ENVIRONMENTAL NOTE

SOLID WASTE SOURCE REDUCTION AND THE PRODUCT BAN: A COMMERCE CLAUSE VIOLATION?

INTRODUCTION

Disposing of solid waste has been a problem for hundreds of years.[1] When products and packages outlive their usefulness and become waste, they must be disposed of in the land, air, or water. Traditional disposal methods, such as landfilling, incineration, and ocean dumping, become less effective as the amount of waste increases. The growing awareness of the complexity of solid waste disposal has led to a greater emphasis on environmental legislation both at the state and federal levels.[2] One solution to the growing problem of disposal is to reduce the amount of potentially harmful products and excess packaging entering the stream of commerce, thereby decreasing the volume of resulting waste.

State restriction of the importation and sale of products and packages presents a potential commerce clause violation. This note

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1. *See generally* E. MONTROLL & W. BADGER, INTRODUCTION TO QUANTITATIVE ASPECTS OF SOCIAL PHENOMENA 1-14 (1974).

> The non-returnable bottle was already a nuisance in Roman times. One of the largest "monuments" of Rome, known as Monte Testaccio, was a mound of some 40 million broken clay jars which were piled behind the ancient docks. It had the form of a cone about 140 feet high with a diameter of 1200 feet. By the second century, A.D., cheap Spanish wine had captured the popular Roman market. It was shipped in large clay jars which weighed about 95 Roman pounds empty and about 215 pounds filled. Since it was more profitable to load the galleys returning to Spain with Italian goods than with empty wine casks, Monte Testaccio grew steadily.

Id. at 2.

2. *See, e.g.*, Clean Water Act of 1977, 33 U.S.C. §§ 1251-1376 (1982) (coordinate activities at all levels of government to improve quality of nation's waters); Resource Conservation and Recovery Act of 1976, 42 U.S.C. §§ 6901-6991i (1982 & Supp. IV 1986) (emphasize recycling rather than just disposal); Clean Air Act, 42 U.S.C. §§ 7401-7626 (1982) (improve research and help states develop air pollution control programs); MINN. STAT. ANN. §§ 116F.01-.30 (West 1987) (recycle solid waste; includes package review plan); OR. REV. STAT. §§ 459.810-.995 (1985) (bottle bill to help reduce amount of waste generated); VT. STAT. ANN. tit. 10, §§ 6601-6618 (1984 & Supp. 1988) (reduce amounts of solid waste generated and improve disposal methods; includes product and package ban proposals as method of source reduction). *See generally* Huffman, *Individual Liberty and Environmental Regulation: Can We Protect People While Preserving the Environment?*, 7 ENVTL. L. 431 (1977).

discusses Vermont's Act 78,[3] enacted in 1988, which proposes to reduce solid waste by prohibiting the sale of certain products and packages that are known to cause problems upon disposal. This note specifically addresses the commerce clause issues raised by the proposed ban, and analyzes the constitutionality of the ban in light of the United States Supreme Court's decision in *Minnesota v. Clover Leaf Creamery Co.*[4] The analysis will show that Vermont's proposed ban probably could withstand a commerce clause challenge, but only if the ban is better defined and becomes part of a comprehensive package review program.

Section I discusses traditional methods of solid waste disposal and identifies source reduction as a means of alleviating the disposal problem. Section II briefly reviews the development of federal solid waste legislation. Section III reviews the history of solid waste legislation in Vermont, including the recent Act 78. Section III also examines the types of products and packages that Vermont has included in the Act 78 proposed ban. Section IV analyzes the ban proposal under the commerce clause. First, it surveys commerce clause considerations. Second, section IV analyzes the constitutionality of Vermont's ban in light of *Clover Leaf Creamery*, the most recent Supreme Court case involving a state package ban statute.

I. Common Methods of Solid Waste Disposal

There are five common responses to the generation of solid waste: sanitary landfilling, incineration, recycling, disposal at sea,[5] and source reduction. Of the five alternatives, only source reduction attacks the waste problem before materials are sold.

Sanitary landfilling involves the storage of waste material in the ground.[6] The proper operation of a landfill depends upon many

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3. Vt. Stat. Ann. tit. 10, §§ 6601-6618 (1984 & Supp. 1988).

4. 449 U.S. 456 (1981).

5. *See generally* Solid Wastes: Origin, Collection, Processing, and Disposal (C.L. Mantell, author and ed. 1975) [hereinafter Solid Wastes].

6. Sorg & Bendixen, *Sanitary Landfill*, in Solid Wastes, *supra* note 5, at 71. The Sanitary Engineering Division of the American Society of Civil Engineers defined sanitary landfilling as:

> A method of disposing of refuse on land without creating nuisances or hazards to public health or safety, by utilizing the principles of engineering to confine the refuse to the smallest practical area, to reduce it to the smallest practical volume, and to cover it with a layer of earth at the conclusion of each day's operation, or at such more frequent intervals as may be necessary.

factors. For example, the landfill operator must know the amounts and types of waste that will be placed in the landfill in order to select a proper site.[7] In addition, the operator must understand such soil characteristics as moisture, density, types of clay minerals, and percolation rates. Accessibility to the waste generating area is another important factor in landfill planning, as is the local climate.[8]

A dependency on landfilling as a disposal method presents problems because the amount of suitable land is decreasing while waste continues to increase. In Vermont alone, approximately 320,000 tons of solid waste were landfilled in 1986.[9] In addition, landfills may release hazardous materials into the groundwater system and may generate harmful methane gas.[10]

The incineration process involves the combustion of solid waste, which can reduce the volume of waste requiring landfilling by up to ninety percent.[11] The combustion process destroys harmful pathogens, viruses, and organic chemicals.[12] The simplest incineration process is the mass burn, where waste is burned in a nonuniform mixture.[13]

When the nonuniform waste includes plastic packaging, incineration becomes more complex. Plastics require a much higher temperature of combustion than other waste material. As a result, plastic waste "tend[s] to melt and clog furnace grates."[14] Incineration of plastic based materials also produces harmful gases, the variety of which depends on the material combusted.[15]

Recycling involves the use of waste, most commonly metals and paper,[16] as raw material for production.[17] It can be very diffi-

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Id.

7. *Id.* at 77.

8. *Id.* at 78-81.

9. AGENCY OF ENVIRONMENTAL CONSERVATION, REPORT OF THE GOVERNOR'S ADVISORY COMMITTEE ON SOLID WASTE MANAGEMENT 1 (Vt. Jan. 19, 1987).

10. Vermont Solid Waste Management Plan Draft, ch. 6:44 (Jan. 1988) [hereinafter January Draft]. *See also* Vermont Solid Waste Management Plan Draft, ch. 5:11 (Dec. 1988) [hereinafter December Draft].

11. January Draft, *supra* note 10, at ch. 6:27. *See* December Draft, *supra* note 10, at ch. 2:28.

12. January Draft, *supra* note 10, at ch. 6:27.

13. *Id.*

14. A. BARTON, RESOURCE RECOVERY AND RECYCLING 118 (1979).

15. *Id.* at 83.

16. December Draft, *supra* note 10, at ch. 4:1. Recycling of metals dates back to the

cult, however, to obtain waste material for recycling because few people are willing to participate in recycling programs. In addition, commonly recyclable waste may become nonrecoverable if combined with other material, such as when newspaper is used as a dropcloth for painting.[18] Therefore, recycling will rarely be sufficient. It works best as part of a more comprehensive waste management program.

Disposal at sea is also part of many solid waste plans.[19] The efficiency of disposal and the breakdown of material is highly dependent on the characteristics of the dumping location.[20] In addition, the dumping of plastic waste has disatrous results. Thousands of marine animals die each year after choking on or becoming entangled in plastic debris.[21]

Sanitary landfilling, incineration, recycling, and disposal at sea involve the disposal of products after their usefulness has ended. Source reduction attacks the waste disposal problem before the waste is generated. It decreases the volume of waste before it is produced and, therefore, alleviates disposal problems.

