

Product Stewardship

Overview

The Product Stewardship Institute (PSI) defines product stewardship as “the act of minimizing health, safety, environmental and social impacts and maximizing economic benefits of a product and its packaging throughout all lifecycle stages.” While often focused on manufacturers and producers it can also encompass distributor, retailers and consumers. Stewardship can be either voluntary or mandatory (e.g., required by law).

The PSI defines extended producer responsibility (EPR) as “a mandatory type of product stewardship that includes, at a minimum, the requirement that the producer’s responsibility for their product extends to post-consumer management of the product and its packaging. There are two related features of EPR policy: (1) shifting financial and management responsibility, with government oversight, upstream to the producer and away from the public sector; and (2) providing incentives to producers to incorporate environmental considerations in the design of their products and packaging.” Product stewardship initiatives focus on specific waste materials. It is widely used in Europe and Canada to support recycling and waste diversion.

In 2010, Keep Nebraska Beautiful, WasteCap Nebraska, the Nebraska League of Municipalities, the cities of Lincoln and Omaha, and the Product Stewardship Institute formed the Nebraska Product Stewardship Coalition (NPSC) with the mission of “shifting Nebraska’s waste management system from one focused on government funded and ratepayer financed waste diversion to one that relies on producer responsibility in order to reduce public costs and drive improvements in product design that promote environmental sustainability.”

Current Programs

Nebraska and the Planning Area are served or have access to several programs that represent basic principles of product stewardship and EPR; these are voluntary programs. According to the NPSC “current collection programs in the state for various materials do not fully reflect the product stewardship model because they do not share proportional responsibility with industry.”

Examples of available programs are mostly focused on toxic and difficult to manage materials. Further information on end-of-life and extended product life programs can be found in attachments to this technical paper, in the *[Lincoln-Lancaster County’s Official 2012 Waste Reduction & Recycling Guide](#)*, and through the City’s Solid Waste Operations website <http://lincoln.ne.gov/city/pworks/waste/sldwaste/>. Some of these programs are directly supported by product manufacturers, while others are geared toward diversion without necessarily placing strong emphasis on manufacturer, distributor, or consumer responsibilities for waste reduction, resource conservation, environmental protection or societal changes. Also, for those materials managed through the City-County HHW programs they involve grant funding and thus are paid for through ratepayer/government financed programs.

Examples of spent products (wastes), often a part of product stewardship initiatives, that can be managed locally through various initiatives include:

- Electronics
- Batteries (automotive, rechargeable, button)
- Fluorescent lamps
- Paints
- Motor Oil

- Telephone Directories
- Other materials managed by household hazardous waste (HHW) collection events

Many of these are currently managed by private/business financed efforts and are voluntary in nature. Access to national resources for select materials is also available through organizations such as:

- Rechargeable Battery Recycling Corporation (aka Call2Recycle®)
- Corporation for Battery Recycling (for spent household batteries)
- End of Life Vehicle Solutions (for mercury from auto dismantlers)
- Thermostat Recycling Corporation

The City also addresses end-of-life management of appliances through its appliance de-manufacturing facility at the N48th Street Landfill, where mercury switches and PCB capacitors are removed from appliances before the metal components are recycled. Again, this is a government funded and ratepayer financed program.

State legislation (Nebraska's Integrated Solid Waste Management Act) attempts to provide the public and businesses some incentive for toxics reduction and proper waste management by banning certain materials from municipal waste landfills. This does not directly place the burden on manufacturer's and producer, and does not mandate recycling. The following items are banned by this act:

- Waste Tires
- Lead Acid Batteries
- Waste Oil
- Household Appliances
- Yard Waste (see exception below)
- Unregulated Hazardous Wastes

The legislation provides for seasonal and other exceptions for yard waste and does allow for landfills, such as the City's Bluff Road Landfill, to accept yard waste for disposal, because it could be used for the production and recovery of methane gas for use as fuel. Acceptance of yard waste at the City's Bluff Road Landfill would require approval from NDEQ and would not be applicable until the power generation facilities are complete in 2013.

Generation and Diversion

The NPSC notes in one of its publications that 42 percent of the over 2 million tons of material landfilled (including 7,550 tons of electronics) in Nebraska in 2010 is readily recyclable. This disposal represents a loss of not only recyclable materials but of finite resources such as metals and petroleum based products.

It is possible to promote product stewardship throughout the lifecycle of consumer products that focuses on reduction, reuse and recycling. Product stewardship and EPR programs in the U.S. have target post-consumer management of durable goods and potentially hazardous materials.

Program (Facility/System) Options

The application of product stewardship and EPR at a local (Planning Area) level may be difficult/challenging, because the nature of such programs, are often viewed as needing state or federal legislation. Figure 1 provides a summary of EPR laws by state.

stewardship into the policy and economic structures of Nebraska through support of educational initiatives and legislative changes.

While product stewardship is a much discussed topic in the waste management and environmental community, it generally needs top-down legislation of business and new environmental laws may create challenges for rapid implementation in Nebraska and at the federal level. Ongoing changes in environmental policy across the US have also been focused on material bans and prevention of inappropriate management practices (as has been occurring with certain electronics exported overseas for recycling).

Options Evaluation

As mentioned above, most of the options related to extended producer responsibility require state legislation, however local EPR options may be considered when analyzing management strategies for specific waste materials.

Three publications are attached to this paper; they provide additional information and opinions for further consideration. These include:

1. Nebraska Product Stewardship Coalitions Purpose Statement
2. Building Product Stewardship in Nebraska: Understanding Our Foundation, Nebraska Product Stewardship Initiative, November 2010
3. From Birth to Rebirth: Will Product Stewardship Save Resources, Chaz Miller, October 2011.

