse and recyclability.”⁶⁸

The Toepfer Decree stimulated the enactment of the European Packaging Directive.⁶⁹ The German approach to solid waste disposal affected the thinking of both European and U.S. policymakers.⁷⁰ DSD founded PRO-Europe, “an organization uniting all recovery organizations using the [g]reen [d]ot under the EU directive.”⁷¹ PRO-Europe grants national recovery and collection systems founded to implement the Packaging Directive the right to use the dot.⁷² By 2001, ten EU Member States had implemented the green dot system: Belgium, Germany, France, Ireland, Luxembourg, Italy, Sweden, Austria, Portugal, and Spain.⁷³

France has also developed comprehensive take-back legislation, distinguishing itself as one of the European leaders in EPR

60. *Id.* at 51.

61. *Id.* at 51; Schneeweiss, *supra* note 43, at 463.

62. Schneeweiss, *supra* note 43, at 463.

63. Halpert, *supra* note 40, at 144.

64. Reynolds, *supra* note 11, at 55.

65. *See* Salzman, *supra* note 7, at 1274.

66. Halpert, *supra* note 40, at 146.

67. *Id.*

68. *Id.* at 147.

69. *Id.* at 153-54; *see also* European Packaging Directive, *supra* note 40.

70. Halpert, *supra* note 40, at 153.

71. *See The Green Dot in Europe*, at <http://www.gruener-punkt.de/en> (n.d.).

72. *Id.*

73. Halpert, *supra* note 40, at 154.

implementation. In 1992, France passed Decree No 92-377 regarding packaging waste.⁷⁴ A French firm, Eco-Emballages SA, organized a system to collect and recover household packaging that is designed to meet the requirements of the French Packaging Decree.⁷⁵ Article 4 of the Decree stipulates that any producer, importer, or other entity responsible for marketing a product contribute to or make provision for the disposal of all of its packaging waste.⁷⁶ Eco-Emballages is a private limited-liability company that serves as an interface between industry and local authorities.⁷⁷ The company itself does not collect used household packaging.⁷⁸ Rather, collection is done by local authorities, who contract with Eco-Emballages and in return receive support for their collection and sorting of waste.⁷⁹

Similar to Germany, France uses the green dot system.⁸⁰ Since 1996, more than ninety percent of the consumer products in France utilize the green dot.⁸¹ The use of the green dot in France is the result of a 1992 Eco-Emballages contract with the DSD.⁸² In France, a producer's financial contribution is determined according to a price scale that charges a flat-rate amount plus an additional contribution based on the weight and material of the item.⁸³ Industrial firms show initiative in their willingness to take back and recycle the packaging collected; arrangements known as "sectoral undertakings."⁸⁴ The undertakings are for specific materials, including steel, aluminum, paper, plastic, and glass.⁸⁵ Firms that take back the waste are categorized by the sectoral undertakings for each material.⁸⁶

Taking a varied approach, France recently issued a used-tire recycling decree that will force distributors, importers, and manufacturers to take responsibility for collecting and eliminating the estimated sixty million tires discarded there each year.⁸⁷ Under the decree, tire manufacturers, importers, and distributors are in charge of the technical and financial organization of the collection

74. Eco-Emballages, *supra* note 11.

75. *Id.*

76. *Id.*

77. *Id.*

78. *Id.*; see also *The Green Dot in Europe*, *supra* note 71.

79. See Eco-Emballages, *supra* note 11.

80. *Id.*

81. *Id.*

82. *Id.*

83. *Id.*

84. Eco-Emballages, *supra* note 11.

85. *Id.*

86. *Id.*

87. *France to Require Manufacturers, Distributors, Importers to Recycle Tires*, INT'L ENVTL. REP., Jan. 9, 2003, at <http://pubs.bna.com/ip/BNA/ied.nsf/is/A0A6H2U6RA> [hereinafter *France to Recycle Tires*].

and elimination of used tires.⁸⁸ The decree stipulates that service stations, car repair shops, and other distributors accept used tires from individuals on a no-fee basis.⁸⁹ But recycling charges may be assessed on the purchase of new tires.⁹⁰ Manufacturers and importers are expected to establish licensed, government-certified, industry-wide organizations that will gather the used tires and coordinate recycling and elimination.⁹¹

Other European Union Member States follow the lead of Germany and France. Austria, Denmark, Sweden, Finland, Ireland, Norway, Switzerland, the Netherlands, and the United Kingdom have all implemented some form of take-back initiatives.⁹²

C. In Search of a National Take-Back Scheme: Waste Management in the United States

No comprehensive federal or state producer responsibility laws exist in the United States.⁹³ The head of the Natural Resources Defense Council stated that “regulatory or economic barriers might be preventing more companies from operating programs in which they take back equipment.”⁹⁴ In the United States, the concept of “product stewardship” is an alternative to producer responsibility.⁹⁵ Product stewardship proposes a system of responsibility shared by customers, retailers, local governments, and manufacturers for disposing of products at the end of their useful life.⁹⁶

Some programs resembling take-backs exist in the United States, however. Nearly all states and the District of Columbia have implemented some type of oil recycling program.⁹⁷ For example, a Massachusetts statute requires every service station, marina, or

88. *Id.*

89. *Id.*

90. Lawrence J. Speer, *France Publishes Licensing Rules for New Tire Recycling Program*, 27 INT'L ENV'T REP. 9, Jan. 14, 2004. The principal organization coordinating the implementation of French laws on tire recycling announced plans to levy a two to three percent recycling charge on all new tires. *Id.*

91. *France to Recycle Tires, supra* note 87.

92. Sussman & Slater, *supra* note 8, at 193. For example, in the 1990s the Swedish Parliament passed an “eco-cycle” law, requiring product manufacturers to take responsibility for disposing of their products in an environmentally friendly manner. David J. Hayes, *Beyond Cradle to Grave*, ENVTL. FORUM, Sept./Oct. 1993, 14 (1993) (last visited Jan. 2004).

93. Grass Roots Recycling Network, *Computer TakeBack*, at <http://www.grrn.org/epr/index.html> [hereinafter *Computer TakeBack*].

94. *Solid Waste*, 27 ENV'T REP. 1204, 1205 (1996).

95. *Computer TakeBack, supra* note 93.

96. *Id.*

97. James E. Donnelly, *Numbers Never Lie, But What Do They Say? A Comparative Look at Municipal Solid Waste Recycling in the United States and Germany*, 15 GEO. INT'L ENVTL. L. REV. 29, 39 (2002) (citing STATE RECYCLING LAWS UPDATE YEAR-END EDITION 1998 (Raymond Communications, Inc. 1998), at 42).

retail outlet that sells automobile lubricating oil to install and maintain waste-oil retention facilities.⁹⁸ Surveys show widespread acceptance of this program,⁹⁹ creating an example of a well-received take-back program in the United States.

Although the United States lacks large-scale take-back regulations, there are alternative methods for handling waste. For instance, landfill bans are a common tool for encouraging recycling.¹⁰⁰ States vary widely, however, on the degree and variety of landfill bans imposed, ranging from no statewide bans (but allowing for local bans) to bans on a wide variety of materials.¹⁰¹ Although landfill bans can be an effective way to ensure environmentally compatible disposal, they fall short of guaranteeing actual recycling of materials.¹⁰² "[R]ather than aiming at reduction, the bans focus more on making the consumer choose proper disposal."¹⁰³

Recycling is a major strategy in the United States for waste management. Major programs aimed at the recycling of packaging materials include minimum content laws, labeling laws, and collection programs, specifically bottle bills and curbside recycling.¹⁰⁴ In addition, several states and the District of Columbia mandate that newsprint contain a minimum amount of recycled paper and establish purchase preferences based on the amount of its recycled content.¹⁰⁵ Also, green labeling in the United States is done on a voluntary basis, but it is seen as a way to clarify the recycling process by reminding consumers to recycle and to help establish preferences in shopping.¹⁰⁶ Federal Trade Commission guidelines have been established to deal with requirements that must be met by a company before it claims a product to be environmentally friendly.¹⁰⁷

Curbside recycling is the most popular mechanism for recycling in the United States.¹⁰⁸ Under such systems, residents place their recyclable garbage into different containers on the curb for pickup.¹⁰⁹ Curbside recycling is available to more than half of the citizens of the

98. MASS. ANN. LAWS ch. 21 § 52A (2001).

99. Donnelly, *supra* note 97, at 39.

100. Ann E. Carlson, *Recycling Norms*, 89 CAL. L. REV. 1231, 1264 (2001).

101. See Donnelly, *supra* note 97, at 39; see also *State of Garbage 1999*, *supra* note 3, at 49, 52. For example, 37 states ban tires from landfills, 43 states ban car batteries, and other states ban motor oil. *Id.* at 40.