Consumer product sales, for example, create disposal problems by excessive packaging.[22] The use of plastics in packaging has

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period when Elizabeth I and Henry VIII ruled England. Mandell, *Recycling*, in SOLID WASTES, *supra* note 5, at 751.

17. Mantell, *Recycling and Obsolescence*, in SOLID WASTES, *supra* note 5, at 754. "The National Association of Secondary Material Industries lists 725 corporations involved in recycling; it estimates the value of the resulting products at $8 billion per year." *Id.* at 754-55. The factors affecting the value of materials include: the quantity of material generated in one area, the type and degree of contaminants, the accessibility of collecting within the area generating the waste, the processing technology, the transportation costs, the technology of final product production, and the specifications of the final product. Vermont Solid Waste Management Plan Draft, *supra* note 10, at ch. 2:15-16.

18. January Draft, *supra* note 10, at ch. 2:14.

19. SOLID WASTES, *supra* note 5, at 341.

20. *Id.* at 345-46. The grain size of the sediment on the ocean floor is one of the factors which affects the speed of breakdown of waste material. *Id.*

21. Toufexis, *The Dirty Seas*, TIME, Aug. 1, 1988, at 44, 47.

22. *See* January Draft, *supra* note 10, at ch. 2:7. The increase in waste generation is caused primarily by the trend in characteristics of consumer products, which includes: proliferation of similar products, such as detergents or toothpaste; greater number of sizes of containers for a single product; greater complexity of products; built-in obsolescence; greater mix of material, reducing recycling efficiency; emphasis on fashion changes; and increased emphasis on the appearance of products and their packages. *Id.* at 7-8. December Draft, *supra* note 10, at ch. 4:2. *See generally* U.S. EPA BUREAU OF SOLID WASTE MANAGEMENT, FIRST NATIONAL CONFERENCE ON PACKAGING WASTES (1971) [hereinafter EPA CONFERENCE ON PACKAGING]. These proceedings give an excellent discussion of environmental problems associated with packaging waste.

grown since the 1950's.[23] Vermont's Act 78 attempts to respond to the problem of increased packaging waste by prohibiting the sale of specific types of packages and products.

II. Federal Solid Waste Legislation

National attention has only recently focused on solving the solid waste disposal problem. In 1965, the United States Congress passed the Solid Waste Disposal Act.[24] The Act intended to change disposal methods through increased research and conservation in order to improve the quality of air, land, and water resources.[25] In 1970, Congress amended the Solid Waste Disposal Act of 1965 with the Resource Recovery Act.[26] The Resource Recovery Act changed the emphasis of federal legislation from waste disposal to environmental preservation through a system of resource recovery.[27]

The Resource Conservation and Recovery Act of 1976 (RCRA), reformulating the Resource Recovery Act, regulates solid waste disposal.[28] One objective of RCRA is to assist states in the development of a solid waste management plan that includes both disposal and resource recovery systems.[29] Every state has responded to RCRA initiatives by enacting solid waste regulations.[30] This note concentrates on Vermont's solid waste management legislation.

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23. EPA Conference on Packaging, *supra* note 22, at 85. Use of plastics for packaging increased from 730 million pounds in 1958 to over 2.5 billion pounds in 1967. *Id.*

24. Pub. L. No. 89-272, 79 Stat. 997 § 201 (1965) (amended 1970).

25. *Id.* § 202(b)(1).

26. Pub. L. No. 91-512, § 101(b)(1), 84 Stat. 1227 (1970) (current version at 42 U.S.C. §§ 6901-6991i (1982 & Supp. IV 1986)). *See also* Comment, *Municipal Solid Waste Regulation: An Ineffective Solution to a National Problem*, 10 Fordham Urb. L.J. 215, 226 (1982) [hereinafter *Municipal Solid Waste*] (brief discussion of history of federal solid waste legislation); Note, *Conserving Natural Resources: Toward a Comprehensive State Solid Waste Recycling Program Under the Federal Resource Conservation and Recovery Act*, 10 Rev. L. & Soc. Change 469, 471 (1981-1982) (short discussion of federal solid waste statutes).

27. *Municipal Solid Waste, supra* note 26, at 226 n.78.

28. 42 U.S.C. §§ 6901-6991i (1982 & Supp. IV 1986). *See also Municipal Solid Waste, supra* note 26, at 226 n.80.

29. Resource Conservation and Recovery Act, 42 U.S.C. § 6902(1).

30. *Municipal Solid Waste, supra* note 26, at 227.

III. VERMONT SOLID WASTE LEGISLATION

A. A History of Solid Waste Management in Vermont

In 1968, Vermont passed its first solid waste legislation.[31] The legislation left most of the responsibility for solid waste management to local government.[32] In the early 1970's, local solid waste regulations allowed open burning in dumps.[33] With a growing concern about air pollution, however, the locally controlled dumps started to bury and cover waste.[34] As disposal technology improved, landfills replaced many open dumps.[35] As a result, local governments began to consider proper siting for landfills.[36]

Vermont responded to the passage of RCRA[37] by enacting new solid waste legislation in 1977.[38] This legislation improved state waste disposal by giving the Agency of Environmental Conservation (AEC) broader power to manage all aspects of solid waste.[39] The statute required the Secretary of the AEC to create a statewide plan. The AEC promulgated specific guidelines in 1978 which required landfill certification in order to improve poor management methods.[40] Two years later, the AEC found that only fifteen percent of the landfills in Vermont complied with the regulations.[41] Presently, sixty percent of Vermont landfills comply.[42]

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31. *See* AGENCY OF ENVIRONMENTAL CONSERVATION, *supra* note 9, app. at 1.

32. *Id.* January Draft, *supra* note 10, at ch. 1:1. "Vermont law (Subchapter 8 and 10, 24 VSA-1972) . . . requires each town or city to provide for sanitary disposal of garbage and refuse. The state role has been limited primarily to regulatory activities to reduce the health and environmental impacts of solid waste processing and disposal." *Id. See* December Draft, *supra* note 10, at ch. 1:1.

33. AGENCY OF ENVIRONMENTAL CONSERVATION, *supra* note 9, app. at 1. Approximately 200 dumps in Vermont regularly used open burning to reduce the amount of waste. *Id.*

34. *Id.* Vermont started to enforce the Air Pollution Control Regulations around 1970. *Id.*

35. *Id.* Until the mid 1970's, landfills were often sited on land that was unsuitable for waste disposal. Wetlands were commonly used because they were perceived to have little value. Municipalities stopped locating landfills on wetlands, however, because people realized that wetlands are an important resource. Also, the soils found in wetlands are much too permeable to break down harmful waste materials sufficiently. *Id.*

36. *Id.*

37. Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901-6991i (1982 & Supp. IV 1986).

38. VT. STAT. ANN. tit. 10, § 6601 (1984 & Supp. 1988). *See also* AGENCY OF ENVIRONMENTAL CONSERVATION, *supra* note 9, app. at 2.

39. VT. STAT. ANN. tit. 10, §§ 6601, 6604.

40. AGENCY OF ENVIRONMENTAL CONSERVATION, *supra* note 9, app. at 2.

41. *Id.*

42. *Id.*

When state or local enforcement officials close a landfill for noncompliance, it is necessary to create a new landfill site. In addition, the need for new sites has grown in the last two decades because of the dramatic increase in the amount of waste.[43] The increase in waste is due to both population growth and greater durability of packaging products.[44]

B. *Current Legislation: Act 78*

Poor management methods and increased waste led to the passage of Act 78.[45] The Act recognizes that these problems cause adverse effects on the environment and on human health, and demonstrates the State's interest in better management by statewide planning.[46]

The Act requires the governor to appoint a technical advisory committee on solid waste which is responsible for providing the AEC with recommendations for a state solid waste management plan.[47] The solid waste management plan must be based on specific priorities.[48] First, the plan must attempt to reduce the amount of waste generated.[49] Other priorities include improved recycling and waste processing, both of which have the goal of reducing the disposal volume of waste.[50] Also, the Secretary of the AEC must recommend alternatives for waste reduction to the Vermont General Assembly.[51]

Act 78 contemplates banning products and packages in order to ensure that "packaging used and products sold in the state are not an undue burden to the state's ability to manage its waste."[52] The Legislature recommended for evaluation those items that are

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43. December Draft, *supra* note 10, at ch. 1:3-1:5.