Consistent with the guiding evaluation criteria developed for use in the Solid Waste Plan 2040, product stewardship and EPR have been evaluated based on the following considerations:

- **Waste Reduction/Diversion:** product stewardship and EPR have the clear goals of reducing waste at the source, supporting recycling goals and diverting materials from disposal. The mechanisms proposed focus principally on product manufacturers/producers but extend across the entire spectrum of waste generators from distributors to consumers. They also include principles that serve to create markets for recovered materials.
- **Technical Requirements:** product stewardship and EPR would of necessity create added material recycling capacity to accommodate increased diversion for specific products. The extent to which such programs complement or are compatible with other local program elements would need to be further explored as specific programs are developed. The risks and uncertainties may also be more a function of the success of such programs in reducing costs to consumers and government; these cannot be precisely estimated or quantified at this time. As noted above, it is likely necessary for program to be developed at the state and federal level to ensure reliable performance and consistency across a wide spectrum of effective implementation and enforcement issues.
- **Environmental Impacts:** the definition of product stewardship states it is the act of minimizing health, safety, environmental and social impacts and maximizing economic benefits of a product and its packaging throughout all lifecycle stages. As programs and options are considered and support is recruited it may be necessary to further evaluate a given option to verify that it meets the following criteria:
 - Conservation of resources (materials and energy)
 - Air emissions (criteria pollutants, greenhouse gas)
 - Water quality impacts

- Reduction of toxicity
- Health and safety
- **Economic Impacts:** product stewardship and EPR can provide for an alternative financing mechanism for managing specific products at the local level. With product stewardship and the EPR models it would clearly be the manufacturer/producers responsibility to provide funding for major capital investments and establish funding mechanisms; some of these laws allow manufacturers/distributors to include advanced deposit or refund fees in initial product sales fees at the retail level. From a community perspective the manufacturer/producers investments may also provide local economic development and local market opportunities, with associated employment opportunities in the collection and processing of materials. These factors cannot be estimated or quantified at this time and must be analyzed in evaluating options for specific products.
- **Implementation Viability:** Implementation viability may largely be driven by legislated mandates and/or regulatory changes; again, these may be specific to materials managed and program structure. While the overall concept of stewardship and EPR are likely considered socially and politically acceptable the details of the program will ultimately determine the true acceptability. By emphasizing manufacturer responsibility and focusing on toxic materials it may be easier to gain wider support for initial program options.

Relationship to Guiding Principles and Goals

As it relates to the Guiding Principles and Goals of the Solid Waste Plan 2040, product stewardship would be applicable as further noted below:

- **Emphasize the waste management hierarchy:** product stewardship and EPR is directly related to the waste management hierarchy in that it places maximum emphasis on reduce, reuse, and recycle to avoid or prevent the need to generate and manage certain residuals.
- **Encourage public/private partnerships:** product stewardship and EPR requires participation by both public and private stakeholders, nationally, state-wide and locally.
- **Ensure system capacity:** product stewardship and EPR requires the necessary infrastructure and systems approaches to ensure that material will not be discarded and can be reused, recycled and returned to beneficial use. These concepts go well beyond the end of the line management (disposal) and would also require the creation of the infrastructure with the capacity to collect, transport and manage targeted materials.
- **Engage the community:** product stewardship and EPR will require an engaged community because it will likely require legislation at the state or local level.
- **Embrace sustainable principles:** product stewardship and EPR is based on sustainability principles in emphasizing minimizing health, safety, environmental and social impacts of a product and its packaging throughout all lifecycle stages of manufacturing, distribution, retailing and consumer.

Summary

Product stewardship and EPR focus on minimizing health, safety, environmental and social impacts and maximizing economic benefits of a product and its packaging throughout all lifecycle stages, in part by imposing requirements that extend the producer's responsibility for

their product to post-consumer management of the product and its packaging. Product stewardship can be either voluntary or mandatory and can serve as a mechanism to fund various waste reduction strategies.

There may be many challenges in attempting to shift waste management of specific products from a focus on government funded and ratepayer financed waste diversion to one that includes greater reliance on producer responsibility. It would appear that one of the most effective means of implementing product stewardship and EPR (to the extent that they would be a part of the Solid Waste Plan 2040) would be to continue to support efforts of NPSC to integrate principles of environmental stewardship into the policy and economic structures of Nebraska through support of educational initiatives and legislative changes. While product stewardship is a much discussed topic in the waste management and environmental community, it needs top-down legislation of business and development of new environmental laws at the local, state and/or at the federal level to realize its full potential.

APPENDICES

Nebraska Product Stewardship Coalition

Purpose Statement

May, 2012

The Nebraska Product Stewardship Coalition is a cooperative effort between non-profit organizations, municipalities, and the solid-waste management community to build product stewardship capacity and infrastructure in the state of Nebraska. The Coalition does not have an office, staff or budget. It relies on the volunteer contributions of Coalition members and their member agencies.

Membership in the Coalition shall occur when a representative of an organization agrees that its organization can be listed as participating in the Coalition. Actions of the Coalition shall be determined through a consensus of the Coalition members. Any Coalition member can participate in meetings and decisions of the Coalition.

MISSION STATEMENT

To shift Nebraska's product waste management system from one focused on government funded and ratepayer financed waste diversion to one that relies on producer responsibility in order to reduce public costs and drive improvements in product design that promote environmental sustainability. The Nebraska Product Stewardship Coalition works to integrate the principles of product stewardship into the policy and economic structures of Nebraska.