102. Donnelly, *supra* note 97, at 40-41.

103. *Id.*

104. *Id.* at 41; see also Carlson, *supra* note 100, at 1266-68.

105. Donnelly, *supra* note 97, at 41-42.

106. *Id.* at 42.

107. *Id.*

108. Carlson, *supra* note 100, at 1265.

109. *Id.* Typical curbside programs collect newspaper, bottles, and cans. Donnelly, *supra* note 97, at 44.

United States and nearly every state has implemented such a program.¹¹⁰

Another U.S. approach to recycling is through Deposit-Refund Laws, commonly known as "bottle bills," which are used in some states and are seen as being detrimental to curbside programs because they result in removal of some materials from curbside bins, thereby reducing the value of scrap material recovered through curbside programs.¹¹¹ Under bottle bills, distributors and retailers charge deposits on glass, plastic, and aluminum beverage containers.¹¹² Retailers must take back empty containers, refund the deposit, and pass the empty containers on to distributors.¹¹³ Bottle bills make it more expensive, by amounts varying from state to state, to throw a bottle away than to recycle it.¹¹⁴ Such recycling schemes establish a mindset and framework for the disposing of waste in a productive manner.

Some large U.S. companies voluntarily take back their own products.¹¹⁵ A collation of groups called the Computer TakeBack Campaign recently issued report cards evaluating take-back programs used by computer companies.¹¹⁶ Following its practice in European countries of taking back used computers from individual consumers, Dell recently implemented a policy in the United States whereby it will take back any printer for free when a customer purchases a new Dell printer, and the company will soon implement the same type of system for computers.¹¹⁷ Hewlett-Packard actively supports state take-back legislation, including recent proposals in Maine and Minnesota.¹¹⁸ Sony started a recycling program to take back its electronic products in Minnesota by subsidizing the cost of recycling electronics collected and allowing recyclers to earn a

110. *State of Garbage 1999*, supra note 3, at 64. Curbside programs have grown significantly in the last decade, from 1,042 in 1989 to 9,349 in 1999. Jim Glenn, *State of Garbage in America*, BIOCYCLE, May 1998, at 48; *State of Garbage 1999*, supra note 3, at 63.

111. Donnelly, supra note 97, at 44-45.

112. *Id.* at 45

113. *Id.*

114. See Jeffrey B. Wagenbach, *The Bottle Bill: Progress and Prospects*, 36 SYRACUSE L. REV. 761-62 (1985); see also Carlson, supra note 100, at 1266-1267. California developed a unique bottle bill system that requires manufacturers of beverages to pay \$0.02 per container, which goes directly into the state recycling fund. Carlson, supra note 100, at 1267 n.143 (citing CAL. PUB. RES. CODE §§ 14501-14599 (2003)). Consumers may return containers to a state redemption center for a refund of \$0.025. *Id.* The state fund reimburses manufacturers for their expenses. *Id.*

115. Sussman & Slater, supra note 8, at 203.

116. Carolyn Whetzel, *Hewlett-Packard, Dell Get High Marks for Recycling, Take-Back Policies*, DAILY ENV'T REP., May 20, 2004, at A6.

117. *Id.*; Computer TakeBack, supra note 93.

118. Whetzel, supra note 116.

profit.¹¹⁹ Despite these positive efforts, the Computer TakeBack Campaign concluded that the current state of electronics recycling is “unacceptable,” ranging from only two to ten percent.¹²⁰

Some municipalities and states in the United States, however, have attempted to implement EPR-type programs. For example, the city of Santa Clarita, California, introduced a diaper-recycling program.¹²¹ Santa Clarita came close to creating a take-back ordinance, but it missed the mark by using general tax revenues instead of requiring the diaper companies to fund the effort.¹²² In 2001, the Nebraska Legislature considered banning the dumping of electronic equipment in state landfills and imposing a fee on the sale of new televisions and computers to help fund recycling programs.¹²³ In 2002, California proposed a bill that would charge consumers a fee on the sale of new computers and televisions, as well as require a warning label on televisions disclosing the hazardous materials contained inside.¹²⁴ Not long after, the Electronics Industry Alliance (EIA) polled consumers for reaction to pending legislation and found that most consumers would buy from out-of-state retailers to avoid the fee.¹²⁵ Based on this reaction, legislators dropped the proposal.¹²⁶

Still, wide-scale changes in product take-back and recycling could be on the way in the United States. Environmental groups advocate action regarding electronic waste, because it is the nation's fastest growing environmental problem, is known to be toxic, and causes long-term contamination when disposed in landfills.¹²⁷ The Northwest Product Stewardship Council, a member of the National Electronics Product Stewardship Initiative (NEPSI), proposed a national funding system for recycling electronic equipment in which consumers would pay a recycling fee at the time of purchase.¹²⁸ David Stitzhal, a spokesperson for the council, recently commented that the consumer fee would diminish over time as manufacturers would begin to absorb some of the cost in a shift toward a “partial cost internalization fee.”¹²⁹ But this financing system has sparked

119. *Sony to Spread Word to Shareholders of Policy Regarding Old Equipment*, HAZARDOUS WASTE NEWS, Dec. 4, 2000 [hereinafter *Sony to Spread Word*].

120. Whetzel, *supra* note 116.

121. Anne Morse, *Letters*, WASTE NEWS, Dec. 23, 2002, at 8.

122. *Id.*

123. Vince Tuss, *State Considers Bill to Ban Dumping of Discarded Electronic Items in Landfills*, 32 ENV'T REP. 2322, 2322-23, Nov. 30, 2001.

124. Linda Roeder, *Paying to Junk TVs, Monitors; Legislation: Bills Would Have California Collect Money at the Time of Sale to Cover Disposal*, L.A. TIMES, June 26, 2002, at B1.

125. *Think Tanks Wrap-Up*, UNITED PRESS INT'L, Aug. 10, 2002 [hereinafter *Think Tank*].

126. *Id.*

127. Roeder, *Electronics Coalition Considers*, *supra* note 18.

128. *Id.*

129. *Id.*

intense debate, and after three years of national negotiations, NEPSI has yet to reach an agreement on how to finance such a system.¹³⁰ Despite these efforts, environmental groups doubt that any NEPSI agreement will ever pass the current Congress; they claim that state legislatures will move in to fill the void.¹³¹

III. SOCIAL AND CULTURAL ATTITUDES IN AN EPR FRAMEWORK

A. *A Western Cultural Divide: Europe and the United States*

The preference for extended producer responsibility outside the United States reflects a belief that EPR is consistent with the concept of the "polluter pays" principle.¹³² Perhaps the absence of such a regime in the United States reflects on citizens' reluctance to embrace a polluter-pays principle in a traditional manufacturing context. Under such a context, traditional manufacturers are characterized as polluters simply for creating products and selling them to the public. Whatever the cause, the United States continues to lag behind the European Union in waste reduction, particularly electronic waste reduction.¹³³

Comparison between the United States and Germany is a useful way to evaluate differences in environmental laws and attitudes.¹³⁴ There are many similarities between Germany and the United States, because both are modern, industrial consumer societies.¹³⁵ But the two countries differ in many ways.¹³⁶ The United States is much larger, with many large regions that lack extensive industry and have low population densities.¹³⁷ The vast natural resources of the United States result in the lower costs of materials such as paper, metals, and plastics.¹³⁸ Furthermore, a national waste-collection plan makes less sense in the United States because of the great distances between population centers and the industrial facilities that process waste.¹³⁹

130. Linda Roeder, *Hazardous Waste: Roeder, Industries Resolve to Continue Seeking Plan to Fund Electronic Waste Recycling*, DAILY ENV'T REP., Feb. 17, 2004, at A4.

131. Roeder, *Electronics Coalition Considers*, *supra* note 18.

132. Kin, *supra* note 6, at 536.

133. See e.g. *McInerney*, *supra* note 2.

134. See e.g. Reynolds, *supra* note 11 at 67. See generally Halpert, *supra* note 40 (discussing German environmental policy and using the German model to evaluate U.S. policy).

135. Reynolds, *supra* note 11, at 67.

136. *Id.*

137. *Id.*

138. *Id.*

139. *Id.*

German and U.S. recycling rates vary. For example, in 1995 Germany recycled sixty-nine percent of its packaging, while the United States recycled only 40.1 percent in 1996.¹⁴⁰ Germany and the United States recover similar percentages of paper and steel, but Germany also recycles much higher percentages of its glass and plastics.¹⁴¹ These differences lead to the question, what about these two countries produce varying results?