44. *Id.*

45. VT. STAT. ANN. tit. 10, §§ 6601-6618 (1984 & Supp. 1988).

46. *Id.* § 6601(1)-(2).

47. *Id.* § 6603e(a)-(b).

48. *Id.* § 6604(a)(1)(A).

49. *Id.*

50. *Id.* § 6604(a)(1)(B)-(C).

51. *Id.* § 6604(c). "The secretary shall hold public hearings, perform studies as required, conduct ongoing analyses, and make recommendations to the general assembly with respect to the reduction of the waste stream. In this process, the secretary shall consult with manufacturers of commercial products and of packaging used with commercial products . . . ." *Id.*

52. *Id.*

hazardous, nonrecyclable, or nonbiodegradable.[53] The statute requires "immediate consideration"[54] of certain materials. This requirement includes:

> (A) evaluation of products and packaging that contain large concentrations of chlorides, such as packaging made with polyvinyl chloride (PVC),
> (B) evaluation of polystyrene packaging, particularly that used to package fast food on the premises where the food is sold,
> (C) evaluation of products and packaging that bring heavy metals into the waste stream, such as disposable batteries, paint and paint products and containers, and newspaper supplements and similar paper products, and
> (D) identification of unnecessary packaging, which is nonrecyclable and nonbiodegradable.[55]

As part of the evaluation process to reduce waste generation, the secretary must consider "product and packaging bans, products or packaging which ought to be exempt from such bans, the existence of less burdensome alternatives, and alternative ways that a ban may be imposed."[56]

1. Packaging Made with Polyvinyl Chloride

The first type of material that Act 78 proposes for banning is polyvinyl chloride (PVC).[57] PVC is a type of thermoplastic.[58] A thermoplastic is a plastic[59] which softens when heated, and can be

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53. *Id.* § 6604(c)(1). The Solid Waste Advisory Committee characterized the items covered by Act 78 as those which "may present such a threat and expense if disposed that banning them from use entirely is the most viable option." AGENCY OF ENVIRONMENTAL CONSERVATION, *supra* note 9, at 13.

54. VT. STAT. ANN. tit. 10, § 6604(c)(1).

55. *Id.* § 6604(c)(1)(A)-(D).

56. *Id.* § 6604(c)(2)(A). The Secretary must also consider "tax incentives, including the following options: (i) product taxes, based on a sliding scale, according to the degree of undue harm caused by the product, the existence of less harmful alternatives, and other relevant factors, (ii) taxes on all non-recyclable, nonbiodegradable products or packaging, [and] deposit and return legislation for certain products." *Id.* § 6604(c)(2)(B)-(C).

57. *Id.* § 6604(c)(1)(A). *See also* Doniger, *Federal Regulation of Vinyl Chloride*, 7 ECOLOGY L.Q. 500 (1978).

58. A. BARTON, *supra* note 14, at 63.

59. For background material on plastic containers, waste, and recycling, see generally A.J. WARNER, C.H. PARKER & B. BAUM, SOLID WASTE MANAGEMENT OF PLASTICS (1970); Agoos, *Serving Up a Better Package for Foods*, CHEMICAL WEEK, Oct. 16, 1985, at 100 (improving plastic containers for safe use with greater variety of foods); Curlee, *Plastics Recycling: Economic and Institutional Issues*, 9 CONSERVATION & RECYCLING 335 (1986) (tech-

reshaped and molded.[60] Products which contain PVC include plastic bottles and containers.[61] PVC is also found in clothing, home furnishings, and footwear.[62] Landfilling of PVC presents several problems.

First, PVC is biologically inert[63] and therefore biodegrades very slowly.[64] Second, the landfill compacting process is less efficient because plastics, such as PVC, tend to deform rather than to break.[65] Materials that deform take up more space in the site than

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nical discussion of plastic recycling); de Grave, *Packaging*, 12 CEC WASTE MANAGEMENT CONFERENCE OF THE UNITED KINGDOM 75 (1980) (consumers pay for the package as well as the product; the amount of packaging should be reduced); Editorial, *Plastics Face Growing Pressure From Ecologists*, CHEMICAL & ENGINEERING NEWS, Mar. 29, 1971, at 12 (plastics made from polyvinyl chloride create numerous disposal problems, and several states are planning legislation requiring a deposit unless containers are biodegradable); Milgrom, *Recycling Plastics: Current Status*, 3 CONSERVATION & RECYCLING 327 (1980) (status of international developments in plastic recycling); Powell, *Plastic Beverage Cans: What's Ahead?*, RESOURCE RECYCLING, Nov.-Dec. 1985, at 14 (possible introduction of plastic soft drink containers by Coca-Cola USA, a division of the Coca-Cola Company, the leading soft drink producer in the United States); Smith, *Legislative Curbs on Plastic*, BIOCYCLE, Feb. 1988, at 56 (discusses New York State's request to McDonalds Corp. to serve food in biodegradable materials rather than polystyrene, and Los Angeles' consideration of a polystyrene ban); Spaak, *Recycling a Mixture of Plastics: A Challenge in Today's Environment*, 8 CONSERVATION & RECYCLING 419 (1985) (technical problems related to plastic recycling).

60. A. BARTON, *supra* note 14, at 63. Thermoplastics include polystyrene, polypropylene, and polyethylene. About 75% of the plastics produced in the United States in the mid-1970's were made of thermoplastics. *Id.*

61. A.J. WARNER, C.H. PARKER & B. BAUM, PLASTICS SOLID WASTE DISPOSAL BY INCINERATION OR LANDFILL I-13 (1971). Materials which also contain small amounts of PVC include some types of film, "floor tile, garden hose, plastic raincoats, scrap wire and cable." *Id.* Because of its "clarity and flexibility," PVC is "a popular substitute for glass in packaging." A. BARTON, *supra* note 14, at 75.

62. K. GUTFREUND, U.S. EPA REPORT, FEASIBILITY STUDY OF THE DISPOSAL OF POLYETHYLENE PLASTIC WASTE 2 (1971). PVC is used in clothing such as outerwear and baby pants, in upholstery, and in shower curtains. In 1967, for example, production of PVC in the United States was 2,127 million pounds. *Id.*

63. A. BARTON, *supra* note 14, at 108. Inert materials are those that "exhibit[] no chemical activity" or that show "chemical activity under special or extreme conditions only." THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 672 (1973).

64. A. BARTON, *supra* note 14, at 108.

> Vinyl plastics, particularly poly(vinyl chloride), show marked deterioration after several years in the presence of soil microorganisms, but this is probably because the plasticizers such as glycol derivatives provide a source of nutrient. . . . The biodegradability of [plastics] has received considerable attention, for example from the manufacturers of plastics in an attempt to improve the public image of plastic by preventing the accumulation of long-lasting plastic litter. Plasticizers are not incorporated in many packaging [plastics], so the degradation rates are extremely slow.

Id. See also A.J. WARNER, C.H. PARKER & B. BAUM, *supra* note 61, at I-9.

