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"From Birth to Rebirth: Will Product Stewardship Save Resources?"

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ABSTRACT

Product stewardship laws have been enacted in 32 states. These laws cover nine categories of products, most of which contain hazardous components such as mercury. Electronics products, automobile switches and thermostats are the most commonly covered products. Recently states have begun to extend product stewardship to cover paint and carpets and are considering extension to clearly non-hazardous products such as packaging and printed materials. The most commonly cited objectives for product stewardship laws are to internalize a product's waste management costs, create incentives for improved product design and reduce the cost of solid waste management currently borne by local governments. This paper examines the status of current product stewardship laws and whether or not they have met product stewardship objectives. The paper questions the wisdom of extending these laws to more traditionally recycled materials such as packaging and printed materials without additional experience from current programs throughout the world. Finally, the paper examines the impact of product stewardship laws on traditional oversight of solid waste management by state and local governments.

(Note: The views expressed in this paper do not necessarily reflect those of the National Solid Wastes Management Association or the Environmental Industry Associations.)

Introduction

Product stewardship laws represent what some believe to be the next wave in managing solid waste. The goal of these laws is to ensure "that all those involved in the lifecycle of a product share responsibility for reducing its health and environmental impacts, with producers bearing primary financial responsibility."[1] The first product stewardship laws, which covered batteries, were enacted in Minnesota, New Jersey and Vermont in 1991.[2] A few other battery-

[1] *What is Product Stewardship?*, PRODUCT STEWARDSHIP INSTITUTE (PSI), http://productstewardship.us/displaycommon.cfm?an=1&subarticlenbr=55 (last visited Sept. 9, 2011).
[2] *Extended Producer Responsibility State Laws as of August 2011*, PSI, http://www.productstewardship.us/displaycommon.cfm?an=1&subarticlenbr=2801 (last visited Sept. 9, 2011).

related laws were passed in the 1990s. However, interest appeared to die out until the passage of an electronics recycling law in Maine and a mercury automobile switch law in New Jersey in 2004. By 2011, 25 laws covering electronics products had been enacted, with the biggest surge in 2008. Fourteen states enacted automobile switch laws, all but one by 2006. Ten states passed thermostat laws, six of them in 2008. Nine laws cover different types of batteries. An additional nine laws cover an array of products including paint, fluorescent lights, cell phones, pesticide containers, "green chemistry," and carpets. These are among the most recent laws. California enacted its cell phone law in 2004 and its green chemistry and pesticide container laws in 2008. The other six laws were enacted more recently..

Finally, one state, Maine, enacted a "framework" law in 2010. Framework laws establish a mechanism in which state regulators instead of state legislators select products that will be subject to product stewardship. The goal is to "streamline" (and perhaps depoliticize) the process of creating product stewardship requirements.[3]

Advocates generally cite three core objectives for product stewardship. First, the internalization of post-consumer management costs in a product's cost. Second, when manufacturers have to bear this cost, it will create an incentive to design improvements to increase recyclability and reduce the use of toxic components. Third, as a result, local governments will have lower solid waste management costs. This paper will examine these core objectives along with a fourth issue: the impact of product stewardship on the ability of state and local governments to manage solid wastes. The paper will also examine the potential for expanding these laws to more traditional recyclables.

1. Cost internalization and design improvements

At the heart of product stewardship theory is the belief that product prices do not include the "external" costs imposed by those products. These include all the costs associated with the manufacture of the product starting with extraction of raw materials and ending with the cost of final disposal of that product.[4] If manufacturers had to internalize these costs they would find ways to design "greener" products with lower external costs. As the Product Policy Institute puts it, "This approach creates a link between production and waste management, which in turn creates an incentive to lower waste management expenses. These expenses decrease when products have fewer hazardous materials and/or are designed for easy reuse or recycling."[5] Product stewardship laws, however, only focus on end-of-life disposal, with the hope of having some impact on lowering the external costs associated with the extraction of a product's raw material and the processing of those raw materials into end products. Those activities have a greater environmental and cost impact than that of the disposal of the end product.[6]

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[3] *Framework Product Stewardship Policy*, PSI, http://www.productstewardship.us/displaycommon.cfm?an=1&subarticlenbr=688 (last visited Sept. 9, 2011).