One cause may simply be that “[t]he American people are a younger culture, with a stronger sense of individual freedom and personal autonomy.”¹⁴² Voluntary action might produce better results in the United States than the inevitable “feet dragging” that will occur under environmental laws.¹⁴³ Marco Verweij makes an interesting comparison of U.S. and German environmental policies by examining the regulatory differences between the Great Lakes and the Rhine River.¹⁴⁴ Finding that industrial discharges into the Great Lakes in the United States were more toxic than discharges into German’s Rhine River despite stricter legislation in the United States, Verweij asserts that this difference is explained in part by the voluntary measures taken by German companies.¹⁴⁵ By the mid-1980s, factories along the Rhine had already reduced their discharges to a greater degree than required by the more stringent 1991 standards yet to come; in other words, voluntary over-compliance exceeded even the future expectations of the German government.¹⁴⁶ In contrast, U.S. corporations along the Great Lakes consistently resist water protection efforts and refuse to accept the standards promulgated by the EPA.¹⁴⁷ Thus, these companies have not voluntarily exceeded legally mandated standards in the Great Lakes area. This example is illustrative of different attitudes and approaches toward environmental regulation in the United States and Germany. The politics surrounding water standards have been more contentious in the United States, as is indicated by the deeper disagreements about the problems and the best solutions.¹⁴⁸

Verweij asserts that a variety of factors account for the difference. Among the factors are moral differences and state-society

140. Donnelly, *supra* note 97, at 48.

141. *Id.* at 48-49.

142. Reynolds, *supra* note 11, at 67 (describing in general terms what the author believes to be a popularly held assumption about American culture).

143. See Marco Verweij, *Why Is the River Rhine Cleaner Than the Great Lakes (Despite Looser Regulation)?*, 34 LAW & SOC’Y REV. 1007, 1024-25 (2000).

144. See generally *id.* (addressing comprehensive studies of U.S. and German environmental regulations and their successes as applied to those bodies of water).

145. *Id.*

146. *Id.*

147. *Id.* at 1025.

148. *Id.* (Verweij makes this assertion based on his own interviews, as seen in n.18.).

arrangements (including executive and judiciary branches and businesses).¹⁴⁹ Another factor is American exceptionalism, a national ideology that emphasizes liberty and individualism.¹⁵⁰ In contrast, European values place greater emphasis on hierarchy, authority, and deference.¹⁵¹ Another reason for the U.S.'s contentious environmental policies is a common mistrust of government, especially on the part of businesses.¹⁵²

In turning to the state-society arrangements, the involvement of non-governmental actors in environmental policy-making creates challenges.¹⁵³ In the Rhine valley, non-governmental actors have fewer such opportunities.¹⁵⁴ For example, under the Clean Water Act, private groups can sue the EPA or state agencies for failing to enforce environmental regulations, and they can sue private companies not obeying the law.¹⁵⁵ This policy is not conducive to achieving a meeting of the minds.¹⁵⁶ Furthermore, the structural differences between the U.S. federal government and the parliamentary system used by many European countries helps account for the vast policy differences.¹⁵⁷ Under the U.S.'s presidential system, legislators have less responsibility for implementation of the laws they make, which gives them leeway to make unrealistic laws.¹⁵⁸ Also, a presidential system gives interest groups a chance to influence governmental policies, mostly by lobbying members of relevant Congressional committees.¹⁵⁹ Furthermore, in a parliamentary system, ministries confer with each other in a lengthy process of creating law, while in a presidential system agencies develop policies in isolation from each other.¹⁶⁰ Thus, under a presidential system, environmental laws may be subjected to more outside challenges, inspired by unrealistic goals,

149. *See id.* at 1027.

150. *Id.* at 1029. (citing generally on exceptionalism DANIEL J. ELAZAR, COMMUNAL AND INDIVIDUAL LIBERTY IN SWISS FEDERALISM (Daniel J. Elazar, Special Issue of *Publius* 23, 1993); LOUIS HARTZ, THE LIBERAL TRADITION IN AMERICA (Brace & World 1955); SAMUEL P. HUNTINGTON, AMERICAN POLITICS: THE PROMISE OF DISHARMONY (Belknap Press 1981) [hereinafter HUNTINGTON]; SEYMOUR MARTIN LIPSET, CONTINENTAL DIVIDE: THE INSTITUTIONS AND VALUES OF THE U.S. AND CANADA (Transaction Publishers 1996); BYRON E. SHAFER, IS AMERICA DIFFERENT? A NEW LOOK AT AMERICAN EXCEPTIONALISM (Byron E. Shafer ed., Oxford: Clarendon Press 1991); AARON WILDASVSKY, THE RISE OF RADICAL EGALITARIANISM (American University Press 1991)).

151. *Id.* (quoting HUNTINGTON, at 56).

152. *Id.*

153. *Id.* at 1030-31.

154. *Id.*

155. *Id.*

156. *Id.*

157. *Id.* at 1032-33.

158. *Id.* at 1033.

159. *Id.*

160. *Id.* at 1034.

influenced by special interest groups, and affected by agency isolation—all factors that impede implementing national legislation.¹⁶¹

The corporate climates of Europe and the United States also differ. In many European countries, corporatism has long been popular.¹⁶² Corporatism is a system of special interest representation of units organized into a limited number of singular, compulsory, non-competitive, hierarchically ordered, and functionally differentiated categories.¹⁶³ Under this system, organizations negotiate under the watchful eye of the government, and associations try to find a consensus that is acceptable to all parties.¹⁶⁴ This system creates an easy means for industry-wide environmental policy debate.¹⁶⁵ European corporatism is not widely accepted in the United States, which has instead adopted pluralism.¹⁶⁶ Under pluralism, individual actors fend for themselves, leaving little motivation for voluntary over-compliance with environmental regulations.¹⁶⁷ This “fend for yourself” attitude could affect the way companies and individuals make environmental decisions.

B. Social Differences: Implications for Take-Back Laws

1. Criticisms of EPR

A number of managerial problems arise with the implementation of extended producer responsibility policies. Obstacles to such implementation include (1) product design that enables cost-effective disassembly as well as high-quality recovery; (2) the development of secondary end markets to sell the recovered waste; (3) the set up of collection systems; and (4) making information available for all decision makers.¹⁶⁸

Perhaps there is a lesson to be learned from the EPR schemes implemented in other countries. Germany's success in creating packaging alternatives and promoting innovative technology came with significant financial costs.¹⁶⁹ Unrealistic goals nearly bankrupted the program.¹⁷⁰ Thus, Germany learned the hard way

161. *Id.* at 1031-34.

162. *Id.* at 1035.

163. *Id.*

164. *Id.*

165. *See id.* at 1036.

166. *Id.*

167. *Id.*

168. H.R. Krikke, et. al., *Mixed Policies for Recovery and Disposal of Multiple-Type Consumer Products*, 124 J. ENVTL. ENGINEERING 368, 368 (1998).

169. *See Reynolds, supra* note 11, at 72.

170. *Id.*

that failure to deal with certain economic realities threatens the viability of take-back programs.¹⁷¹

Some critics believe EPR schemes that force producers to become “expert garbage collectors” will make them inept at producing their own products.¹⁷² As a result, critics claim, product design could suffer, as most changes might be made solely for environmental reasons.¹⁷³ For example, manufacturers might switch from plastic components to metal because metal is easier to recycle, whereas plastics might provide other benefits to design and ease of packing and consumer use.¹⁷⁴

Financing EPR schemes is yet another hurdle to successful implementation. One such issue is whether take-back schemes should require point-of-sale fees or force companies to internalize the costs.¹⁷⁵ Companies are split on the issue, but a national EPR scheme would require uniformity in financing.¹⁷⁶ Even if manufacturers do reach a much-needed consensus, a hurdle exists in finding support from retailers for a financing system.¹⁷⁷ So far, U.S. retailers have not discussed such a project in the United States.¹⁷⁸

2. American Environmental and Social Attitudes

a. Environmental Attitudes

“The American environmental movement encompasses a variety of environmental organizations, ideologies, and approaches.”¹⁷⁹ The logic behind American environmental regulation stems from the fundamental paradox that “individuals acting rationally in pursuit of their own interests will produce a desired collective outcome.”¹⁸⁰ As discussed below, a variety of common perceptions about the environment and environmental regulations form many obstacles to implementing EPR-type regulations in the United States.¹⁸¹

171. *See id.*

172. *See Think Tank, supra* note 125.

173. *Id.*

174. *See id.*

175. Linda Roeder, *Roeder, Industries Resolve to Continue Seeking Plan to Fund Electronic Waste Recycling*, DAILY ENV'T REP., Feb. 17, 2004, at A4 [hereinafter *Roeder, Industries*].

176. *See id.*

177. *See id.*

178. *See id.*

179. Stacy J. Silveira, Comment, *The American Environmental Movement: Surviving Through Diversity*, 28 B.C. ENVTL. AFF. L. REV. 497, 498 (2001).