65. A.J. WARNER, C.H. PARKER & B. BAUM, *supra* note 61, at I-9. Plastics are not generally brittle, so they remain intact even when placed under other materials. *Id.*

materials that break and compact.[66] Finally, landfills containing PVC may generate harmful gases such as methane.[67] Methane forms during decomposition.[68] Because PVC decomposes slowly, however, it generates little methane and other gas.[69]

The presence of PVC also causes problems in waste incineration.[70] "The prime function of any waste reduction facility is to achieve a minimum residual volume and sterile end products."[71] PVC impedes these goals because it reduces the efficiency of incinerator operations by releasing gases, such as hydrogen chloride, that corrode the machinery.[72] Corroded machinery leads to increased maintenance costs and shorter machine life, thereby raising incineration costs.[73]

2. *Polystyrene Packaging*

The second type of material proposed for banning is polystyrene packaging.[74] Polystyrene is a thermoplastic, but is more brittle than PVC.[75] Plastics such as polystyrene are highly resistant to corrosion and decomposition, making them popular for use in containers and other products.[76] As a result, polystyrene shares with

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66. *Id.* With lower density, or compaction levels, areas containing any significant amount of plastics, such as PVC, will settle at highly variable rates, therefore preventing the land from being utilized for a long period of time. *Id.*

67. Sorg & Bendixen, *Sanitary Landfill*, in SOLID WASTES, *supra* note 5, at 92-93.

68. *Id.*

69. A.J. WARNER, C.H. PARKER & B. BAUM, *supra* note 61, at I-9.

70. *See generally* A. BARTON, *supra* note 14, at 132; K. GUTFREUND, *supra* note 62, at 3; PUBLIC HEALTH SERVICE BUREAU OF SOLID WASTE MANAGEMENT, U.S. DEP'T OF HEW, COMPREHENSIVE STUDIES OF SOLID WASTE MANAGEMENT 81 (1970); A.J. WARNER, C.H. PARKER & B. BAUM, *supra* note 61, at I-10; Cohan & Fernandes, *Incineration*, in SOLID WASTES, *supra* note 5, at 259-332. "Plastics in waste tend to cause problems because of their high heats of combustion, the tendency of thermoplastics to melt and clog grates, and the corrosion and air pollution resulting from release of gases, such as hydrogen chloride from [PVC]." A. BARTON, *supra* note 14, at 133.

71. Cohan & Fernandes, *Incineration*, in SOLID WASTES, *supra* note 5, at 290.

72. A.J. WARNER, C.H. PARKER & B. BAUM, *supra* note 61, at I-12. "All other major plastics materials [besides PVC] are either hydrocarbon in nature, or are based on polymers containing generally carbon, hydrogen and oxygen which, on burning properly, give rise to carbon dioxide and water," neither of which is nearly as harmful as hydrogen chloride. *Id.*

73. *Id.*

74. VT. STAT. ANN. tit. 10, § 6604(c)(1)(B). The Act requires consideration especially of polystyrene packaging used to package fast food on the premises where the food is sold. *Id.* Polystyrene is used to keep food at a more constant temperature when served, but such packaging may be unnecessary when the food is eaten on the premises.

75. A. BARTON, *supra* note 14, at 75.

76. A.J. WARNER, C.H. PARKER & B. BAUM, *supra* note 61, at I-9. Polystyrene is used in toys, containers such as beverage cups, and home appliance parts. A. BARTON, *supra* note 14,

other plastics a very slow rate of biodegradation.[77] Polystyrene, once placed in a landfill, undergoes less significant changes in composition than paper products and vegetative matter.[78] As a thermoplastic material, polystyrene melts during incineration and clogs furnace grates.[79]

The percentage of plastics, such as polystyrene, is increasing in packages as plastics replace glass.[80] In addition, excess packaging is often used to make a product aesthetically appealing, rather than to protect a product in shipping or storage.[81] Therefore, disposal problems will continue to increase. Act 78 attempts to address this problem by reducing the amount of unnecessary packaging that enters the stream of commerce and the waste stream, and considering the present uses of polystyrene containers at fast food restaurants.

3. *Heavy Metals*

The third type of material proposed for banning includes "products and packaging that bring heavy metals into the waste stream, such as disposable batteries, paint and paint products and containers, and newspaper supplements and similar paper products."[82] Heavy metals include the element lead. The largest use of lead is in lead-acid batteries.[83] Lead also has a long history of use

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at 75. Polystyrene is used in packing materials as well as in housewares, combs, and brushes. K. GUTFREUND, *supra* note 62, at 2.

77. A. BARTON, *supra* note 14, at 108. A study has shown that 10% to 40% of plastics by volume

> can be replaced by starch which is thus encapsulated within the polymer but which provides nutrition for microorganisms and leads to complete breakdown of the materials in soil or water . . . . However, litter is a social problem, and may be solved more efficiently by education, legislation, or taxation than by the possibly hazardous method of making plastics biodegradable.

Id. at 108-09.

78. A.J. WARNER, C.H. PARKER & B. BAUM, *supra* note 61, at I-9.

79. A. BARTON, *supra* note 14, at 118. The same problems regarding combustion temperatures that apply to PVC also apply to polystyrene material. Both of these plastics require a temperature during incineration that is much hotter than most other incinerated waste, so the standard machines are inadequate for plastic incineration. *Id.*

80. *Id.* at 117.

81. *Id.*

82. VT. STAT. ANN. tit. 10, § 6604(c)(1)(C).

83. LEAD TOXICITY: HISTORY AND ENVIRONMENTAL IMPACT 27 (R. Landsdown & W. Yule eds. 1986). Lead is commonly used in batteries because it is resistant to corrosion and has good electrical conductivity. Lead batteries are used in cars, "life-support systems, on-line computer systems, banks and airports. A recent development has been the mobile intensive care unit for babies used when transfer between wards or even hospitals becomes neces-

as a paint pigment.[84] It is still used in some paints, though less commonly for indoor domestic purposes.[85] Both colored and black inks used for newsprint contain lead.[86] Lead is also an important component of plastics, including PVC, where it is used to extend the range of processing temperatures.[87]

The disposal of products which contain lead can be hazardous because, as a heavy metal, lead does not degrade easily and therefore can eventually enter water and food sources.[88] Children whose blood contains high levels of lead often experience permanent harm including "diminished performance intelligence, poor motor nerve response, minimal brain dysfunction syndrome, behavioral problems, mental retardation, cerebral palsy, a shorten[ed] life span and accelerated aging."[89] Because of its widespread use, it will be difficult to limit the flow of products and packages which contain lead. The harmful effects of lead ingestion and exposure, however, make it vital to minimize the volume of lead entering the waste stream.[90]

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sary." *Id.* at 28. Lead batteries are also used for wheelchairs and power boats. *Id.*

Lead was a relatively unimportant metal until the Roman era, starting in about 49 A.D. The main uses of lead in Roman times were for pipes and cooking vessels. *Id.* at 10-12. During the Middle Ages, lead was used primarily for pipes and roofing. Its domestic use increased because cooking vessels were often made of pewter, which contained as much as 60% lead. *Id.* at 13-14. Modern uses of lead originated during the industrial revolution in the last half of the 18th century. Lead use greatly increased after Gaston Plante made the first lead storage battery in 1859, using two lead plates in an acid bath. *Id.* at 15.

84. *Id.* at 36-37. The use of paints containing lead pigments causes serious problems when children eat the sweet flavored paint chips. *Id.* at 37.

85. *Id.* at 37.

86. *Id.* at 168.

87. *Id.* at 38.

88. *See* December Draft, *supra* note 10, at ch. 4:6. *See generally* H. BOHN, B. MCNEAL & G. O'CONNOR, SOIL CHEMISTRY 297-301 (1979).

89. Gilligan & Ford, *Investor Response to Lead-Based Paint Abatement Laws: Legal and Economic Considerations*, 12 COLUM. J. ENVTL. L. 243 (1987). Even during Roman times, the harm of lead toxicity was known, but that knowledge did not prevent its widespread use in wine, medicines, cooking vessels, and food. Raw grape juice was boiled down in leaden pots to make a sweetener, and the sweetener was added to many foods. LEAD TOXICITY, *supra* note 83, at 16. Outbreaks of lead toxicity occurred in the early 1600's in France, the mid-1700's in England, and again in the mid-1800's in France. *Id.* at 19-21.