[4] Noah Sachs, *Planning the Funeral at the Birth: Extended Producer Responsibility in the European Union and the United States*, 30 HARV. ENVTL. L. REV. 51, 76 (2006).

[5] *EPR/Product Stewardship Q&A*, PRODUCT POLICY INSTITUTE, http://www.productpolicy.org/content/eprproduct-stewardship-q (last visited Sept. 9, 2011).

[6] "Corrugated Packaging Alliance, *Corrugated Packaging Lifecycle Assessment Summary Report* (Feb. 2010), http://corrugated.theresponsiblepackage.org/Upload/LCA%20Summary%20Report%20FINAL%203-24-10.pdf; INNOVATION CENTER FOR U.S. DAIRY, *U.S. Dairy Sustainability Commitment Progress Report* (Dec. 2010), http://www.usdairy.com/Public%20Communication%20Tools/USDairy_Sustainability_Report_12-

Product stewardship advocates stress the importance of a product's manufacturer taking responsibility for post-consumer management of the product and its packaging. If, they argue, manufacturers bear the cost, they will have the incentive to design for recycling. This duty can be handled through "individual responsibility" in which each company has direct responsibility for managing its products or through "collective responsibility" in which a product stewardship organization is established to handle this function.[7]

Under, "individual responsibility" each company sets up its own retrieval operation. These individual systems will have inherently higher costs and a higher environmental impact than the collective approach due to their inability to achieve economies of scale. This approach reached the end point of absurdity with the original electronics take back program in New York City which required manufacturers to dispatch a truck to a consumer's house to pick up a used computer.

As a result, product stewardship legislation usually allows for a "collective" approach in which a product stewardship organization composed of industry members will be responsible for taking back and managing the end of life disposal or recycling costs. This "collective" approach allows costs and the environmental impact of collection to be shared among a wide array of actors. However, as costs are pooled, individual companies whose products have a higher environmental impact and recovery costs have no incentive to lower those costs. The need to mitigate that cost and to design "greener" products is lost.[8]

2. Cost of solid waste management

The idea that local governments and taxpayers bear the burden of the cost of solid waste management systems is the most compelling argument in favor of product stewardship laws. Time and again, advocates argue for the necessity of moving this financial burden to manufacturers.[9] When this happens, they argue, local governments will be freed of this cost.

Determining the actual impact of solid waste costs on local governments and the benefits from product stewardship, however, is difficult. Based on extensive surveys of publicly available data, the National Solid Wastes Management Association estimated the average household pays

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2010%20(4).pdf; CONSUMER ELECTRONICS ASSOCIATION, *Inspiring Change-CEA 2010 Sustainability Report*, (2010), http://www.ce.org/PDF/CEA001-R2.pdf.

[7] Sachs, *supra* note 4, at 62-63.

[8] Sachs, *supra* note 4, at 65, 71, 76 (Sachs notes, for instance that "firms have no particular incentive to improve the environmental profile of their own products if they know that they will be charged for end-of-life waste management in conjunction with their industry group as a whole and that the fee will not be scaled for environmental impacts."); David Tonjes, Comment, *Draft Generic Environmental Impact Statement (DGEIS) supporting Beyond Waste: A Sustainable Materials Management Strategy for New York*, 50 (Aug. 9, 2010).