180. David B. Spence, *Paradox Lost: Logic, Morality, and the Foundations of Environmental Law in the 21st Century*, 20 COLUM. J. ENVTL. L. 145, 147 (1995).

181. Vandenbergh, *Social Meaning, supra* note 14, at 198 (finding that individuals do not see their roles in creating environmental problems).

From a historical perspective, industrial polluters were the source of the most significant environmental and related human-health problems.¹⁸² Large industrial polluters were perceived as easier to regulate from an administrative standpoint, being fewer in number and more homogeneous than second-generation sources.¹⁸³ In the early days of U.S. environmental regulation, “[t]he limited scientific understanding of the relationship between any specific emission source and the environmental conditions affected may have made the prospect of designing and supporting controls” on individual companies a daunting task.¹⁸⁴ Furthermore, fear of underrepresentation of unorganized interests, such as environmental groups, led to accusations of a pro-industry bias in the environmental policy process.¹⁸⁵ Thus, industry regulation perhaps conveyed a social meaning to the public that industrial polluters were the source of environmental problems.¹⁸⁶

Currently, U.S. environmental laws impose a command-and-control approach to regulation that comprises three basic beliefs: (1) that it is possible to contain environmental contamination; (2) that it is possible to disperse contaminants to a point that they are no longer a threat; and (3) that it is possible to regulate pollution “at the end of the pipe.”¹⁸⁷ But statutes based on these beliefs inadequately ensure protections of the environment because they only attempt to mitigate pollution after it has been created.¹⁸⁸ As pollution increases and accumulates, it becomes less feasible to dilute and disperse it at the end of the pipe.¹⁸⁹

Furthermore, the classic “experimental” policy-making approach used in the United States makes environmental problems difficult to solve with legislation.¹⁹⁰ Verweij illustrates that U.S. citizens are more individualistic and that the U.S. political system is less immune than parliamentary systems to challenges to environmental policies.¹⁹¹ A consequence is the possibility of irreversible harm if the environmental policies adopted are ineffective.¹⁹²

182. *Id.* at 206.

183. *Id.* at 106-07.

184. *See id.* at 207.

185. Spence, *supra* note 180, at 153.

186. *See* Vandenberg, *Social Meaning*, *supra* note 14, at 208.

187. Bradley A. Harsch, *Consumerism and Environmental Policy: Moving Past Consumer Culture*, 26 *ECOLOGY L.Q.* 543, 551-52 (1999).

188. *Id.* at 552.

189. *Id.*

190. Holly Doremus, *Constitutive Law and Environmental Policy*, 22 *STAN. ENVTL. L.J.* 295, 333 (2003).

191. *See* Verweij, *supra* note 143, at 1025-26.

192. Doremus, *supra* note 190, at 333.

Governmental regulatory activity, however, generates information that promotes environmental protection.¹⁹³ Although "regulatory programs are criticized for their clumsiness and expense, they do force private actors to take cognizance of the environmental consequences of their plans. . . ."¹⁹⁴ Such regulations force firms to place environmental costs on their balance sheets.¹⁹⁵ Thus, regulations themselves can create environmental considerations.

A more general obstacle is the universally recognized uncertainty that surrounds environmental issues.¹⁹⁶ Common characteristics of environmental problems create this obstacle.¹⁹⁷ One characteristic is the substantial geographic distances between harms and the events that cause them.¹⁹⁸ Also, environmental problems can take years to manifest or for their full scope to be understood.¹⁹⁹ This means irreversible environmental damage may occur before the costs of it are realized.²⁰⁰ Environmental damage also frequently results from multiple causes, and it can be difficult to sort out the extent to which each causes the problem.²⁰¹ "[U]ncertainty increases the difficulty of addressing environmental problems" because it makes them easier to ignore.²⁰²

Adding further difficulty, value conflicts invariably arise when environmental problems are addressed.²⁰³ Value conflicts in the environmental context are fundamental and often zero-sum with no win-win solution possible.²⁰⁴ No one can increase the amount of air, water, or land—which means using those resources for one purpose precludes using them for another.²⁰⁵ At the least, this creates a perception (if not a reality) that businesses cannot produce to their full potential through utilization of the earth's resources while maintaining a healthy environment and lasting natural resources.

Another characteristic feature of environmental problems is that they require long-term solutions.²⁰⁶ Also, the need for both durable and flexible solutions suggests institutional and philosophical problems.²⁰⁷ Institutionally, policy creates a maintainable path while

193. Carol M. Rose, *Scientific Innovation and Environmental Protection: Some Ethical Considerations*, 32 ENVTL. L. 755, 767.

194. *Id.*

195. *Id.*

196. Doremus, *supra* note 190, at 319.

197. *Id.*

198. *Id.*

199. Rose, *supra* note 193, at 746.

200. Doremus, *supra* note 190, at 319-20.

201. *Id.* at 320.

202. *Id.*

203. *Id.* at 321.

204. *Id.*

205. *Id.* at 322.

206. *Id.* at 320.

207. *Id.* at 329.

providing flexibility to adjust to natural changes.²⁰⁸ Philosophically, policymakers must ask whether to bind future generations to the path of environmental protection, without realizing what future values will be.²⁰⁹ Thus, those making decisions about environmental resources today have no way of knowing their worth in the future, which could cause either under or overestimation of their value.

A common obstacle to environmental protection is the “tragedy of the commons.” Environmental resources have an “unpropriated” character, meaning they cannot generate individual wealth.²¹⁰ Environmental resources are “open access resources” because they have no owners and are open to all comers.²¹¹ Because no one person owns environmental resources, they are subject to the fate of every commons: “over-exploitation and under-investment,” “depletion and decimation.”²¹² Also, there is great investment in scientific and technological information that increases the value of privately held resources, and slower rates of investment into information about the consequences of exploitation of public resources, resulting in many information gaps and research lags regarding shared environmental resources.²¹³ In short, concerns about public resources (e.g., landfills) do not produce in individuals the same willingness to invest as do private resources because individuals do not see the same opportunities to profit from public resources.

Furthermore, studies reveal that Americans are unaware of their individual contributions to existing environmental problems.²¹⁴ During much of the 1990s, the National Environmental Education and Training Foundation (NEETF), which conducted surveys of public knowledge of environmental issues, found that the public knows less than it believes.²¹⁵ This phenomenon is part of a larger problem of the disparity between the public’s view of the relative magnitude of environmental risks and the experts’ view of those risks.²¹⁶ The result of a misinformed public is the creation of many environmental myths in which individuals do not see their role in creating environmental problems.²¹⁷ Despite this result, public awareness of the complexity of environmental problems is growing, as

208. *Id.*

209. *Id.*

210. Rose, *supra* note 193, at 759.

211. *Id.*

212. *Id.* at 760.

213. *Id.* at 762.

214. Vandenberg, *Social Meaning*, *supra* note 14, at 197 (citing 1999 NEETF Survey).

215. *Id.* at 197-98 (interpreting NEETF results).

216. *Id.* (citing Richard H. Pildes & Cass R. Sunstein, *Reinventing the Regulatory State*, 62 U. CHI. L. REV. 1 (1995)).

217. *See id.* at 198.

is public support for environmental initiatives.²¹⁸ At the same time, there is a distrust of "big government," which causes the public to desire smaller, more manageable efforts on the local level.²¹⁹

b. Implications of Social Attitudes for Environmental Problems

In 1996, sixty-six percent of Americans believed that the goals of economic growth, environmental protection, and health and happiness of people were simultaneously achievable.²²⁰ A challenge posed by environmental problems is that they cannot be solved by persons' individual choices.²²¹ For any one person rationally to take action, there must be some assurance in environmental policies that others will also do so.²²² For example, no matter how concerned any given individual is about an environmental problem, such as global warming, there is little one person acting alone can do to solve the problem. If one person stopped driving and installed a solar heat and electricity system in their home, emissions of carbon dioxide change only negligibly.²²³ That person would see his efforts as futile, and would not be motivated to reduce emissions within his control.²²⁴ If individuals notice others behaving as if they do not value environmental protection, those individuals may wrongly conclude that environmental protection is not widely valued.²²⁵

These findings, taken together with the fact that the U.S. population is largely unaware of the impact of individual behavior on the environment, produce little surprise that the public has reacted negatively to attempts to change individual behavior.²²⁶ U.S. federal environmental enforcement uses deterrence to induce compliance with environmental regulations.²²⁷ Under the standard deterrence model, the assumption is that an individual will seek to maximize expected utility and thus will comply with environmental laws when the costs of noncompliance exceed the benefits.²²⁸ Under this

218. Congressman Earl Blumenauer, *Entrepreneurial Environmentalism: A New Approach for the New Millenium*, 30 ENVTL. L. 1, 4 (2000).