DEFINITION OF PRODUCT STEWARDSHIP AND EXTENDED PRODUCER RESPONSIBILITY

Product Stewardship is the act of minimizing health, safety, environmental and social impacts, and maximizing economic benefits of a product and its packaging throughout all lifecycle stages. The producer of the product has the greatest ability to minimize adverse impacts, but other stakeholders, such as suppliers, retailers, and consumers, also play a role. Stewardship can be either voluntary or required by law.

Extended Producer Responsibility (EPR) is a mandatory type of product stewardship that includes, at a minimum, the requirement that the producer's responsibility for their product extends to post-consumer management of that product and its packaging. There are two related features of EPR policy: (1) shifting financial and management responsibility, with government oversight, upstream to the producer and away from the public sector; and (2) providing incentives to producers to incorporate environmental considerations in the design of their products and packaging.

OBJECTIVES

The objectives of the Nebraska Product Stewardship Coalition are to:

- Develop and recommend product stewardship policies and educational tools to organizations, institutions, governments, and state legislators.
- Provide effective leadership on product stewardship initiatives in the state.
- Educate elected officials and other decision makers on the benefits of product stewardship.
- Provide a forum for the exchange of information regarding existing and proposed EPR programs.



PRODUCT STEWARDSHIP AND EXTENDED PRODUCER RESPONSIBILITY

Reducing Economic, Environmental, Health, and Safety Impacts from Consumer Products

The growing product stewardship movement in the United States seeks to ensure that those who design, manufacture, sell, and use consumer products take responsibility for reducing negative impacts to the economy, environment, public health, and worker safety. These impacts can occur throughout the lifecycle of a product and its packaging, and are associated with energy and materials consumption; waste generation; toxic substances; greenhouse gases; and other air and water emissions. In a product stewardship approach, manufacturers that design products and specify packaging have the greatest ability, and therefore greatest responsibility, to reduce these impacts by attempting to incorporate the full lifecycle costs in the cost of doing business.

The terms *product stewardship* and *extended producer responsibility (EPR)* are often used differently by stakeholders involved in the product stewardship movement. The purpose of this document is to harmonize terminology in the U.S. and to guide development of policies, legislation, and other initiatives by governments, companies, and organizations. By speaking the same language, we can have a constructive public discussion.

We use the following definitions for product stewardship and EPR. Since we define EPR as a legislative approach, we believe it requires further clarification and therefore developed the subsequent *Principles of Extended Producer Responsibility*.

Product Stewardship is the act of minimizing health, safety, environmental and social impacts, and maximizing economic benefits of a product and its packaging throughout all lifecycle stages. The producer of the product has the greatest ability to minimize adverse impacts, but other stakeholders, such as suppliers, retailers, and consumers, also play a role. Stewardship can be either voluntary or required by law.

Extended Producer Responsibility (EPR) is a mandatory type of product stewardship that includes, at a minimum, the requirement that the producer's responsibility for their product extends to post-consumer management of that product and its packaging. There are two related features of EPR policy: (1) shifting financial and management responsibility, with government oversight, upstream to the producer and away from the public sector; and (2) providing incentives to producers to incorporate environmental considerations in the design of their products and packaging.

PRINCIPLES OF EXTENDED PRODUCER RESPONSIBILITY

The following EPR Principles include key elements that should be included in all EPR legislation. Although these Principles will be applied differently by different jurisdictions, they are aspirational and considered best practice to achieve maximum results.

- **Producer Responsibility**
 - Producers are required to design, manage, and finance programs for end-of-life management of their products and packaging as a condition of sale. These programs may or may not use existing collection and processing infrastructure. Programs should cover all products in a given category, including those from companies no longer in business and from companies that cannot be identified.
- **Level Playing Field**
 - All producers within a particular product category have the same requirements, whether they choose to meet them individually or jointly with other producers.
- **Results-based**
 - Producers have flexibility to design the product management system to meet the performance goals established by government, with minimum government involvement.
 - Producer-managed systems must follow the resource conservation hierarchy of reduce, reuse, recycle, and beneficially use, as appropriate.
 - Products must be managed in a manner that is protective of human health and the environment.
 - Producers design and implement public education programs to ensure achievement of performance goals and standards established by government.
 - All consumers have convenient access to collection opportunities without charge.
- **Transparency and Accountability**
 - Government is responsible for ensuring that producer programs are transparent and accountable to the public.
 - Producer programs, including their development and the fate of products managed, provide opportunity for input by all stakeholders.
- **Roles for Government, Retailers and Consumers**
 - Government is responsible for ensuring a level playing field for all parties in the product value chain to maintain a competitive marketplace with open access to all, for setting and enforcing performance goals and standards, for supporting industry programs through procurement, and for helping educate the public.
 - Retailers only sell brands within a covered product category that are made by producers participating in an industry program, and are responsible for providing information to consumers on how to access the programs.
 - Consumers have a responsibility to reduce waste, reuse products, use take-back and other collection programs, and make appropriate purchasing decisions based on available information about product impacts and benefits.

Building Product Stewardship in Nebraska: Understanding Our Foundation

November 2010

Acknowledgements

Completion of this report would not have been possible without all of the contributions from the members of the Leadership and Management Team of the Nebraska Product Stewardship Initiative. The Product Stewardship Institute (PSI) provided expertise on the national perspectives for the various materials in this report, and editing assistance for the completion of this report.