[9] *See* ASSOCIATION OF STATE AND TERRITORIAL SOLID WASTE MANAGEMENT OFFICIALS, *Product Stewardship Framework Policy Document* (Oct. 28, 2009), http://www.deq.state.or.us/lq/pubs/docs/sw/PSFrameworkPolicyDocASTSWMO.pdf ("local governments are required to manage and pay for whatever winds up on the curb"); NATIONAL LEAGUE OF CITIES, *Principles for Product Stewardship*, (Dec. 4, 2010), www.productstewardship.net/PDFs/libraryGeneralResolutionNLC.pdf ("local governments across the nation are adversely affect by the rising costs of ensuring the safe management, recyclability, and disposal of consumer waste"); Sachs also assumes that in the United States waste management is largely funded out of general tax revenues. Sachs, *supra* note 4, at 56.

between $12 and $20 per month for trash, recycling and yard waste collection.[10] This is a very low cost when compared to other services such cable television or cell phones. Moreover, not all waste or recyclables are collected by local governments nor are all waste management costs paid through taxes. In almost all cases, local governments are directly responsible for collecting residentially-generated garbage and recyclables from single family housing and from smaller multi-family units such as duplexes. They meet this collection responsibility either by using local government employees or by contracting with private sector companies. In many smaller cities and rural areas, individual residences contract directly with private haulers for solid waste services. Estimates on the amount of residentially-generated waste vary. EPA estimates that 55 – 65 percent of the 243 million tons of municipal solid waste generated in 2009 is generated residentially, including multi-family dwellings.[11] State data shows much lower generation from residential accounts. California, for instance, estimates that commercial facilities generate 68 percent of the state's waste stream with multi-family housing generating one fourth of the remainder, leaving about 24 percent of the waste stream as single-family residential.[12]

The cost for providing this service can be paid either directly to the local government through taxes or fees or to the private hauler who bills and collects the monthly charge from individual residences. By contrast, commercial waste and recycling services, including those for multi-family housing, are normally paid directly to the private contractor by the business or building owner. The amount of the residential waste and recycling collection costs paid by taxes is hard to estimate. However, a reasonable assumption, based on industry experience and comments from industry experts, is that well under 30 percent of American cities use the tax base to pay for residential, single family, solid waste management costs. These include many larger cities, primarily east of the Rockies, but also Los Angeles on the west coast.[13] With a trend towards increased privatization of solid waste services, the number of cities using the tax base to pay for solid waste management services will only decline.

A political issue also exists. Will taxes be lowered in jurisdictions that enact product stewardship laws? If the goal is to lower the impact of these costs on taxpayers, surely they must be. However, no evidence exists that taxes or residential collection costs have been lowered as a result of product stewardship laws. Local governments have kept whatever financial savings they achieved. Their residents get to pay twice – first as taxpayers and then as consumers of product stewardship products.

3. Status of Existing Product Stewardship Laws

Batteries were the first product to be subject to product stewardship laws. Six states passed laws in the 1990s. In response, the Rechargeable Battery Recycling Corporation was formed to manage battery recycling. That organization now operates Call2Recycle®, which provides "free" battery and cell phone recycling in North America.[14] States have shown some

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[10] NATIONAL SOLID WASTES MANAGEMENT ASSOCIATION, *Residential Trash Collection: An Essential Service at a Bargain Price* (2006), http://www.environmentalistseveryday.org/docs/research-bulletin/Research-Bulletin-Service-At-A-Bargain.pdf.

[11] EPA, *Municipal Solid Waste in the United States: 2009 Facts and Figures*, 11 (Dec. 2010), http://www.epa.gov/osw/nonhaz/municipal/pubs/msw2009rpt.pdf.

[12] CASCADIA CONSULTING GROUP, *Executive Summary, Statewide Waste Characterization Study*, 3 (Dec. 2004)., http://www.calrecycle.ca.gov/Publications/LocalAsst/34004005.pdf..

[13] Interview with Dr. Barbara Stevens, Ecodata (Aug. 16, 2010). (Dr. Stevens is a nationally recognized expert on collection costs who was involved in two Columbia University studies of solid waste management collection costs.)

[14] *See* CALL2RECYCLE (Sept. 9, 2011), http://www.call2recycle.org/home.php?c=1&w=1&r=Y.

interest in battery recycling recently with Florida and New York enacting rechargeable battery recycling laws in the last two legislative sessions.