219. *Id.*

220. *Poll: 66% Say Env't Can Be Balanced With Other Needs*, GREENWIRE, Apr. 18, 1996.

221. Doremus, *supra* note 190, at 324.

222. *Id.* at 325. Several terms, all based on this theory, describe this phenomenon, including: "free-riding," collective action problem, tragedy of the commons, and public goods. See Carlson, *supra* note 100, at 1243-45, n.33.

223. *Id.*

224. *Id.*

225. *Id.* at 326.

226. Vandenberg, *Social Meaning*, *supra* note 14, at 198.

227. See Michael P. Vandenberg, *Beyond Elegance: A Testable Typology of Social Norms in Corporate Environmental Compliance*, 22 STAN. ENVTL. L.J. 55, 64 (2003) [hereinafter Vandenberg, *Beyond Elegance*].

228. *Id.*

standard approach, individuals are not motivated to comply absent the threat of legal sanctions.²²⁹

Rational decision-making by individuals favors investments in scientific investigation where there is some potential for private gain—i.e., when the end product of the investigation can be turned into property.²³⁰ Thus, that same rational decision-making neglects scientific investigation where the benefits may never become property, but may instead be diffused to the public at large, where payoffs may not come for years.²³¹ Information on such scientific and environmental subjects could have enormous social benefits, but because they are so dispersed, these subjects are likely to remain at most a matter of private concern to individual researchers.²³² This further illustrates the “tragedy of the commons” problem.

Regarding individual responsibility of household waste, consumer choice is determined by two considerations.²³³ First, consumers look to see what is available, which is determined by what the industry puts into the market.²³⁴ Second, socio-demographic factors and income play role in decisions because of their influence on lifestyle, attitudes, and awareness.²³⁵ The people most likely to participate in recycling programs are those who are motivated to do so, but different motives underlie the behavior of different individuals.²³⁶ Recyclers have motives different from non-recyclers; while neither is concerned about economic costs, non-recyclers are more concerned about the inconvenience of recycling.²³⁷ Motives to recycle and conservation competencies are the most important predictors of observed recycling behavior, while amount of effort required is another important factor.²³⁸ These recycling behaviors will likely have an impact on the effectiveness of any take-back program, as consumers will have to participate by returning goods to manufacturers, either through curbside collection or returning to a collection location.

Ebreo and Vining found that community infrastructure does influence people’s attitudes toward recycling programs and policies during their studies of the motives and attitudes regarding recycling

229. *Id.*

230. Rose, *supra* note 193, at 764.

231. *Id.*

232. *Id.*

233. Chris Coggins, *Waste Prevention – An Issue of Shared Responsibility for UK Producers and Consumers: Policy Options and Measurement*, 32 *RESOURCES, CONSERVATION & RECYCLING*, 181, 183 (2001).

234. *Id.*

235. *Id.*

236. Angela Ebreo & Joanne Vining, *Motives as Predictors of the Public’s Attitudes Toward Solid Waste Issues*, 25 *ENVTL. MGMT.* 153, 153 (2000).

237. *Id.* at 154.

238. *Id.*

among residents of Champaign, Illinois.²³⁹ In the early stages of solid waste planning, residents placed more emphasis on matters of personal convenience than on altruistic factors and adherence to social norms.²⁴⁰ If recycling is highly convenient, the strengths of attitudes in favor of recycling and environmental protection are of little importance in predicting behavior; those weakly motivated to recycle are just as likely to recycle as those strongly motivated.²⁴¹

External and internal norms also play a role in motivating environmental compliance.²⁴² Internal norms arise when an individual adopts a behavior as an obligation.²⁴³ The perceived costs of violating an internal norm stem from the expected feelings of guilt and shame upon violation.²⁴⁴ External norms include popular beliefs about social obligations; noncompliance may trigger social sanctions.²⁴⁵ Thus, the perceived costs of violating an external norm are the sanctions expected when others learn of the norm violation.²⁴⁶ The Schwartz norm activation theory suggests that the intensity of the obligation felt by the individual affects a norm's influence on behavior.²⁴⁷ Awareness of the consequences to the welfare of others stemming from an individual's actions and an attribution of personal responsibility for causing or preventing those consequences both activate norms.²⁴⁸ Laws and law enforcement can tie internal norms to concrete norms, thus leading to new behavioral intentions.²⁴⁹ Therefore, enforcement of environmental laws could be achieved by providing information about the consequences of noncompliance and the individual's ability to prevent those consequences.²⁵⁰

U.S. citizens now place increasing importance on protecting the environment.²⁵¹ "The lobbying and legislative successes of the American environmental movement have redefined the general public's attitudes toward environmental policy problems."²⁵² Fortunately, those attitudes have been redefined in moral or ethical

239. *Id.* at 155, 168.

240. *Id.* at 155.

241. Carlson, *supra* note 100, at 1282, n.203.

242. *See* Vandenberg, *Beyond Elegance*, *supra* note 227, at 67.

243. *See id.* at 67-68.

244. *Id.*

245. *Id.* at 69.

246. *Id.* at 69-70.

247. *Id.* at 73 (citing SHALOM H. SCHWARTZ, A NORMATIVE DECISION-MAKING MODEL OF ALTRUISM, IN ALTRUISM AND HELPING BEHAVIOR 189, 193-202 (Jacqueline Macauley & Leonard Berkowitz eds., 1970)).

248. *Id.*

249. *Id.* at 75 (citing Richard McAdams, *The Origin, Development, and Regulation of Norms*, 96 MICH. L. REV. 338, 408 (1997)).

250. *Id.* at 74.

251. *See* Spence, *supra* note 180, at 158.

252. *Id.* at 159.

terms.²⁵³ These new attitudes create hope for the success of environmental protection regimes that require individual action, such as take-back laws.

This concept also applies to businesses. Businesses do consider environmental values in making decisions, at least in part because of environmental laws.²⁵⁴ Governmental policy promotes consideration by businesses of environmental issues in two ways.²⁵⁵ First, policy environmental protection by establishing standards to which businesses must comply.²⁵⁶ Second, laws indirectly influence businesses by stigmatizing their violations of environmental laws.²⁵⁷ Thus, environmental policies promote environmental protections in the decision making of businesses as well as for individuals.

IV. TAKE-BACK: A SOLUTION FOR THE UNITED STATES?

A. Developing a Regulatory Scheme: Legislative Feasibility

The United States is unique among industrialized countries in not having any national EPR mandates.²⁵⁸ At the present time, only individual companies in the United States have implemented take-back policies.²⁵⁹ For example, Xerox earns substantial profits by taking back and remanufacturing the office equipment it produces.²⁶⁰ Also, the carpet industry was the first in the United States to develop take-back programs.²⁶¹ While voluntary efforts continue to grow, particularly in the electronics industry, national take-back legislation is not foreseeable in the near future.²⁶² The lack of legislation may stem from pessimistic attitudes about federal environmental regulation, as illustrated by Congressman Earl Blumenauer:

For most of the last decade, environmental protection at the federal level has reached an impasse, as increasing concerns about the economic and social impacts of environmental regulation have led to the extension of important targets and deadlines as well as growing resistance to new protective legislation. When the federal government does act, initiatives providing long-term environmental protection are often sidetracked by issues that are shorter-term, more tangible, and

253. *Id.*

254. *See Id.* at 166 (stating that legal standards facilitate collective action on the part of businesses irrespective of penalties).

255. *Id.* at 166.

256. *Id.*

257. *Id.*

258. Bette K. Fishbein, *Carpet Take-Back: EPR American Style*, ENVTL. QUALITY MGMT., Autumn 2000, at 25, 26.

259. *Id.* at 26.

260. *Id.*

261. *Id.*

262. Roeder, *Industries*, *supra* note 175.

easier to accomplish. Comprehensive environmental approaches are too often laid aside as overly complex or even impossible to implement.²⁶³

The National Electronics Product Stewardship Initiative met in June 2003 to study options for a nationwide electronic waste-recycling program.²⁶⁴ All sides involved, including environmentalists, government officials, and industry leaders, voiced concerns about such a program.²⁶⁵ Environmentalists are particularly concerned because they doubt that the process will produce a viable national solution for handling electronic waste.²⁶⁶

A troublesome obstacle "is funding. Local governments and environmental groups want to charge consumers a front-end environmental fee for each unit they purchase to pay for the collection and recycling of scrap electronics."²⁶⁷ But Hewlett-Packard's Director of Global Policy, David Isaacs, believes that front-end fees are not fair or sound.²⁶⁸ Hewlett-Packard has announced its "HP Proposal," which would have manufacturers internally bear the costs of recycling end-of-life equipment.²⁶⁹ The HP Proposal, based on the European Union's Waste Electrical and Electronic Equipment Directive, called for manufacturer responsibility at least from the point of consolidation, leaving the details up to Member States.²⁷⁰

"With all three branches of the federal government—legislative, executive, and judicial—deeply involved with environmental issues, there are a number of ways to derail initiatives."²⁷¹ Skeptics doubt that any legislation amenable to NEPSI will pass the current Congress.²⁷² According to Congressman Blumenauer, an increase of conservative thinking in Congress created a blocking of regulations, environmental or otherwise.²⁷³ Furthermore, the U.S. high

263. Blumenauer, *supra* note 218, at 4-5.

264. Joe Truini, *Scrambled Circuits; E-waste Recycling Initiative Stagers; Pessimism Grows*, WASTE NEWS, June 23, 2003, at 1 [hereinafter Truini, *Scrambled Circuits*].