We also wish to thank the Nebraska Department of Environmental Quality and Nebraska Environmental Trust for sharing information on grants they have provided and allowing representatives of the Leadership and Management Team to review grant reports.

Table of Contents

What is the Nebraska Product Stewardship Initiative	3
Why is Product Stewardship Necessary	3
Product Stewardship in Nebraska	5
Who’s Who	5
Current Collection Practices	6
Product by Product: An Overview of Product Stewardship Take-Back Efforts in Nebraska and Nationally	7
Appliances	7
Automobile Switches.....	8
Batteries	8
Cellular Phones.....	9
Compact Fluorescent Lamps (CFLs) and Fluorescent Tubes	10
Electronic Waste.....	11
Paint.....	12
Pesticide Chemical Containers	13
Pharmaceuticals	13
Telephone Directories	15
Thermostats.....	16
Toner and Ink Cartridges	16
Tires	17
Used Motor Oil	17
The Future of Product Stewardship in Nebraska	18
Appendix	18

What is the Nebraska Product Stewardship Initiative?

The Nebraska Product Stewardship Initiative (Nebraska Initiative) is a cooperative effort between non-profit organizations, municipalities, and the solid-waste management community to build product stewardship capacity and infrastructure in the state. Representatives from several of these stakeholder groups formed a Leadership and Management Team in early 2010 to coordinate the Nebraska Initiative. A list of the members of this Leadership and Management Team appear in Appendix A. Funding for this effort comes from the Nebraska Department of Environmental Quality (NDEQ) through a grant received by WasteCap Nebraska. The Product Stewardship Institute, Inc. (PSI), based in Boston, Massachusetts, is assisting a Leadership and Management Team in organizing and facilitating the Nebraska Initiative.

Product Stewardship is a principle that directs all those involved in the life cycle of a product to take responsibility for the impacts to human health and the natural environment that result from the production, use, and end-of-life management of the product. Extended producer responsibility (EPR), a central tenet of product stewardship, is a policy approach in which the producer's responsibility for their product extends to the post-consumer management of that product and its packaging. A prime example of product stewardship in action is a manufacturer providing free collection and recycling or safe disposal of the products they sell.

Product stewardship is already being implemented in Nebraska. For example, manufacturers and retailers prevent a significant amount of mercury and other toxic heavy metals from reaching landfills and incinerators by offering collection and recycling services for spent rechargeable batteries, mercury thermostats, fluorescent lamps, electronics, and auto switches. While these programs rely on voluntary industry programs, they provide a solid foundation for future product stewardship programs and policies. The purpose of this paper is to outline existing product stewardship programs in the state of Nebraska, and to establish baseline data from which to measure future progress.

Why is Product Stewardship Necessary?

Product stewardship programs prevent toxic materials found in consumer products from entering the waste stream by creating systems to collect and recycle or safely dispose of those products. Product stewardship programs also help preserve natural resources and reduce greenhouse gas emissions. Finally, product stewardship is necessary to relieve taxpayers and local governments from the financial burdens of waste management.

Reducing the Impact of Toxins in Products

Many consumer products contain materials that federal and state environmental agencies have determined to be toxic. For example, electronic products such as televisions and computers can contain lead, mercury, cadmium, lithium, phosphorous, and bromides. Batteries contain toxic metals, and oil-based paints contain volatile organic compounds. Fluorescent light bulbs and most thermostats contain mercury, which is a neurotoxin. In terms of the environmental hazards they represent, consumer products are often no different from hazardous wastes generated by

industry. For that reason, they are often referred to as household hazardous waste (HHW). Other products, such as unwanted pharmaceutical drugs, are collected because they pose safety or environmental concerns in the waste stream.

Conserving Resources and Reducing Greenhouse Gas Impacts

Consumer products can often be reused, and many contain materials that can be recycled. Neglecting to recover and reuse products and packaging results in wasted energy and other natural resources, which impact the environment through the extraction and production of virgin materials and the manufacture of new products. According to the U.S. Environmental Protection Agency (EPA)¹, the extraction, production, transport, and disposal of goods accounts for approximately 29 percent of all man-made greenhouse gas emissions. Greater reuse and recycling of consumer products and packaging are powerful greenhouse gas reduction strategies. For example, leftover paint can be reused by residents who frequent local swap shops, while nickel and cadmium from a spent rechargeable battery can be remanufactured into a new battery or other product. Non-toxic recyclables, such as bottles, cans, cardboard, and other packaging materials, represent about 30 percent of the municipal solid waste stream, nearly all of which can be recycled. Other products, such as mattresses, can be difficult to handle and create challenges for waste collection and disposal operations.

Reducing the Financial Burden on Taxpayers and Local Governments

With some products, such as ink cartridges and disposable cameras, companies have a financial interest in recapturing the goods because the recovered materials have enough market value to cover the cost of collection and processing. For most products, however, local and state governments bear the cost of managing products at the end-of-life (e.g., when they are no longer usable). These products must be collected and transported for reuse, recycling, or safe disposal, which means that tax dollars have been spent to protect the environment and public health from the unintended impacts of consumer products.

In many parts of the country, the costs to local governments of managing discarded consumer products through HHW collection programs has proven to be staggeringly high, ranging from about \$1.50 per pound of leftover pesticides to \$8.00 per gallon for leftover paint. These programs also rarely offer convenient opportunities for the public to discard products and packaging. As a result, most people end up throwing away products in their household trash or storing them in their basements or attics.