90. *See generally* Barrett & Howells, *Legal Control of Hazardous Substances in the Environment with Particular Reference to Lead*, 1984 J. PLAN. & ENVTL. L. 774; Collivignarelli, Riganti & Urbini, *Battery Lead Recycling and Environmental Pollution Hazards*, 9 CONSERVATION & RECYCLING 111 (1986).

IV. A Commerce Clause Analysis of Vermont's Act 78 Proposed Ban

Vermont produces a minimal amount of the commercial products used in the state, particularly the products and packages considered by Act 78.[91] Therefore, by contemplating banning these products, the Vermont Legislature will restrict the flow of commerce into the state. The commerce clause of the United States Constitution gives to Congress the power to control the flow of commerce between states.[92]

In order for Vermont successfully to enact source reduction legislation such as the product ban, the legislation must be able to withstand constitutional challenges. State regulations that control packaging and products for purposes such as litter and solid waste reduction have been challenged[93] under the equal protection clause,[94] the due process clause,[95] and the twenty-first amend-

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91. Bureau of the Census, U.S. Dep't of Commerce, 1982 Census of Manufactures: Geographic Area Series-Vermont 6-7 (Apr. 1985).

92. U.S. Const. art. I, § 8, cl. 3. Congress shall have power "[t]o regulate Commerce with foreign Nations, and *among the several States.*" *Id.* (emphasis added).

93. *See generally* Comment, *Plastic Bans, Bottle Bills, and Comprehensive Container Legislation: Packaging Laws Get Mixed Reviews in State Court*, 9 Envtl. L. Rep. 10193, 10194 (1979) [hereinafter *Plastic Bans*].

94. *See, e.g.*, Park and Shop Mkts., Inc. v. City of Berkeley, 116 Cal. App. 3d 78, 172 Cal. Rptr. 515 (Ct. App. 1981) (container deposit ordinance upheld despite claim that soft drink classification was irrational); Juice Tree Haw., Inc. v. Yuen, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20739 (Haw. Cir. Ct. Sept. 18, 1979) (statute prohibiting sale of plastic beverage containers found unconstitutional based partly on equal protection grounds); Bowie Inn, Inc. v. City of Bowie, 274 Md. 230, 335 A.2d 679 (1975) (return deposit ordinance upheld despite claim of no rational relationship to stated purpose of litter control); Clover Leaf Creamery Co. v. State, 289 N.W.2d 79 (Minn. 1980) (ban on plastic nonrefillable milk containers found to violate equal protection clause because not rationally related to purpose of solid waste reduction), *rev'd*, 449 U.S. 456, *reh'g denied*, 450 U.S. 1027 (1981); Mid-State Distrib. Co. v. City of Columbia, 617 S.W.2d 419 (Mo. Ct. App. 1981) (mandatory beverage refund ordinance valid despite claim that it lacked rational relation to stated purpose of litter control); Society of Plastics Indus. v. City of New York, 68 Misc. 2d 366, 326 N.Y.S.2d 788 (Sup. Ct. 1971) (tax on only plastic containers violated equal protection requirements where other container materials not taxed); American Can Co. v. Oregon Liquor Control Comm'n, 15 Or. App. 618, 517 P.2d 691 (1974) (beverage container statute did not violate equal protection clause because rationally related to legislative purpose); Anchor Hocking Glass Corp. v. Barber, 118 Vt. 206, 105 A.2d 271 (1954) (upheld statute prohibiting sale of beer and ale in nonreturnable glass bottles, in part because there was no equal protection violation).

95. *See, e.g., Park and Shop Mkts., Inc.*, 116 Cal. App. 3d 78, 172 Cal. Rptr. 515 (inconsistent portion of the beverage container ordinance struck down, but the remaining portion of the ordinance complied with due process requirement of definiteness); *Juice Tree Haw., Inc.*, 9 Envtl. L. Rptr. 20739 (court found that prohibition of the sale of plastic beverage containers violated due process requirements because it was not rationally related to the purpose of litter reduction and was too vague); *Bowie Inn, Inc.*, 274 Md. at 235-40, 678 A.2d

ment.[96] Solid waste reduction regulations, however, are most commonly challenged on commerce clause grounds.[97]

Part A of this section reviews the general concerns raised by the commerce clause. Part B sets the proposed product and packaging ban of Vermont's Act 78 against commerce clause standards to determine whether the ban violates the commerce clause.[98] The following analysis shows that, when better defined, the Vermont ban probably will survive commerce clause scrutiny.

A. General Commerce Clause Considerations

The commerce clause states that "Congress shall have Power . . . . To regulate Commerce . . . among the several States."[99] Therefore, the commerce clause limits state power to "enact laws which affect interstate commerce."[100] In the area of environmental regulations, it may be difficult for states to respond to local problems without affecting interstate commerce.[101] State environmental legislation is potentially more responsive than federal legislation to special local concerns such as population size, industry, and geography. State environmental regulations that are too spe-

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at 684-85 (ordinance sufficiently defined the term 'soft drink' to give " 'a person of ordinary intelligence fair notice' as to which beverages are within the deposit requirement"); Can Mfrs. Inst. v. State, 289 N.W.2d 416 (Minn. 1979) (the Package Review Act decisionmaking process is precise enough to stay within the requirements of the due process clause); *Mid-State Distrib. Co.*, 418 S.W.2d at 428 (court found that "[t]he prospect of some difficulties in definitions do not invalidate an ordinance or a statute"); *Society of Plastics Indus.*, 68 Misc. 2d at 383, 326 N.Y.S.2d at 805 (a tax only on plastic containers and not on other types of containers violates due process clause because it will "arbitrarily . . . damage or destroy plaintiffs' businesses without serving any permissible public objective and thus deprives plaintiffs of property without due process of law"); *American Can Co.*, 15 Or. App. at 644, 517 P.2d at 703-04 (court refused to overrule the economic legislation, saying that in comparing the "legislative purpose against the degree of oppression to individuals," the court had "no cause to disturb legislative judgment").

96. *See, e.g., Anchor Hocking Glass Corp.*, 118 Vt. 206, 105 A.2d 271 (defendants claimed that the twenty-first amendment supported statute prohibiting sale of beer and ale in nonreturnable glass bottles, but the court decided the case more narrowly, relying in part on Vermont's police powers).

97. *Plastic Bans, supra* note 93, at 10194. *See generally* Note, *State Environmental Protection Legislation and the Commerce Clause*, 87 HARV. L. REV. 1762 (1974) [hereinafter *State Environmental Protection*]; Note, *The Negative Commerce Clause and State Environmental Legislation—Externalities Suggest Application of the Tax Standard to Environmental Regulations*, 32 VAND. L. REV. 913 (1979).

98. For a similar analysis, see *State Environmental Protection*, supra note 97, at 1765.

99. U.S. CONST. art. I, § 8, cl. 3.

100. *State Environmental Protection, supra* note 97, at 1763.

101. *Id.*

cialized, however, may affect businesses and activities outside of the state, thereby raising the issue of constitutional validity.

The Supreme Court invalidates state regulations which discriminate against interstate commerce for several reasons, including "adherence to the intentions of the Framers, fear of the economic and political consequences of interstate hostility, and concern about biased local political processes."[102] Concerns of federalism and judicial competence, however, balance the Court's evaluation of state regulations.[103]

The Supreme Court often looks to the intent of the framers of the United States Constitution to interpret and to apply the commerce clause. In *Baldwin v. G.A.F. Seelig, Inc.*,[104] the Court emphasized that the framers wanted to prevent state discrimination against out-of-state commerce. Justice Cardozo restated in *Baldwin* that the framers' primary purpose in drafting the commerce clause was to prevent " 'the mutual jealousies and aggressions of the States, taking form in customs barriers and other economic retaliation.' "[105] In *Hood & Sons v. Du Mond*,[106] Justice Jackson reemphasized the importance of adhering to the framers' intent.