265. *Id.*

266. *Id.*

267. *Id.*

268. *Id.*

269. *Id.*

270. *Id.*

271. Blumenauer, *supra* note 218, at 5.

272. Truini, *Scrambled Circuits*, *supra* note 264.

273. Blumenauer, *supra* note 218, at 5. Environmental liability regimes can be politically unpopular. For example, in 2002 a Maryland House of Delegates committee rejected two environmental bills supported by the governor, which would have increased fines for water pollution and restricted the dumping of solid waste. State House Speaker Casper Taylor Jr. claimed the bills went too far, stating "I really think there is a limit on how far the environmental community can go and still maintain a good pro-business climate. There's got to be a balance, a certain reasonableness in our approach." See *Maryland: State Delegates Kill 2 of Governor's Enviro Bills*, GREENWIRE, March 13, 2002.

technology industry is eager to voice disapproval of such a plan, as are other industries.²⁷⁴ Although NEPSI negotiations and planning continue, groups opposing any such legislation will be able to lobby for Congressional disapproval of such legislation. Resistance to such environmental regulations could spell big trouble for innovative EPR regulations.

David Wood, program director of GrassRoots Recycling Network, explained that “[a]t this juncture, there is far more likelihood of success taking place at the state level than at the national level. It is essential, therefore, that states forge ahead. . . .”²⁷⁵ However, there could be problems with states developing their own proposals for dealing with electronic waste. States that require reporting and take-back will have to notify all the manufacturers of the products to be taken back;²⁷⁶ however, most computer parts are made in Asia, which could make enforcing take-back laws nearly impossible.²⁷⁷ Furthermore, states and industries may prefer a national solution to recycling waste to a patchwork of varying state laws.²⁷⁸ A study by the General Accounting Office illustrated that in trying to introduce new methods of enforcing environmental standards, state officials face problems not only in a lack of resources, but also in regulatory requirements and “cultural resistance” from federal counterparts.²⁷⁹

One problem with mandatory take-back programs has been identifying the responsible entity.²⁸⁰ The problem is that costs are imposed on producers, so companies try to avoid being the responsible entity.²⁸¹ Another concern is that it is not always practical for companies to take back their own products.²⁸² However, some progress has been made. As David Stitzhal, coordinator of NEPSI, stated in February 2004, the electronics industry has at least acknowledged its responsibility.²⁸³ What the industry is willing to do is unknown.²⁸⁴

Another impediment in the United States to such laws is the sheer size of the country.²⁸⁵ In comparing recycling in Germany and

274. See Rossella Brevetti, U.S. *High Tech Industry Critical of EU Laws on Hazardous Substances, Electric Waste*, INT’L ENVTL. DAILY, Oct. 24, 2003 (publishing criticisms of similar legislation in Europe by industry leaders).

275. Truini, *Scrambled Circuits*, *supra* note 264.

276. *Id.*

277. *Id.*

278. See Roeder, *Industries*, *supra* note 175 (reporting on an effort to consider financing for electronic waste recycling plan).

279. Damon Franz, *Enviro Policy: Feds’ Attitudes, Regulations are Obstacles to State Innovation* - GAO, GREENWIRE, Mar. 5, 2002.

280. Fishbein, *supra* note 258, at 32 (take-back programs in carpet industry).

281. *Id.*

282. *Id.* at 33-34.

283. Roeder, *Industries*, *supra* note 175.

284. *Id.*

285. Donnelly, *supra* note 97, at 49.

the United States, Donnelly notes how much larger the United States is and how driving long distances to collect materials becomes too expensive.²⁸⁶ Thus, in such a geographically dispersed country such as the United States, it is more efficient for the materials to be simply thrown away.²⁸⁷ A study of the German system reveals that a reduction of transport and secondary packaging would be successful in the United States, as it has helped to reduce landfill loads in Germany.²⁸⁸ Some argue that adopting an entire take-back system would not work in the United States.²⁸⁹ Nonetheless, the U.S. systems for taking back waste oil and lead-acid batteries through state implemented programs under national policies are promising.²⁹⁰ Thus, a national plan for taking back items such as packing materials and electronic waste will be successful on a national level if states implement such programs.

Despite these concerns, there are three major reasons why take-backs would be an attractive option for the United States. First, EPR programs shift environmental management expenses to the private sector by placing responsibility on producers.²⁹¹ Take-back laws are premised on the idea that waste management costs will be paid by individual consumers in the form of higher prices or consumer fees (or a combination thereof), instead of collectively with local tax revenues.²⁹² In fact, EPR programs coincide with the "polluter pays" principle, which according to classic economic theory can only operate by incorporating environmental costs into industry activities.²⁹³ Therefore, if the U.S. government imposes take-back requirements on manufacturers industry and consumers will bear the costs directly.

Second, several states implemented programs involving advanced disposal fees, a weak form of take-back laws.²⁹⁴ For example, EPR is mandated for the producers of lead-acid batteries, tires, and motor oil, and the disposal fees are reflected in the prices of those products.²⁹⁵ Finally, U.S. companies already voluntarily practice EPR.²⁹⁶ Such examples include the take-back schemes

286. *Id.* (using glass bottles as an illustrative example).

287. *See id.* (driving costs may exceed benefit to environment).

288. *Id.* at 51 (drawing lessons from industrial recycling in Germany).

289. *Id.* at 52.

290. *Id.*

291. Salzman, *supra* note 7, at 1289.

292. *Id.*; *see also* Roeder, *Industries*, *supra* note 175 (discussion of consumer fees plan).

293. *See* Harsch, *supra* note 187, at 553 (discussion of "polluter pays" principle).

294. Salzman, *supra* note 7, at 1289-90.

295. *Id.* at 1290.

296. *Id.*

implemented by Xerox, Sony, Dell, Hewlett-Packard, and various companies in the carpet industry.²⁹⁷

In anticipation of an alternative to such voluntary schemes, the National Solid Wastes Management Association outlines four components of good electronic waste and recycling programs.²⁹⁸ First, governments would build upon existing solid waste and recycling infrastructure for electronic waste collection and processing.²⁹⁹ Second, advance recycling fees or take-back provisions would provide financial support for electronic waste recycling.³⁰⁰ Third, environmental, health, and safety standards for the proper management of collected materials, including reporting and documentation procedures for end-markets, must be ensured.³⁰¹ Fourth, government officials would support programs that develop new processing technologies and new markets, especially those that use recycled content in new electronic products.³⁰² Also, in the case of take-back programs, those who rate and date electronic waste should be supported to ensure accountability.³⁰³ All four components offer suggestions to current U.S. lawmakers.

A lesson is offered by the German program in establishing a national take-back system. Although German law mandates individual responsibility and sets overall material collection and recycling rates, it is the private collection organization that defines "recyclable" packaging and sets tariffs for inclusion in the program.³⁰⁴ The privatization of these duties is a key element to the success of any take-back program.

If the United States were to adopt take-back programs, a decision would have to be made whether to focus on existing products or new products.³⁰⁵ Selecting products to focus on is a critical policy issue. This issue is most critical for durable goods, including automobiles, electronic equipment, and carpets (which are all products that have been found to contribute to significant disposal problems).³⁰⁶

297. *Id.*; see also Fishbein, *supra* note 258, at 25-26; Sony to Spread Word, *supra* note 119; Whetzel, *supra* note 116.