Automobile switch recycling is managed by the End of Life Vehicle Solutions Corporation which was created by the automotive industry and manages collection of mercury switches from automobile dismantlers. Operation of the program is contracted out to the Environmental Quality Company.[15]

Thermostat recovery is managed nationally by the Thermostat Recycling Corporation (TRC). Consumers must bring thermostats to a collection point where they are consolidated and shipped by TRC to processors. TRC does not charge a fee for shipping or processing collected thermostats, however, it charges a one-time $25 fee for collection points.[16]

Although 25 states have laws covering electronic product recovery, those laws vary widely in terms of which products are covered, recovery goals for those products and responsibility for recovery. These laws include California's unique law which requires retailers to include a visible advance recycling fee when selling certain electronic products.[17] Those fees are used to fund electronics recycling programs. In spite of the transparency of the fee and the success of the California program in recycling electronics products, product stewardship advocates do not consider advance recycling fees to be the correct approach and do not include it in their list of states with these laws. Interestingly, the paint stewardship laws in California, Oregon and Connecticut include a visible "eco-fee" which is paid at the point of purchase. In each state that money goes to a privately managed product stewardship organization.

4. Effectiveness of Product Stewardship Laws

Data about the effectiveness of existing product stewardship laws in terms of meeting their objectives is skimpy at best. Clearly collections have increased, but at what cost to consumers or benefit to taxpayers? Design improvements have been made, but the extent to which they are the result of product stewardship laws or ongoing technological advances is unclear.

Industry establishment of takeback organizations for battery, automobile switch and thermostat laws has increased recovery of those products. Perhaps because they do not limit their operations to states with product stewardship laws, interest in additional state legislation seems to have lessened. In addition, the products they collect are small and relatively easy to collect. Paint and carpet are subject to recently enacted product stewardship laws that are still being implemented.[18] As a result, it is too early to examine their effectiveness.

As for electronics products, most of those laws are also too recent in implementation to assess either their short-term or long-term effectiveness or their cost. The National Center for Electronics Recovery (NCER), a non-profit that promotes the development of a national infrastructure for the recycling of used electronics, publishes an annual per capita collection index. That index measures collection volumes of used electronic equipment in six ongoing

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[15] *See* END OF LIFE VEHICLE SOLUTIONS (Sept. 9, 2011), http://www.elvsolutions.org/mercury_home.html.

[16] *See* THERMOSTAT RECYCLING CORPORATION (Sept. 9, 2011), http://www.thermostat-recycle.org/.

[17] California Senate Bill 20, Chapter 526, http://www.leginfo.ca.gov/pub/03-04/bill/sen/sb_0001-0050/sb_20_bill_20030925_chaptered.pdf

[18] Paint legislation was enacted in Oregon in 2009, California in 2010 and Connecticut in 2011, carpet legislation in California in 2010.

programs across the United States. According to NCER's 2010 index, collection volumes decreased by two percent from 2009 to 2010. NCER's Executive Director, Jason Linnell, noted that "some programs are entering a steady collection phase, while others are subject to year-to-year fluctuations."[19] An additional long-term question for these laws concerns the amount of covered products that are no longer used but are still in the owner's attic or basement. After this seemingly large pool of products is collected, will per unit collection costs increase as the available pool of products decreases?

5. Expansion of Product Stewardship

Most of the current product stewardship laws apply to products with hazardous constituents such as mercury or lead. Automobile switches, thermostats, electronics products, batteries and fluorescent lights all contain at least one hazardous constituent. While the environmental impact of improper disposal of most of those products is clear, whether or not disposal of electronics products creates an environmental issue is a separate issue.[20]

The current trend is to extend these laws to products such as paint and carpet. Clearly lead-based paint causes environmental harm which is why lead was banned from household paint in 1978. Oil-based paints contain solvents, water-based (latex) paint does not. The cost of special collection programs for paint, much of which is water-based, has lead to the passage of paint product stewardship laws in three states, Oregon, California and Connecticut.