The Supreme Court has also expressed concern that discriminatory regulations will cause both economic and political conflicts among states,[107] a concern which is closely tied to the framers' in-

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102. Smith, *State Discriminations Against Interstate Commerce*, 74 CALIF. L. REV. 1203, 1206 (1986).

103. *Id.*

104. 294 U.S. 511 (1935).

105. *Id.* at 522 (quoting lower court opinion, 7 F. Supp. 776, 780 (1934)). *See* Smith, *supra* note 102, at 1207.

106. 336 U.S. 525, 533-34 (1949). Justice Jackson said that:

> The desire of the Forefathers to federalize regulation of foreign and interstate commerce stands in sharp contrast to their jealous preservation of the state's power over its internal affairs. No other federal power was so universally assumed to be necessary, no other state power was so readily relinquished. . . .
>
> The necessity of centralized regulation of commerce among the states was so obvious and so fully recognized that the few words of the Commerce Clause were little illuminated by debate.

Id. See Smith, *supra* note 102, at 1207.

107. Smith, *supra* note 102, at 1208. *See, e.g.*, Bacchus Imports, Ltd. v. Dias, 468 U.S. 263, 272 (1984) ("It has long been the law that States may not 'build up [their] domestic commerce by means of unequal and oppressive burdens upon the industry and business of other States.' " (quoting Guy v. Baltimore, 100 U.S. 434, 443 (1880))); City of Philadelphia v. New Jersey, 437 U.S. 617, 629 (1978) ("The Commerce Clause will protect New Jersey in the future, just as it protects her neighbors now, from efforts by one State to isolate itself in the stream of interstate commerce from a problem shared by all."); *Hood & Sons*, 336 U.S.

tent. Justice Jackson highlighted this issue in *Hood & Sons*, stating that one "need only consider the consequences if each of the few states that produce copper, lead, . . . or gas should decree that industries located in that state shall have priority. What fantastic rivalries and dislocations and reprisals would ensue if such practices were begun!"[108]

The Supreme Court noted the bias in local political processes in *South Carolina State Highway Department v. Barnwell Brothers.*[109] *Barnwell Brothers* involved a state regulation of the width and weight of semi-trailer motor trucks. The Court upheld the regulation, finding that reducing highway maintenance and increasing safety were proper uses of state legislative power.[110] In a footnote to the majority opinion, however, Justice Stone said that:

> Underlying the stated rule [which opposes discriminatory state regulations] has been the thought, often expressed in judicial opinion, that when the regulation is of such a character that its burden falls principally upon those without the state, legislative action is not likely to be subjected to those political restraints which are normally exerted on legislation where it affects adversely some interests within the state.[111]

The Court often assumes legislative validity in state regulation cases, but political accountability should first be established. If those who are harmed by a discriminatory regulation do not have a voice in the jurisdiction in which the regulation is passed, an assumption of legislative validity would be erroneous. The commerce clause intends to protect voiceless victims of discriminatory regulations.

525, 535 (1949) (The "Court has advanced the solidarity and prosperity of this Nation by" restricting state regulations which affect interstate commerce.); *Baldwin*, 294 U.S. 511, 523 (1935) ("[The Constitution] was framed upon the theory that the peoples of the several states must sink or swim together, and that in the long run prosperity and salvation are in union and not division.").

108. *Hood & Sons*, 336 U.S. at 538-39. *See* Smith, *supra* note 102, at 1208-09.

109. 303 U.S. 177 (1938). *See* Smith, *supra* note 102, at 1209.

110. *Barnwell Bros.*, 303 U.S. at 196.

111. *Id.* at 184 n.2. The Supreme Court expressed a similar concern in the famous footnote 4 in United States v. Carolene Products, 304 U.S. 144 (1938). Justice Stone said that

> [i]t is unnecessary to consider [in *Carolene Products*] whether legislation which restricts those political processes which can ordinarily be expected to bring about repeal of undesirable legislation, is to be subjected to more exacting judicial scrutiny under the general prohibitions of the Fourteenth Amendment than are most other types of legislation.

Id. at 152-53 n.4.

Conflicting with these concerns are issues of state independence and the limits of judicial competency.[112] First, the Supreme Court has long recognized that state legislation protecting health and safety should be relatively free from federal judicial intervention.[113] Environmental legislation fits within this state responsibility.[114] Second, complex issues, such as the economic effect of health and safety regulations, are more appropriate for legislative, rather than judicial, consideration. Such determinations should be made by specialists as part of the legislative process.[115]

The previous discussion describes the general considerations that a court must undertake while deciding a commerce clause case. The Supreme Court, however, has developed tests which it uses when presented with a potentially discriminatory state regulation. In *Minnesota v. Clover Leaf Creamery Co.*, the Court utilized these tests when it considered a state law banning certain plastic containers.[116]

B. Minnesota v. Clover Leaf Creamery Co. and the Constitutionality of Vermont's Ban Proposal

Prior to the Supreme Court's decision in *Minnesota v. Clover Leaf Creamery Co.*,[117] state courts applied numerous constitutional tests and reached varying results when confronted with environ-

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112. Smith, *supra* note 102, at 1210.

113. *See, e.g.*, Maine v. Taylor, 477 U.S. 131, 138 (1986) (" 'States retain authority under their general police powers to regulate matters of "legitimate local concern," even though interstate commerce may be affected.' " (quoting Lewis v. BT Investment Managers, Inc., 447 U.S. 27, 36 (1980))); Great Atl. and Pac. Tea Co. v. Cottrell, 424 U.S. 366, 371 (1976) (stating that "under our constitutional scheme the States retain 'broad power' to legislate protection for their citizens in matters of local concern such as public health"); Dean Milk Co. v. City of Madison, 340 U.S. 349 (1951) (city can not discriminatorily protect local industry under guise of health and safety when reasonable nondiscriminatory alternatives exist). *See generally* Hellerstein, *Hughes v. Oklahoma: The Court, the Commerce Clause, and State Control of Natural Resources*, 1979 SUP. CT. REV. 51. Hellerstein points out that the Court gives much value to state interest in the protection of its citizens' health, safety, and employment, and in the conservation of its animals. *Id.* at 68.

114. *See, e.g.*, Minnesota v. Clover Leaf Creamery Co., 449 U.S. 456 (1981) (ban on plastic milk containers upheld because it regulates evenhandedly and purpose of solid waste reduction is legitimate); Huron Portland Cement Co. v. City of Detroit, 362 U.S. 440 (1960) (anti-air pollution legislation which allows people to breathe more clearly falls within state police powers).

115. *See generally* Smith, *supra* note 102, at 1211.

116. 449 U.S. 456 (1981). *See Plastic Bans, supra* note 93, at 10194. *See also* Note, *The Bottle Bill: Progress and Prospects*, 36 SYRACUSE L. REV. 759, 779-86 (1985) [hereinafter *Bottle Bill*] (a brief review of the major container cases).

117. 449 U.S. 456 (1981).

mental statutes involving solid waste issues.[118] In 1979, the Minne-

118. *Anchor Hocking Glass Corp. v. Barber* involved an early challenge to a state beverage container law. 118 Vt. 206, 105 A.2d 271 (1954). The plaintiffs challenged a 1953 Vermont statute which prohibited the sale of beer or ale in nonreturnable glass bottles. *Id.* at 207, 105 A.2d at 273. They claimed that the act was an invalid exercise of police power and that the classification, because it was unreasonably arbitrary and discriminatory, violated the equal protection clause. *Id.* at 211, 105 A.2d at 275. The court presumed that the legislature had a valid purpose for regulating only glass bottles. *Id.* at 213-14, 105 A.2d at 276. The court used the highly deferential "reasonable and just relation" standard to reject the plaintiffs' equal protection claim. *Id.* at 214, 105 A.2d at 276-77. The use of this lenient standard seems to have set the stage for later judicial support of bottle recycling bills and container bans. *See Bottle Bill, supra* note 116, at 780.