298. Alice P. Jacobsohn, *Deleting E-Waste*, WASTE AGE, June 1, 2003, at 6.

299. *Id.*

300. *Id.*

301. *Id.*

302. *Id.*

303. *Id.*

304. Salzman, *supra* note 7, at 1281.

305. Fishbein, *supra* note 258, at 34.

306. *Id.*

B. Domestic Legal Roadblocks

There are two major legal barriers to enacting nationwide take-back programs in the United States. First, anti-trust law is a barrier if a waste-collection monopoly is established, which is likely.³⁰⁷ The packaging collection programs of European countries are all private nationwide monopolies.³⁰⁸ Predictions are that “[i]f federal EPR take-back laws were implemented in the U.S. . . . it is likely a national joint venture like DSD would be created by the affected industries in order to manage the collection and end-use of the packaging or products.”³⁰⁹ If such a monopoly is created, there would be four options for avoiding anti-trust law.³¹⁰ First, Congress could restrict application of certain anti-trust requirements, although this is rare and usually subjects the activity to substantial federal oversight.³¹¹ Second, Congress could use a standard under a rule of reason rather than per se for anti-trust action against certain ventures.³¹² Third, legal precedent could shield the collection venture even if there were no anti-trust exemption included in take-back legislation, if the venture is the least drastic means to achieve the goals of the program.³¹³ Finally, Congress could opt not to provide any anti-trust protection, which would encourage competitive collection operations at a regional or national level.³¹⁴ Also, if the take-back program is introduced at a state level, the state action doctrine could exempt state collection industries from federal anti-trust enforcement if the program articulated a policy to displace competition and was actively supervised by state agents.³¹⁵ Thus, anti-trust laws do not present an insurmountable obstacle to the implementation of take-back legislation.

Another challenge to take-back proposals in the United States is in the Resource Conservation and Recovery Act (RCRA) regulation of hazardous substances.³¹⁶ The RCRA imposes a number of obstacles to the collection and recycling of hazardous waste, including the electronics that so badly need to be recycled.³¹⁷ Centers collecting any hazardous substances are classified as Treatment, Storage, or

307. Salzman, *supra* note 7, at 1286.

308. *Id.*

309. *Id.*

310. *Id.*

311. *Id.*

312. *Id.*

313. *Id.* at 1286-87.

314. *Id.* at 1287.

315. *Id.*

316. *Id.*

317. See generally 40 C.F.R. § 264.1 (2004) (standards for owners and operators of hazardous waste treatment, storage, and disposal facilities).

Disposal facilities (TSDs) under subtitle C, which would subject them to EPA certification requirements, increasing costs, and provide strong disincentives for collecting hazardous materials through a network.³¹⁸ In 2003, the EPA, recognizing this problem, proposed in 2003 to exclude certain hazardous materials targeted for recycling from the definition of hazardous waste.³¹⁹ Although environmental groups remain skeptical of exclusion of too many materials from RCRA, the EPA plans to continue to exclude such materials to ease product recycling.³²⁰

These legal issues leave open questions about what support the American legal system will provide for EPR initiatives. It appears, however, that Congress has the option of adjusting anti-trust law and environmental regulations to accommodate such programs. Perhaps such changes will create a more receptive legal community.

C. Attitudes as Barriers

The “law does much more than regulate behavior. It plays a key role in knitting the very fabric of society, creating the background against which people conduct their lives.”³²¹ In subtle ways, the law influences the values that communities espouse and follow.³²² Laws communicate messages to the public about their responsibilities help to shape attitudes.

“[T]he public’s short attention span and the media’s propensity to focus on controversy and quick fixes” discourage even handed discussions and articulation of complete explanations to today’s problems.³²³ Today it seems that the easiest environmental issues to address are those in “stark black-and-white terms.”³²⁴ Unfortunately, the problem of waste piling up in landfills is not one that offers an easy solution. Thus, it is difficult to convey to the U.S. public the complex advantages and disadvantages of EPR and take-back requirements.

Ebreo and Vining’s study suggests hesitation on the part of both recyclers and non-recyclers about curbside collection.³²⁵ Hesitation may have been caused by concerns about cost, but it also may represent a tendency of people to support programs that are familiar to them, rather than programs about which they have little

318. See *id.* §§ 264.1-264.101 (EPA requirements and procedures for TSD’s).

319. Linda Roeder, *Agency to Continue Push for Recycling By Redefining Waste, Promoting Reuse*, ENV’T REP., Jan. 23, 2004, at S-14.

320. *Id.* at S-14.

321. Doremus, *supra* note 190, at 296.

322. *Id.* at 297.

323. Blumenauer, *supra* note 218, at 5.

324. *Id.*

325. Ebreo & Vining, *supra* note 236, at 166.

knowledge or experience.³²⁶ However, a previous study by Ebreo and Vining revealed that higher levels of participation in recycling followed the creation of curbside programs.³²⁷

A possible solution to overcoming public negativity about possible EPR mandates would be to educate the public on the benefits of such programs. Still, research on the role of educational programs in strengthening environmental values is ambiguous.³²⁸ However, information campaigns increase knowledge and signal the importance of the desired behavior.³²⁹ Empirical studies show that information about existing campaigns can increase recycling behavior.³³⁰

Furthermore, educational programs are not the only means by which the public's opinions about solid waste programs are influenced. "Although it has not received a great deal of attention, the provision and implementation of programs themselves can have an effect on the public's attitudes and motives as well as their behavior."³³¹ Studies have shown that improving accessibility to recycling programs can result in higher levels of participation.³³² Through the use of laws, the public receives a message conveyed by a law, and that message can affect perceptions about the sources of the problem and on the social norms that develop in response to those perceptions.³³³ Perhaps actually implementing an EPR collection system is the best way to garner public support for producer take-backs.

In further support of simply implementing a take-back program to improve awareness are the many ways in which laws shape behavior.³³⁴ By their very existence, laws shape actions and attitudes.³³⁵ First, laws shape technology by either encouraging or discouraging the development of new technologies.³³⁶ That regulatory schemes produce incentives to innovate for purposes of environmental compliance lends support to the hope that U.S. manufacturers will alter products and create collection systems in order to make recycling easier at the end of useful life.³³⁷ Second, laws shape institutions that determine the principles and values that motivate public actions.³³⁸ Laws in themselves tell to the public what

326. *Id.*

327. *Id.* at 156.

328. *Id.* at 155.

329. Carlson, *supra* note 100, at 1285.

330. *Id.*

331. Ebreo & Vining, *supra* note 236, at 155.

332. *Id.*

333. See Vandenberg, *Social Meaning*, *supra* note 14, at 202.

334. See Doremus, *supra* note 190, at 302.

335. *See id.*

336. *Id.*

337. *See id.*

338. *Id.* at 304.

they should value; thus, take-back laws can generate support from the public simply by existing and being enforced.³³⁹ Laws can also encourage and discourage the development of particular capabilities.³⁴⁰ Mandating EPR by law would ensure that manufacturers would invent the capability to take back their products.³⁴¹

A barrier exists in the fact that an EPR take-back scheme would require action by individuals to return products to their manufacturers.³⁴² The United States has a long history of individuals failing to appreciate their own contributions to environmental problems and of resistance to attempts to regulate individual behavior.³⁴³ Overcoming this mindset and empowering individuals to participate will likely be the largest hurdle in implementing a nationwide take-back system in the United States.

V. RECOMMENDATIONS

“As policymakers search for answers to the . . . waste disposal problem and seek to encourage recycling and other techniques, they should keep in mind the primary lesson of the German experiment: government policies cannot erase technical and economic realities, they can only influence them or be broken by them.”³⁴⁴ “Those who wish to see the journey of environmental policy succeed should resist the forces that tend to squelch discussion of values.”³⁴⁵ It is essential that EPR and take-backs be discussed in terms of the values they reveal.³⁴⁶ In codifying EPR, the U.S. government will be adopting the polluter pays principle.

The first task will be the development of realistic goals.³⁴⁷ The German government imposed an impossible burden on the DSD in setting recycling goals that were based on ideology rather than technical facts and economic realities.³⁴⁸ Germany found that high goals for taking back and recycling materials like aluminum and steel

339. *Id.*

340. *Id.* at 305 (offering as an example the public school system, mandated by law, which makes available what we regard as minimum training for individuals).

341. *See, e.g., id.* at 304-05 (discussing the ways in which laws encourage development of particular capabilities). Applying Doremus' theory, EPR laws would encourage manufacturers to develop products to be in compliance with the law.

342. *See e.g.* Halpert, *supra* note 40, at 146.

343. *See* Vandenberg, *Social Meaning*, *supra* note 14, at 197.