Carpets are bulky and can cause collection problems if placed in the trash. The carpet industry is actively working with state and local governments in operating the Carpet America Recovery Effort (CARE).[21] California's recently passed first in the nation product stewardship law for carpets assigns initial responsibility for implementing the new law to CARE.[22]

Collection and disposal of non-hazardous products such as packaging and printed materials does not cause environmental problems. Product stewardship advocates argue for extension of these laws based on the cost of solid waste management to local governments, not on any inherent environmental or public health risk in these products. Obviously, society and the

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[19] Press Release, NCER, Electronics Recycling Collection Index Shows Slight Decrease for 2010 (May 27, 2011), http://www.electronicsrecycling.org/public/UserDocuments/Press%20Release%20Per%20Capita%20Collection%20Index%20May%202011.pdf.

[20] For instance, Barry Breen, Deputy Assistant Administrator, U.S. EPA's Office of Solid Waste and Emergency Response, testified before the U.S. House Subcommittee on the Environment and Hazardous Materials, July 20, 2005 that the pH in a mature landfill is usually close to neutral (usually around 6.8, neutral is 7.0). In other words, the landfill is a neutral environment and not acidic. As such, CRTs in a Subtitle D landfill will not be bathing in an acid solution. Mr. Breen further testified, in regard to MSW landfills that accept CRTs for disposal, that "EPA has found pH levels and leachate collection systems have kept contaminants from harming the environment." "If a landfill leachate collection system were to fail," he said, "the level of contaminants would rise to twice the level of national safe drinking water standards; however, these contaminants would be rendered harmless by being diluted." (*Daily Report for Executives*, BNA, July 21, 2005, at A-35). As shown by the environmental horror shows at "recycling" facilities in China and other developing countries, more environmental harm may have been created by enacting disposal bans on these materials before adequate recycling markets existed.

[21] *See About Care*, CARPET AMERICA RECOVERY EFFORT, http://www.carpetrecovery.org/about.php (last visited Sept. 9, 2011).

[22] California Assembly Bill No. 2398, Chapter 681, PSI (Sept. 9, 2011), http://productstewardship.us/associations/6596/files/ca_ab_2398_bill_carpet_gov_chaptered.pdf.

environment benefit when those products are recycled. However, many already have a very high recycling rate. According to EPA, for instance, newspapers have an 88 percent recycling rate, corrugated boxes an 81 percent recycling rate and office papers a 74 percent recycling rate.[23] Product stewardship laws are not likely to improve the recycling of products with already high recycling rates. Framework legislation, which could cover packaging and printed material, has been introduced in the Vermont and Rhode Island legislatures.

Before further expansion of these laws, legislators must carefully consider what problems they are trying to solve. If it is the cost of solid waste services, will product stewardship increase those costs or lower them? If it is environmental benefits, will consumer drop-off of individual products lead to more emissions than collection at the curbside? If it is collection at the curbside, how will those programs affect existing contractual and franchise collection systems?

Successful programs do not provide many answers. The thermostat stewardship organization, for instance, requires citizens to drop off thermostats at a collection center which then uses a mail-in system to return used thermostats. Automobile switch recovery relies on automobile dismantlers to take out the switch and send them to the collection agency. In both cases, the products are relatively small. Lead acid batteries are not covered by product stewardship laws, yet have the highest product recycling rate in America.[24] Recycling of these batteries is covered by a mishmash of laws in the 50 states. Some require a deposit when a new battery is purchased. Most ban disposal.[25] The high recycling rate is due, in part, to the ease of "giving up" a used battery when a new automobile battery is purchased.

6. Factors To Be Considered Before Expanding Product Stewardship Laws

Expanding product stewardship laws to commonly recycled, clearly non-hazardous products raises an immense number of practical implementation problems. Many of these issues will be unique to the United States because of the way that responsibility for solid waste management has evolved. The complexity involved extending product stewardship has been cited by proponents such as the Product Policy Institute which noted it is "simple in concept, complex in execution."[26] In fact, the Resource Conservation Committee, a Congressionally authorized, Carter-era Task Force whose members included five Cabinet members and four Agency heads, made the same observation when assessing a much earlier form of product stewardship. For a variety of reasons, that Committee unanimously rejected the concept.[27] Until a thorough understanding of the requirements and costs of these programs is in place, prudence would seem to allow other countries to make their mistakes so that we can learn from their errors.