American Can Co. v. Oregon Liquor Control Commission, 15 Or. App. 618, 517 P.2d 691 (1974), began the modern line of beverage deposit and container ban cases. *American Can* involved a challenge to Oregon's 1972 bottle bill requiring a beverage can deposit. *Id.* at 622, 517 P.2d at 694. One purpose of the Oregon statute was to "reduc[e] litter and solid waste in Oregon." *Id.* at 623, 517 P.2d at 694. The plaintiffs challenged the Oregon act claiming that it violated the commerce clause, the equal protection clause, the due process clause, and portions of the Oregon Constitution. *Id.* at 624, 517 P.2d at 694. The court based its decision to uphold the bottle bill primarily on a commerce clause analysis. *Id.* at 627, 517 P.2d at 694.

The court applied a general three step analysis after rejecting a mechanical application of the *Pike v. Bruce Church, Inc.* test because it determined that the benefits and burdens could not be measured by the same units. *Id.* at 630-31, 517 P.2d at 697. First, because the plaintiffs raised no claim that federal law preempted the Oregon bottle bill, the court chose to ignore that issue. *Id.* at 630, 517 P.2d at 697. Second, the court carefully considered the plaintiffs' claim that the Oregon bottle bill would not only impede the flow of interstate commerce but also in some cases would actually eliminate it. The court determined, however, that because the actual means of transport could be regulated under state police power, a specific product could be regulated under a reasonable use of police power. *Id.* at 636-37, 517 P.2d at 700. Third, the court found that the bottle bill did not give in-state industry an advantage over out-of-state industry, and therefore did not violate the commerce clause. *Id.* at 643-44, 517 P.2d at 703. The *American Can* decision supported the efforts of legislatures in other states to pass similar statutes to reduce the greatly increasing amounts of solid waste caused by excess containers and packaging. For a discussion of *American Can*, see generally *State Environmental Protection, supra* note 97, at 1766-68; *Bottle Bill, supra* note 116, at 780-82.

In the early 1970's, Bowie, Maryland passed an ordinance requiring a deposit on all soft drink and malt beverage containers. Bowie Inn, Inc. v. City of Bowie, 274 Md. 230, 335 A.2d 679 (1975). Among other claims, the plaintiffs sued based on a commerce clause violation, contending that the benefit of litter reduction was minimal compared to the burden on interstate commerce. *Id.* at 233, 335 A.2d at 682. *See also Bottle Bill, supra* note 116, at 781-82.

In contrast to *American Can*, the *Bowie Inn* court applied the *Pike* test and balanced the local benefits of the ordinance against the burden to interstate commerce. *Id.* at 246, 335 A.2d at 688. The benefits of having a clean environment seemed clearer to the court than the "speculative" losses to the plaintiffs. *Id.*, 335 A.2d at 689. This conclusion appears to be based on the court's relative ease in finding the existence of the potential benefits and harms, rather than on their degree. The language in the *Pike* test, however, suggests that the degree of the relative benefits and harms should be balanced, and that a mere comparison of their existence is insufficient. Pike v. Bruce Church, Inc., 397 U.S. 137, 142 (1970).

In 1978, the Minnesota State Legislature passed an innovative solid waste law called the Package Review Act. MINN. STAT. § 116F.01 (1978). *See also* Notes, 64 MINN. L. REV.

sota Supreme Court struck down a ban of plastic nonrefillable milk containers in *Clover Leaf Creamery Co. v. State.*[119] This decision seemed to signal the end of state laws banning containers. The United States Supreme Court, however, reversed the Minnesota decision and found the ban constitutional.[120] This section considers the constitutionality of Act 78 in light of the Court's decision in *Clover Leaf Creamery.*

The Minnesota Legislature enacted a statute to reduce the amount of waste entering the waste stream,[121] and thereby to decrease the volume of waste. The statute banned the sale of nonreturnable, nonrefillable plastic milk containers, while allowing the sale of other nonreturnable containers.[122] Vermont's ban proposal also attempts to keep nonrecyclable and nonbiodegradable

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1211 (1980) (discussion of the Package Review Act). The purpose of the Act was to promote both recycling and the reduction of materials entering the solid waste stream by controlling the types of packages and containers sold in the state. MINN. STAT. § 116F.01. Industrial associations representing package manufacturers challenged the constitutionality of the Package Review Act under the commerce clause and the due process clause. Can Mfrs. Inst., Inc. v. State, 289 N.W.2d 416, 418 (Minn. 1979).

The *Can Manufacturers* court began its commerce clause analysis by applying the *Pike* test to the Package Review Act. Id. at 419-20. The court limited the applicability of the test to whether the burden on interstate commerce was excessive in comparison to the legitimate state interest. *Id.* at 420.

After the court determined that the Act applied evenhandedly, it laid out two possible tests to use to compare the benefit with the burden. *Id.* The traditional test demands an actual balancing, while the alternative test defers to the legislative decision. The lenient, deferential standard, according to the court, requires only a showing that the benefits of the regulation are more than illusory. The court pointed out that containers and packaging are a large and growing source of solid waste and determined that the Package Review Act had more than an illusory impact on the problem. The court concluded its analysis by finding that the benefits of the Act outweighed the burdens, and as a result, did not violate the commerce clause. *Id.* at 422.

After a period of general state court approval of container and packaging regulations, the Hawaii Circuit Court struck down a state regulation that prohibited the sale of plastic beverage containers. *Juice Tree Haw., Inc. v. Yuen,* 9 ENVTL. L. REP. (Envtl. L. Inst.) 20739 (Haw. Cir. Ct. Sept. 18, 1979). The court found that banning plastic containers would not significantly reduce the amount of litter. *See Plastic Bans, supra* note 93, at 10196. The *Juice Tree* court demonstrated no balancing of benefits and burdens, and did not defer to the Hawaii State Legislature. In a very short opinion, the *Juice Tree* court decided that the prohibition interfered with interstate commerce and was so vague as to constitute a due process violation.

119. 289 N.W.2d 79 (Minn. 1979), *cert. granted,* 445 U.S. 949 (1980).

120. Minnesota v. Clover Leaf Creamery Co., 449 U.S. 456 (1981). *See also* Note, *Minnesota v. Clover Leaf Creamery Co.,* 10 ECOLOGY L.Q. 113 (1982); Recent Development, 12 ENVTL. L. 243 (1981-1982); Recent Case, 15 AKRON L. REV. 390 (1981); Notes, *supra* note 118, at 1213.

121. *Clover Leaf Creamery,* 449 U.S. at 458 n.2.

122. *Id.* at 458.

material out of the waste stream "to reduce the amount of solid waste generated."[123] Once such materials enter the waste stream, they are very difficult to handle because they decay slowly.[124] The Minnesota plastic milk container ban and the Vermont ban proposal have similar purposes, although the Minnesota ban is more limited in scope. The Vermont proposals, however, have not yet been completely defined.[125]

The Minnesota law was challenged in part under the commerce clause.[126] The Court pointed out that the commerce clause restricts even state environmental regulations.[127] The Court outlined its commerce clause analysis:

> [First,] if a state law purporting to promote environmental purposes is in reality "simple economic protectionism," we have applied a "virtually *per se* rule of invalidity." [Second,] [e]ven if a statute regulates "evenhandedly," and imposes only "incidental" burdens on interstate commerce, the courts must nevertheless strike it down if "the burden imposed on such commerce is clearly excessive in relation to the putative local benefits." [Finally,] "the extent of the burden that will be tolerated will of course depend on the nature of the local interest involved, and on whether it could be promoted as well with a lesser impact on interstate activities."[128]

First, if the Minnesota statute was enacted primarily for economic protectionist purposes, then the Court would have ended the analysis and found the statute per se unconstitutional. The Court did not find evidence of economic protectionism.[129] Rather,

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123. VT. STAT. ANN. tit. 10, § 6601(2).

124. *See supra* text accompanying notes 57-90.