By shifting the costs of HHW management and product recycling from taxpayer-funded government programs to manufacturers and consumers, product stewardship creates the funding base needed to expand and sustain end-of-life management programs without depleting scarce government resources. By making manufacturers responsible for the unintended impacts of their products and packaging, product stewardship also creates incentives for manufacturers to redesign their products and packaging to be less costly to manage at end-of-life. When a manufacturer takes responsibility for managing their product or packaging waste at the end of its useful life, it is referred to as **extended producer responsibility (EPR)** because the manufacturer is *extending* their responsibility for their products' impacts past the point of

¹ http://www.epa.gov/oswer/docs/ghg_land_and_materials_management.pdf

manufacturing or sale, and all the way through to the end of the product's useful life. EPR programs are happening around the country, sometimes as a voluntary initiative, and other times as a result of state or local legislation. In some cases, states are passing laws even if manufacturers already provide a voluntary program – as with mercury thermostats – because they want the manufacturers to collect more thermostats and want other stakeholders, such as heating and cooling contractors, to share the burden of responsibility.

Product Stewardship in Nebraska

State Laws

Many states have passed legislation to apply product stewardship principles. However, this type of legislation typically focuses on specific products rather than enforcing stewardship principles broadly. Nebraska does not have any laws requiring manufacturers to set up and pay for the collection of their products, although there are laws on the books that provide interim measures to help offset the state's financial burden of managing certain products. In 1992, the Nebraska Legislature, as part of the **Integrated Solid Waste Management Act**, included an advanced disposal fee of \$1.00 per tire sold that goes into the Scrap Tire Reduction and Recycling Incentive Fund, which is administered by the NDEQ for the proper recycling and disposal of scrap tires. The legislation has since been modified such that the first \$1 million dollars raised each year goes to the Scrap Tire Recycling Fund, and any remaining amount goes into the Waste Reduction and Recycling Incentive Fund grant program (also administered by the NDEQ) for promoting waste reduction and recycling in the state.

Disposal Bans

Disposal bans are one tool for providing incentives to the public and businesses to ensure that their products are recycled or disposed of properly. The Integrated Solid Waste Management Act bans the following materials from landfills in the state: tires, lead acid batteries, waste oil, household appliances (white goods), yard waste (grass and leaves), and unregulated hazardous waste (except from households). Waste coming to landfills is screened to be sure it does not contain banned materials. The legislation was later altered to allow yard waste in landfills with gas recovery systems that generate power.

Several attempts have been made to enact legislation that would either regulate the disposal of electronics or set up a fund to offset the cost of proper disposal. So far, none of the bills have passed.

Who's Who?

There are several key players in Nebraska who are taking the lead in providing the state's residents and businesses with the information and infrastructure needed to collect and manage various products. The **NDEQ and Nebraska Environmental Trust (NET) provide funding support to local and regional governments, as well as, non-governmental organizations for proper collection and disposal of selected materials.** These grants fund projects such as HHW collections or collection events for electronics. A list of grants for selected material collections provided by these organizations from 2007 to 2010 appears in appendices that are attached. With

funding from NDEQ, NET, and other sources, the following groups are running collection programs to serve Nebraska:

- **Local governments:** Five local jurisdictions have permanent HHW collection facilities in Nebraska, and one more facility is nearing completion. These facilities are located in the cities of Holdrege, Kearney, North Platte, Omaha and Red Willow County. Permanent facilities like these are open year around, while other municipalities hold periodic collection events. The frequency of periodic collection events varies from six to eight per year in Lincoln, to one per year in other communities.
- **Keep Nebraska Beautiful (KNB) & Keep America Beautiful (KAB) Affiliates:** The KNB organization seeks to develop a household hazardous waste collection system so every resident in the state has access to a waste disposal program. In contrast, many KAB affiliates organize HHW collection events, electronic collection events, and pharmaceutical collection events in different parts of the state. One HHW facility in Holdrege, serves four counties with a mobile collection trailer. At least five KAB affiliates held HHW collections within the past year.
- **Resource Conservation and Development Councils (RC&Ds)²:** These regional organizations serve rural areas of Nebraska, offering support by sponsoring HHW and e-waste collection events in addition to facilitating compact fluorescent bulb (CFL) collection programs in local hardware stores.
- **WasteCap Nebraska:** WasteCap Nebraska has been involved in computer collections events since 2000. Through mid 2010, they have organized or assisted with more than 20 collection events in Nebraska. WasteCap has funds from the NET to manage e-Scrap collection events and to develop a Take-it-Back Network of retailers willing to accept CFLs, linear lamps, and rechargeable batteries for recycling. WasteCap also participates in cell phone, toner cartridge and mercury thermostat (see Bucket Project below) take-back programs.
- **University of Nebraska – Lincoln, Extension:** This group runs an agricultural pesticide-container recycling program (explained further in the section on Pesticide Chemical Containers, below).
- **Manufacturers and retailers:** Depending on the product, some companies—such as Best Buy, Dell, FedEx, Hewlett-Packard, IBM, Kinko’s, and Staples—provide programs or funds for the collection and recycling or safe disposal of the products they sell (or, in the case of mercury thermostats, products that were sold in the past).

Current Collection Practices

The Leadership and Management Team of the Nebraska Product Stewardship Initiative reviewed grant reports and conducted research on various approaches to collecting specific materials. They identified current product stewardship programs in Nebraska, and calculated current collection rates from these programs. Materials ranging from appliances to used oil were analyzed. This information was used to establish a baseline of current product stewardship activities in the state.