Factors to be considered before expanding to these non-hazardous products include the nature of a product stewardship organization for packaging and printed materials, the impact of such a law on traditional state and local responsibilities for solid waste management, the costs of

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[23] EPA, *supra* note 11, at 82, 92.

[24] EPA, *supra* note 11, at 73.

[25] *Summary of U.S. State Lead-Acid Battery Laws*, BATTERY COUNCIL INTERNATIONAL, http://www.batterycouncil.org/LeadAcidBatteries/BatteryRecycling/StateRecyclingLaws/tabid/120/Default.aspx (last visiting Sept. 9, 2011).

[26] PRODUCT POLICY INSTITUTE, *supra* note 5

[27] United States, Resource Conservation Committee, Choices for Conservation: final Report to the President and Congress, 113-120, (EPA, 1980). (The RCC analyzed a national disposal charge, but the arguments in favor of the charge closely mirror those support product stewardship initiatives.)

the program including the potential for a regressive impact on lower income families, the necessity of a complete life cycle analysis of the impact of product stewardship and alternative approaches that could achieve similar results.

Adoption of the individual producer requirement in place of a product stewardship organization is unlikely considering the large number of companies that produce packages and printed materials and the extraordinarily high transaction costs and consumer confusion if each company was responsible for taking back its products. A product stewardship organization for packaging and printed material is likely to be far larger in scope than existing national organizations for automobile switches or thermostats or state electronics product organizations. Without careful oversight and full application of anti-trust laws, this group could engage in anti-competitive behavior, giving certain products or materials undue advantages over competitors. The organization's financial records and actions must be fully transparent.

These laws raise fundamental questions regarding final responsibility for solid waste management. Both the Resource Conservation and Recovery Act and the U.S. Supreme Court have stated that solid waste management is a traditional function of state and local governments.[28] At what point do the interests of a product stewardship organization override those of a local government? Maine's framework law, the only one enacted as of yet, specifically states that nothing in the law "is intended to change or limit municipal authority to regulate collection of solid waste including curbside collection of residential recyclable materials."[29] As anyone who has followed flow control litigation knows, local governments will not easily concede this authority to anyone, let alone a product stewardship organization.

Some opponents of product stewardship laws raise the impact of higher product costs on lower income families, noting that lower income families spend a higher percentage of their income on packaging and printed materials as opposed to more costly, durable products, than do higher income families. While this view is not unanimously accepted, further study is needed to avoid an unintentional impact on lower income families. [30]

Before states or the Federal government adopt product stewardship requirements on traditional recyclables, prudence would seem to require a complete life cycle impact analysis of such a proposal, which would include the impacts of collection, including drop-off and curbside collection of these materials. An expansion to a much larger group of products would seem to warrant such analysis. Analysis of system costs, including the cost of operating a product stewardship organization and its impact on overall resource management costs, is also appropriate.

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[28] Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901 et seq. (1976). See for instance, § 6901(4), Congressional finding of fact concerning state, local and Federal roles and United Haulers Ass'n v. Oneida-Herkimer Solid Waste Mgmt. Auth., 127 S. Ct. 1786, 1796 (U.S. 2007).

[29] ME. REV. STAT. TIT. 38, § 1, c. 18, sec 1774.

[30] *See* David Tonjes, Comment, *Draft Generic Environmental Impact Statement (DGEIS) supporting Beyond Waste: A Sustainable Materials Management Strategy for New York*, 47-48 (Aug. 9, 2010). Grocery Manufacturers Association which estimated that product stewardship of consumer packaging would impose a minimum cost of $7.7 billion per year on the packaging industry with a maximum potential cost of $21 billion per year. (John Shanahan, Presentation, *Packaging and Sustainable Management*, Resource Recycling Conference, Indianapolis, Indiana (Aug. 17, 2011)). However, the Resource Conservation Committee did not find the earlier version of product stewardship to be regressive. RCC, *supra*, at 118.