125. AGENCY OF ENVIRONMENTAL CONSERVATION, *supra* note 9, at 13. The Governor's Advisory Committee on Solid Waste Management has made the preliminary recommendation that a permanent review mechanism be established for banning products and packaging. *Id.*

126. *Clover Leaf Creamery*, 449 U.S. at 461. The plaintiffs also raised an equal protection claim. The Court used the rational basis standard to find that the statute complied with the equal protection clause. Under that standard, the court looked for some rational relation between the waste reduction purpose and the ban on nonreturnable plastic containers. While noting that a step by step resolution of a state problem is acceptable, the Court found that a rational relationship existed between the methods and the purpose. The Court did not go as far as deciding whether the statute in fact would achieve the stated purposes. *Id.* at 466.

127. *Id.* at 471. *See also* Lewis v. BT Inv. Managers, Inc., 447 U.S. 27, 36 (1980) (when protecting local interest, state must refrain from placing itself in economic isolation).

128. *Clover Leaf Creamery*, 449 U.S. at 471 (citations omitted).

129. *Id.* For an example of economic protectionist treatment, see Philadelphia v. New

the Court found that because the statute prohibited all nonrecyclable plastic milk containers, regardless of where they were manufactured, it had an evenhanded effect and created only an incidental burden on interstate commerce.[130]

The Vermont ban should also withstand an economic protectionism challenge because the proposals include the complete banning of products and packages from sale in Vermont, regardless of their source.[131] Prohibited products manufactured in Vermont would be banned from sale, as well as the prohibited products manufactured out of the state. Therefore, the bans would regulate evenhandedly and would create only an incidental burden on interstate commerce.

Second, because the Court decided that the Minnesota statute regulated evenhandedly, it considered whether the "incidental burden imposed on interstate commerce . . . [was] 'clearly excessive in relation to the putative local benefits.' "[132] The Court found that the statute imposed only a minor burden on interstate commerce because manufacturers could easily conform to the new regulations.[133] The Court recognized that the demands for different containers would cause a shift in the business of certain manufacturers, but the shift would affect in-state and out-of-state manufacturers equally.

The Court emphasized that the excessiveness of the burden depends on the legitimacy of the state's interest.[134] In *Clover Leaf Creamery*, Minnesota attempted to reduce the amount of solid waste generated in the state.[135] As landfills begin reaching capacity, states have an interest in preserving their resources and in attempting to reduce the volume of waste created in the state. The *Clover Leaf Creamery* Court found these environmental interests

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Jersey, 473 U.S. 617 (1978) (statute prohibiting the importation of liquid and solid waste into the state was found unconstitutionally protectionist). *See also* Recent Decision, 18 GONZ. L. REV. 605, 618 (1982-1983) (commerce clause analysis of radioactive waste regulations).

130. *Clover Leaf Creamery*, 449 U.S. at 472.

131. VT. STAT. ANN. tit. 10, § 6604(c)(1). *See also* AGENCY OF ENVIRONMENTAL CONSERVATION, *supra* note 9, at 13.

132. *Clover Leaf Creamery*, 449 U.S. at 471 (quoting Pike v. Bruce Church, Inc., 397 U.S. 137, 142 (1970)).

133. *Id.* at 472. *See also* Pacific States Box & Basket Co. v. White, 296 U.S. 176 (1935) (upheld state regulation which controlled design of raspberry and strawberry containers).

134. *Clover Leaf Creamery*, 449 U.S. at 473.

135. *Id.* at 461-70 (equal protection discussion of the state's interest).

to be legitimate.[136]

Act 78, which serves the legitimate interest of reducing the volume of waste generated in Vermont, proposes to ban a variety of packages and products that will affect a diverse group of manufacturers. The ban proposals could affect producers of polyvinyl chloride, polystyrene, batteries, paint and paint products, newspaper supplements,[137] housecleaners containing synthetic organic solvents, and multi-material packaging.[138] Although it is unclear in *Clover Leaf Creamery*, the opinion suggests that the burden on interstate commerce increases with the number of products and packages banned.[139] Therefore, the burden on manufacturers affected by Vermont's ban would be greater than the burden on manufacturers in *Clover Leaf Creamery*. *Clover Leaf Creamery*, however, gives little guidance as to when a burden becomes excessive.[140] In addition, Vermont producers manufacture few of the packages used within the state.[141] These issues could be determinative when balancing the burdens on interstate commerce against the local benefits.

Finally, the extent of the burden that will be tolerated also depends on whether alternatives exist that impact less on interstate commerce.[142] The *Clover Leaf Creamery* Court found that alternatives to the Package Review Act were either "more burdensome on commerce . . . or less likely to be effective."[143] Vermont's proposals presently plan to make widespread changes in the design of packages. In a commerce clause analysis of Vermont's proposed bans, a court could find several less burdensome methods of reducing the generation of solid waste.

In Minnesota, for example, the Legislature set up a package review program that had the purpose of reducing "the amount and

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136. *Id.* at 474.

137. VT. STAT. ANN. tit. 10, § 6604(c)(1).

138. AGENCY OF ENVIRONMENTAL CONSERVATION, *supra* note 9, at 13.

139. *Clover Leaf Creamery*, 449 U.S. at 473-75.

140. *See* Smith, *supra* note 102, at 1219. Smith notes that it is difficult to specify clearly how unequal burdens and benefits must be to make a statute discriminatory. He considers *Clover Leaf Creamery* to be an example of this type of uncertainty. *Id.*

141. Bureau of the Census, U.S. Dep't of Commerce, 1982 Census of Manufactures: Geographic Area Series - Vermont 6-7 (Apr. 1985).

142. *Clover Leaf Creamery*, 449 U.S. at 473 (quoting Pike v. Bruce Church, Inc., 397 U.S. 137, 142 (1970)).

143. *Id.*

type of material entering the waste stream."[144] The program requires the pollution control agency to review new or changed containers and packaging used by businesses and industries within the state.[145] The agency is responsible for setting up guidelines,[146] which it uses to decide whether a package or container "would constitute a solid waste disposal problem or be inconsistent with state environmental policies."[147] If the agency decides that a new or revised package is inconsistent with the state policies, or would become a solid waste problem, there are two possible results. Either the package or container manufacturer can withdraw it from consideration, or the agency can prohibit the manufacturer from selling the package or container within the state.[148]

The Vermont Legislature should consider using a similar program to meet Act 78's goals of reducing the amount of waste generated in the state.[149] Rather than completely banning certain packages and products, a comprehensive package review program would provide a good balance which would serve both the manufacturer's needs as well as the state's goal to reduce solid waste generation.

CONCLUSION

Clover Leaf Creamery indicates that the Court will support other innovative state plans for solid waste reduction. When balancing the burdens and benefits, the Court affirmed Minnesota's environmental interests, but left unresolved the extent to which a state may restrict the importation of packages and products before those restrictions become excessive. With a carefully crafted package review program, Vermont should be able to join Minnesota in taking an active role in environmental protection.

Manufacturers and consumers probably will challenge Ver-

144. MINN. STAT. ANN. § 116F.01 (West 1987).

145. *Id.* § 116F.06 (2).

146. *Id.* § 116F.06 (3).

147. *Id.* § 116F.06 (2).

148. *Id.* The agency may only prohibit the sale of the package or container by order made after notice and hearing as provided in Chapter 14, and following an additional period not to exceed 30 days during which the environmental quality board may review the proposed action. . . . Any such prohibition shall continue in effect until revoked by the agency or until the last legislative day of the next following legislative session, whichever occurs first, unless extended by law.

Id.

149. VT. STAT. ANN. tit. 10, § 6604(a)(1)(A).

mont's ban proposals. When the bans are being finalized, Vermont must be careful to strike a balance between the varied interests represented both in and out of the state. A plan which includes banning products would probably withstand a commerce clause challenge if the system was organized to provide a fair review of the packages and products. The Vermont legislature would be wise to consider a mechanism similar to that used successfully in Minnesota.

Kim Ingrid Montroll