As previously noted, a number of communities in Nebraska provide HHW collection services to residents. In 2009 and 2010 there were approximately 40 community-sponsored HHW collection events which collected more than 1.1 million pounds of HHW at a cost of more than \$1.5 million. A summary of the material collected is below:

	Pounds
Paint	466,094
Oil	163,706
Electronics	62,050
Other	452,050
Total	1,143,900

Product-by-Product: An Overview of Product Stewardship Take-back Efforts in Nebraska and Nationally

This section describes the work that is being done in Nebraska to collect and safely manage a wide range of products. We also offer a snapshot of what product stewardship looks like nationally.

Appliances

Status in Nebraska

Discarded household appliances were banned from Nebraska landfills as a result of the Integrated Solid Waste Management Act, which went into effect in 1995. However the continued hoarding of unwanted appliances due to lack of disposal outlets, and the illegal disposal of appliances in Nebraska ditches continues to be a problem.

There are scrap metal yards throughout the state that collect scrap metal and pay the generators of the scrap metal a nominal amount for the metal. Some of these firms will take appliances. Freon-containing appliances are taken for a fee that covers the safe disposal of the refrigerator.

The City of Lincoln Solid Waste Operations has an appliance de-manufacturing facility in which mercury switches, PCB ballasts, and Freon is removed and properly disposed of prior to recycling through a private scrap metal yard.

The Nebraska Public Power District used an NDEQ grant to collect and recycle 1,817 refrigerators in their service area amounting to 263,945 pounds of appliances in 2009. Funds were used for advertising, collection and recycling fees. See Appendix B for a summary of grant-funded appliance recycling from 2007-2010 in Nebraska.

Some appliance retailers will take the old appliance from the consumer and recycle them. This is generally considered part of the service provided in the purchase of the new appliance or is provided at a nominal fee. The old appliances are generally recycled through local or regional scrap metal yards.

Status Nationwide

There are no product stewardship laws in the U.S. for household appliances, though this product category is on the list to be subject to EPR requirements in Canada in the near future. In the U.S., federal law regulates³ some of the component materials of household appliances. Private companies operate recovery and recycling programs of appliances nationwide, such as the Appliance Recycling Centers of America (ARCA)⁴ which operates turnkey appliance collection and recycling programs for retailers, utilities and municipalities. The U.S. Environmental Protection Agency (US EPA) operates the Responsible Appliance Disposal Program (RAD) which is a voluntary partnership program working to reduce unlawful and hazardous disposal of household appliances. The US EPA has partnered with several utility and retail businesses and to promote safe disposal of appliances. State government agencies can also partner with RAD to increase environmental benefits in the state. For more information on the US EPA RAD program refer to <http://www.epa.gov/ozone/partnerships/rad/index.html>.

Automobile Switches

Status in Nebraska

NDEQ has worked in coordination with the national End of Life Vehicles Solutions Corporation (ELVS) program to promote mercury switch recovery from scrap vehicles.⁵ ELVS provides collection buckets to vehicle recyclers in Nebraska, and pays for the cost of transportation, recycling, or disposal of mercury from the recovered switches.⁶ For additional information refer to www.elvsolutions.org.

Status Nationwide

The National Vehicle Mercury Switch Recovery Program (NVMSRP) is a multi-stakeholder collaboration developed in 2006 to recover mercury switches from scrap vehicles.⁷ NVMSRP is carried out nationally by the ELVS program. Eight states have passed laws which require the ELVS program to offer a cash incentive to encourage vehicle recyclers to remove and recycle the mercury switches.

Batteries

Status in Nebraska

Button cell batteries, used in watches, hearing aides and miniature electronics are generally accepted and recycled from the public at no cost at household hazardous waste collection

³ 69 FR 11978

⁴ <http://www.arcainc.com/home.html>

⁵ <http://www.elvsolutions.org/nebraska.htm>

⁶

<http://www.deq.state.ne.us/AirWaves.nsf/66f49af6ce2a8f80862573230053ebbc/af1e79489508954f86257323005b6adc?OpenDocument>

⁷ [http://www.elvsolutions.org/Mercury%20Switch%20Recovery-%20annual%20report%20\(final\).pdf](http://www.elvsolutions.org/Mercury%20Switch%20Recovery-%20annual%20report%20(final).pdf)

events/facilities and retailers, including jewelry stores. This type of battery has enough high value metal to balance the cost of recycling.

Most local governments rely on the private sector to properly recycle **lead-acid batteries**. Retailers of lead-acid batteries accept used batteries at no cost when a new battery is purchased, if a core or exchange battery is present. These batteries are then recycled by the retailer through regional or national lead-acid battery recyclers. Lead-acid batteries are also accepted at household hazardous waste events and facilities, sometimes providing a small amount of revenue from the recycled lead.

Primary cell batteries such as the single use alkaline, or “heavy duty” AAA, AA, C, D, and 9-volt cells are generally not accepted for proper disposal or recycling at any commercial or government program in Nebraska. The manufacturing industry repeatedly reports that batteries of this type are not hazardous, however from a resource management and from a public education standpoint, a message of “recycle all batteries” would be beneficial.

Some businesses that sell **secondary or rechargeable batteries**, including small gel-cell batteries, also collect used batteries from their customers at no cost through the nationally available Call2Recycle program, explained further below. In 2009 there were 451 active Call2Recycle collection sites in Nebraska. Nebraska’s HHW facilities also act as Call2Recycle collection points.

All Nebraska municipalities and county governments could sign up to be public collection points in the Call2Recycle program and ease the recycling of internally generated rechargeable batteries. WasteCap offers private businesses collection boxes for their employees. They also offer the boxes to local retailers to encourage the public to recycle in stores.