Less costly, more effective alternatives to product stewardship should also be considered. Requiring residences to pay for solid waste services through "pay-as-you-throw" systems in which a householder is billed for solid waste services based on the amount of material set out for disposal has been shown to be highly effective in lowering single family disposal and increasing the amount set out for recycling.[31]

If the goal of product stewardship is to eliminate toxic materials, that goal can be achieved legislatively. An obvious success story in toxics reduction is the prohibition of lead in paint, which removed a highly toxic material from that product. Another success story is the Model Toxics in Packaging Legislation developed by the Council of Northeastern Governors. This legislation mandated reductions in the amount of mercury, lead, cadmium and hexavalent chromium in packages components. Adopted by 18 states by 1998, the law which aims to phase out the use of these substances, is in effect nationwide for all practical purposes.[32] The European Union's European Restriction of Hazardous Substances Directives (RoHS) has spurred electronics manufacturers to change their production practices and find substitutes for banned substances.[33] This approach achieves the goal of reducing or eliminating toxicity without the bureaucracy or cost of a product stewardship organization.

In his comprehensive analysis of product stewardship laws, Noah Sachs offers a number of alternatives to product stewardship laws as elements of a U.S. product policy. The first is advance recycling fees, the approach adopted in California for electronic product recovery. Sachs argues advance recycling fees will solve the cash problem for local governments.[34] He also supports bans on hazardous substances in products, he notes the value of increased use of ecolabels, government procurement standards, and "identifying those product classes which pose the greatest environmental impacts from production or disposal and then determine which party is in the best position, taking into account transaction costs, to fund and improve recycling infrastructures: consumers, taxpayers/municipalities, or perhaps, producers funding recycling efforts on a collective basis."[35]

Interest in product stewardship legislation seems to have slowed down in 2011. Perhaps this is due to pressure on state legislators from higher priority issues including state budgets, reapportionment, health care and infrastructure maintenance. Congress might take action regarding exports of electronics to overseas recycling facilities due to the intense negative publicity about some of these operations. HR 2284, the "Responsible Electronics Recycling Act" (Green, D-TX), would restrict exports of shredded electronics products. Although the bill has bipartisan report, as of this writing, a hearing has not been scheduled. Electronics product manufacturers have noted the inherent inefficiencies and confusion caused by operating under a variety of differing state product stewardship laws.[36] Electronics recyclers are also unhappy about the extra cost of complying with differing state laws. However, Congress is unlikely to resolve this issue until manufacturers, retailers and product stewardship advocates agree on uniform legislation.

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[31] *Pay-As-You-Throw*, EPA, http://www.epa.gov/epawaste/conserve/tools/payt/index.htm (last visited Sept. 9, 2011). EPA's web page on pay-as-you throw systems offers a wealth of information on this option.

[32] See *Other Issues of Interest*, CONEG, http://www.coneg.org/programs/other.htm (last visited Sept. 9, 2011).

[33] Sachs, *supra* note 4, at 93.

[34] Sachs, *supra* note 4, at 95-96.

[35] Sachs, *supra* note 4, at 91-92.

[36] *A Study of the State-by-State E-waste Patchwork*, NCER, October 2006

Nonetheless, interest in this legislation will not go away. We should take advantage of this lull to further investigate the results of product stewardship initiatives in Europe and Canada, develop a better understanding of their true costs on consumers and taxpayers, and determine if they will indeed solve America's resource and waste management challenges. As David Tonjes noted, arguments in favor of product stewardship are based on more theory than fact.[37] Let's get the facts first.

[37] WASTE EXPO, DALLAS TEXAS, *A Critical Analysis of Extended Producer Responsibility*, (May 10, 2011).