344. Reynolds, *supra* note 11, at 72.

345. Doremus, *supra* note 190, at 378.

346. *See id.*

347. This is a lesson learned from the German system's unrealistic goals. *See* Reynolds, *supra* note 11, at 72.

348. *Id.* at 63.

were workable, but plastics were far too difficult and expensive to recycle at high rates.³⁴⁹ The lesson for U.S. policymakers is to assess the costs of taking-back and recycling individual materials. As different industries likely will be responsible for different combinations of materials, the United States should create different collection and recycling goals and different timelines based on the feasibility of recycling different materials. Furthermore, the EU approach is a guide for the United States in developing legislation that will harmonize the states' activities. The Packaging Directive's combination of definitions (for uniformity) and ranges of targets (for flexibility) could help individual U.S. states implement programs while sustaining national goals, just as it did in the EU.³⁵⁰

In terms of waste prevention and reduction by industry in the United States, there is a need to move toward (1) using less hazardous raw materials, (2) product substitution and designing for reuse, (3) using fewer composite materials in products, (4) using recyclates, (5) focusing on durability and extended product life, and (6) increasing the importance of eco-design.³⁵¹ In terms of waste reduction through consumer behavior, it is desirable to introduce (1) products containing less hazardous materials, (2) products containing recycled materials, (3) longer-life products, (4) repairable products, and (5) a process for leasing or hiring products.³⁵² Extended producer responsibility would influence on both companies and consumers to value these ideas. Consumers would likely focus on products that either last longer or are repairable if take-back laws forced them to finance the end-of-life recycling of products. For producers, taking end-of-life responsibility for their products seems likely to induce them to produce products that are less hazardous, more durable, easier to recycle, longer lasting, and more environmentally friendly.

In developing take-back schemes, the U.S. government can expect that interest groups will play a role and influence the specifics of any such plan.³⁵³ Because of this aspect of the legislative process and the isolation of agencies under the presidential system, take-back schemes will take longer to develop in the United States than they did in Europe.³⁵⁴ However, this does not make take-backs unfeasible for the United States. The U.S. government will likely support EPR at least in part because it shifts environmental expenses to the private sector.³⁵⁵ Such support will have to overcome any political resistance to environmental laws.

349. *Id.*

350. *See* Schneeweiss, *supra* note 43, at 454-55.

351. *Coggins, supra* note 233, at 183.

352. *Id.* at 184.

353. *See* Verweij, *supra* note 143, at 1020-21.

354. *See id.*

355. *See* Salzman, *supra* note 7, at 1289.

The weaker forms of EPR enacted by states, the limited national plans for oil and batteries, and the voluntary programs undertaken by U.S. companies all lay a foundation for a national take-back program for various types of waste. If the United States were to adopt a national take-back plan, lawmakers would be challenging a basic principle of the current command and control approach to environmental regulation—namely, that it is possible to regulate at the “end of the pipe.”³⁵⁶ Given the rate at which waste is piling up, changing that principle may be inevitable, and the U.S. government may be better off in recognizing its un-workability sooner.

The “fend for yourself” attitude prevalent among U.S. industries presents another obstacle to the implementation of EPR.³⁵⁷ However, voluntary efforts from some companies are encouraging. Also, regulatory programs force firms to face environmental concerns in development and manufacturing of products.³⁵⁸ In addition, environmental laws require firms to meet standards and create a stigma for those who do not.³⁵⁹ Thus, businesses have less choice in complying with EPR mandates.

Individual compliance presents a greater challenge. Take-back legislation would require individuals to participate in returning their products to the manufacturers or retailers—or to participate in a curbside collection system. Individuals fail to see their own roles in creating problems;³⁶⁰ therein lies the challenge of motivating all individuals to comply and behave as if they value the environment. A national set of legal obligations would ensure individual compliance under the standard theory of deterrence used in U.S. environmental laws.³⁶¹ Also, such an approach could be very beneficial in that laws themselves create norms, which in turn motivate individuals to act based on the wish to avoid either social sanctions or internal feelings of guilt or shame. Provisions directed toward individuals will be particularly helpful if they include information about the specific consequences of non-compliance, as this will help to trigger norms and feelings of obligation.³⁶²

Financing is another heated issue. Basic economics suggest that internalizing costs will be the only way to create an efficient system.³⁶³ In accordance, the German and French approaches rely on

356. See Harsch, *supra* note 187, at 551-52.

357. See Verweij, *supra* note 143, at 1029.

358. See Rose, *supra* note 193, at 767.

359. See generally Spence, *supra* note 180, at 158-63 (discussing the impact of environmental values on American society).

360. Vandenbergh, *Social Meaning*, *supra* note 14, at 198.

361. Vandenbergh, *Beyond Elegance*, *supra* note 227, at 64 (discussing deterrence as principle rationale for federal environmental enforcement).

362. See *id.* at 67-68 (describing an alternative conceptual framework to the standard deterrence model).

363. Harsch, *supra* note 187, at 553.

the producers of products to fund take-back efforts.³⁶⁴ But some manufacturers favor a system of front-end fees for consumers, and the debate on this point continues.³⁶⁵ One of the traditional goals of EPR is to force manufacturers to internalize the costs of take-backs and reflect that internalization in the product's price.³⁶⁶ This approach seems to be a sound way to finance take-backs, but the challenge will be to force industries to reach such a consensus.

Another factor to consider is the collection of waste itself. If the United States models its EPR mandates after those in Europe, it will likely develop a private system for waste collection, similar to DSD or Eco-Emballages. There are differences between Eco-Emballages and DSD to consider in formulating a U.S. plan. First, Eco-Emballages does not itself collect waste, but DSD does.³⁶⁷ Eco-Emballages merely subsidizes local municipalities that collect waste.³⁶⁸ The French Eco-Emballages system makes more sense in a geographically vast country such as the United States. Because size is an obstacle to implementing a national collection program,³⁶⁹ the Eco-Emballages approach is more feasible because it would build on the existing U.S. methods of collecting waste through local municipalities. This is preferable to a DSD-type system, which would require the creation of an entirely new national entity.

The green dot labeling system is another possibility for promoting an EPR system in the United States. Green labels would create awareness of a product's recyclability.³⁷⁰ Green dots are a simple plan that has worked throughout Europe to trigger the first step in the recycling process: consumers placing the product in the recycling loop.³⁷¹ The goal would be to create a perception among U.S. consumers that green dots create a responsibility on their part to begin the take-back process.

The policy of the National Solid Waste Management Association (NSWMA) lays out several helpful suggestions for take-backs that could serve as a guide for any U.S. policies.³⁷² For example, building on existing waste and recycling infrastructure would be especially helpful for individuals resistant to take-back requirements. Using that which is already in existence could make people feel as if take-backs were not as much of an extra burden. The findings of Ebreo

364. Eco-Emballages, *supra* note 11 at 6; Schneeweiss, *supra* note 43, at 463.

365. Roeder, *Industries*, *supra* note 175.

366. See Salzman, *supra* note 7, at 1274.

367. Reynolds, *supra* note 11, at 69.

368. *Id.*

369. See *id.* at 67 (describing the problems with implementing a massive collection plan in a country with great distances between population centers and industrial facilities).

370. Donnelly, *supra* note 97, at 42.

371. See, e.g., Halpert, *supra* note 40, at 146.

372. See Jacobsohn, *supra* note 298.

and Vining that non-recyclers are most worried about inconvenience lend further support to the use of existing infrastructure.³⁷³ If current recycling systems are seen as convenient and are already used, adding other products to be taken back by manufacturers might not have a great effect. NSWMA also suggests reporting and documenting procedures, as well as the development of new processing technologies. Reporting and documenting would be an easy legislative move to make, as such requirements already exist in many U.S. laws, including RCRA. Also, take-back laws themselves would encourage the development of new technologies by firms looking to meet requirements in the most efficient way possible.³⁷⁴

Looking further down the road, the United States will need to consider whether to focus solely on take-back legislation or go a step further by promoting product redesign. The EU Hazardous Substances Directive provides an example of an approach that looks beyond keeping the waste out of landfills.³⁷⁵ The directive's ban on hazardous substances is an example of a possible follow-up approach that could be the subject of federal take-back legislation.

VI. CONCLUSION

"We will never reach an environmental endpoint that allows us to maintain a permanent set of policy choices. We must, therefore, always be thinking about how well our current policy choices will prepare us for those we will face in the future."³⁷⁶ The problem of waste will not go away. As many discarded products make their way in to landfills at faster rates than ever before, the U.S. government will face the choice of whether to impose a national mandatory system of extended producer responsibility.

Given international trends, the United States may have no other option than to implement national take-back legislation. Luckily for the United States, the European models provide many lessons learned on take-backs and extended producer responsibility. The United States can use European models to develop a national EPR mandate while keeping in mind the need for flexibility and long-term thinking. The unique culture and legal structure of the United States requires and adjustment to the European example to create a new system that can comfortably require participation from government, industry, and individuals.

373. Ebreo & Vining, *supra* note 236, at 154.

374. See Doremus, *supra* note 190, at 302.

375. See Hazardous Substances Directive, *supra* note 37.

376. See Doremus, *supra* note 190, at 297.

The development of a national take-back scheme in the United States is not only entirely feasible but also necessary. Waste will continue to pile up at even more rapid rates as the population increases and innovations in technology make more products obsolete. The details of financing and creating a national collection system will present obstacles, but the need for such a national system is ever-present.

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