Status Nationwide

Voluntary recycling programs for rechargeable batteries are available nationally through Call2Recycle, an industry-run product stewardship program. Ten states have laws that require manufacturers to provide this service for at least some types of rechargeable batteries. New York City and California both require retailers to serve as collection locations. They use the Call2Recycle program to meet this requirement. For more information on the Call2Recycle program, including how to request a collection box, please see: <http://www.call2recycle.org/>. In 2010, California considered legislation that would require the manufacturers of primary batteries to develop a product stewardship program. Although this legislation did not pass, the trend in several Canadian provinces is to require manufacturers to collect both types of batteries. For more information on product stewardship programs for batteries, please see PSI’s battery webpage: <http://www.productstewardship.us/displaycommon.cfm?an=1&subarticlenbr=609>

Cellular Phones

Status in Nebraska

State and local organizations recycle cellular phones used internally, but do not accept them from the public.

Non-profit organizations have established collection drives for old cellular phones as fundraisers. They generally ship the cellular phones collected to a cell phone reuse and/or remanufacturing facility. Because consumers often want a new phone before their existing device has reached the end of its useful life, many phones still have value and demand in a reuse market. WasteCap works with private businesses to place collection boxes so employees can recycle old phones and peripheral items. Several KAB Affiliates collect cell phones and peripherals on an ongoing basis.

Most cellular retailers in the state offer recycling programs for old cellular phones at no cost. However, it is rare that they provide any encouragement to recycle when selling a new phone. Target, Staples, and Best Buy stores nationwide have collection points in their vestibules for cell phones, small electronic devices (such as MP3 players), and rechargeable batteries.

Status Nationwide

There is no federal legislation requiring cell phone collection, however three states have passed legislation mandating retailer take-back of cell phones.⁸ There are a number of voluntary cell phone take-back programs operated by companies such as Best Buy, Staples, and FedEx Kinko's. Retailers typically use the Call2Recycle program because they can collect batteries and cell phones in the same box with one recycler.

Compact Fluorescent Lamps (CFLs) and Fluorescent Tubes

Status in Nebraska

The Nebraska Environmental Trust has provided 3 year grant funding to WasteCap Nebraska to develop a "take-it-back" network of hardware stores that collect compact fluorescent bulbs and fluorescent tubes from the public. Known as "[Another Bright Idea](#)," this program seeks to meet the need for a consumer-friendly recycling option for compact fluorescent light bulbs and linear tubes in Nebraska. During the initial five-month collection period in 2009 and 2010, a total of 735 pounds of fluorescent lighting (1,107 units) were collected at 23 locations. In addition to the collection and recycling, grant funds are used for start-up costs such as, collection supplies, personnel, and public education. WasteCap has partnered with the Omaha Public Library system and Lincoln hardware stores to coordinate a network of drop-off locations especially tailored to individual households. In Lincoln and other hardware-store-based collection points, grant funds cover the cost to transport and recycle the CFLs collected in the program; in the future, this cost will either be passed on to the consumer or financed through a manufacturer-financed product stewardship program. Linear tubes are also collected, but at a charge to the consumer. In Omaha, all costs to recycle the bulbs are paid by Under The Sink, the City's household hazardous waste facility. As of August 5, 2010, there were 33 collection sites in Nebraska. For more information about state grants for programs involving CFL and linear tube recycling, please see Appendix C.

The goal for CFL collection is to create a statewide network of 100 or more conveniently-located drop-off sites along with strategically-located consolidation points for the lamps before they are sent to recycling facilities. The program is being aggressively advertised, with ads running on Time Warner Cable in Lincoln and Cox Cable in Omaha. Future plans to raise awareness of the program include statewide radio, statewide billboards, Facebook, and statewide broadcast television.

⁸ INFORM. 2008. "Cell Phone Take-Back Programs in New York City" Available online. URL: http://www.informinc.org/pdfs/Cell_Phone_Report_FINAL_Sept_29.pdf

For businesses, fluorescent bulbs are classified as a “universal waste” where regulations allow greater latitude in handling, storage and disposal of potentially hazardous material in order to promote preferable recycling opportunities. Larger businesses tend to use recycling service providers to take their burned out lamps; however small and medium-sized businesses that do not generate as much waste also need options for recycling fluorescent lamps. Sites that will accept business-generated lamps are also being identified as part of the WasteCap project. Several KAB Affiliates have on-going collection of CFLs through a mail-back bucket program, as well.

Nationwide

Consumer fluorescent lamps, including both CFLs and linear tubes, are being collected and recycled at numerous types of collection points around the country. Most of these programs are local or regional, and have been developed through partnerships among local government, retailers, and utilities or energy efficiency programs (among others). Maine requires manufacturers pay for recycling programs for households, while Washington requires manufactures also fund programs for small businesses or organizations. The Home Depot and Lowe’s also provide collection and recycling of CFLs only (not linear tubes) at their locations across the country. For more information about product stewardship programs for CFLs and linear fluorescent bulbs, please go to PSI’s webpage:

<http://productstewardship.us/displaycommon.cfm?an=1&subarticlenbr=271>

Electronic Waste

Status in Nebraska

Electronic devices contain valuable materials such as gold, silver, and copper that can be remanufactured at the end of the product’s useful life. The value of these materials has allowed for-profit businesses to provide a disposal opportunity for electronic devices. Electronics recyclers generally charge by the pound, or by the type of item. Unfortunately, questions about environmental harm caused by the inappropriate disposal of recyclables have plagued the industry. These businesses rarely exist outside Lincoln or Omaha, and open and close in rapid succession.

NDEQ and the Nebraska Environmental Trust have provided funds for e-waste collection events. These events are sponsored by regional governmental organizations or local NGO’s. Appendix A summarizes grants provided by these agencies during the last three years. At least eight KAB Affiliates have one or more electronic collections each year.

WasteCap’s E-scrap Nebraska project seeks to develop electronics recycling infrastructure, increase electronics recycling awareness, increase access to environmentally safe recycling options, and provide a funding mechanism for local communities to host electronics collection events. WasteCap achieves this by (1) developing a statewide education and marketing program to create a consistent message regarding electronics recycling in Nebraska, (2) developing a set of minimum performance standards for electronics recyclers, and (3) administering a small grant program for computer collection events in local communities. The project will fund as many as 18 electronics collection events from July 2009 through June 2011.

Based on grant data from the NDEQ and Nebraska Environmental Trust, a total of 30 communities held electronic collection events in 2009. A total of 425,028 pounds of electronics were recycled during these collection events. See Appendix D for more information on state grants for electronics recycling programs.

Status Nationwide

US EPA has developed a coordinating program, eCycling, between local and state governments, producers, manufacturers, and retailers to promote electronics recycling. Many national manufacturers of computer equipment such as Hewlett-Packard, Dell, and IBM allow for consumers to mail-in old equipment for recycling. The manufacturers generally cover the cost of shipping for the computer equipment. Best Buy and Staples provide recycling services for computer equipment for a small fee (sometimes offset by a coupon).

The lack of national legislation has resulted in a patchwork of laws throughout the country, making it difficult for manufacturers to design programs around the specific nuances of legislation in each state. There are currently 23 states with EPR laws for electronic waste, though they vary in exactly what they require of the manufacturers. Some laws require only that manufacturers provide take-back programs for consumers with no fee, while others set more specific requirements for the manufacturers to meet. For more information about product stewardship programs for electronics, please go to the PSI webpage:

<http://productstewardship.us/displaycommon.cfm?an=1&subarticlenbr=64>

Paint

Paint falls in two categories, non-hazardous latex paint that is a nuisance to dispose, and alkyd (oil based) that is treated as hazardous material for disposal due to its volatile organic compounds (VOC) and its flammable potential.

Status in Nebraska

NDEQ has provided grant funds to research disposal alternatives for paint.

Some KAB affiliates, EcoStores Nebraska and other local government programs facilitate Paint Drop and Swap events on an annual basis.

In Omaha, Under The Sink collects both types of paint. Under The Sink pays for the proper disposal of alkyd paint, shipping it to Oklahoma for incineration. Latex paint is bulked and repurposed as a component in an alternative daily cover at the Sarpy County landfill. A total of 212,186 pounds of paint was collected in 2009 by the Under The Sink program. See Appendix E for a list of grant-funded HHW collection facilities and collection events.

Status Nationwide

Since December 2003, PSI has facilitated a national dialogue with US EPA, state and local governments, manufacturers, retailers, paint recyclers, and contractors to develop leftover paint management solutions that are both financially and environmentally sustainable. These discussions resulted in the first Paint Product Stewardship legislation passed in Oregon in the summer of 2009. Notably, the American Coatings Association supported the legislation. The

program went into effect in July 2010, and is currently being evaluated. California passed the second law in 2010. The hope is that eventually there will be paint stewardship programs across the country based on the lessons learned in Oregon. For more information about paint product stewardship programs, please go to the PSI webpage on paint:

<http://www.productstewardship.us/displaycommon.cfm?an=1&subarticlenbr=116>

Pesticides Chemical Containers

Status in Nebraska

The University of Nebraska-Lincoln Extension in Lancaster County coordinates a statewide pesticide container collection program. The UNL program is funded by the Agricultural Container Research Council, a national coalition of agrichemical manufacturers. They have contracted with Container Services Network to collect the plastic chemical containers. There are 40 collection locations statewide. Local distributors aid UNL Extension by informing customers about recycling opportunities for the pesticide containers. There is no fee to users for recycling the containers.

The UNL Extension program has operated for 18 years and has collected a total of 950 tons of plastic pesticide containers. Plastic from collected containers is used to make industrial and consumer products such as shipping pallets, drain tile, dimension lumber and parking lot tire bumpers. Recycling sites, guidelines and program details are on UNL's Pesticide Education Resources website at: <http://pested.unl.edu/pesticide/pages/index.jsp>.

Status Nationwide

In California, effective January 1, 2009, all first-sellers of agricultural pesticide products must participate in a certified HDPE recycling program and submit annual certification documents to ensure compliance. A number of other states have pesticide container recycling programs similar to that of the UNL Extension program. For more information on product stewardship programs relating to pesticide use, storage, and disposal, please go to the PSI pesticides webpage:

<http://www.productstewardship.us/displaycommon.cfm?an=1&subarticlenbr=176>

Pharmaceuticals

Status in Nebraska

NDEQ provided grants to develop a statewide education program about the proper disposal of pharmaceuticals. This was in cooperation with the Nebraska MEDS (Medication Education and Disposal Strategies) group that is composed of several statewide stakeholders. This includes representatives from the following organizations and government entities: Nebraska Pharmacists Association, NDEQ, Nebraska Regional Poison Center, Nebraska Board of Pharmacy, and the Groundwater Foundation and the Lincoln-Lancaster County Health Department. Information about the program is available at: www.nebraskameds.org.

The Nebraska MEDS group recently made the decision to apply for grant funds via NDEQ/NPS Section 319 and Nebraska Environmental Trust funds for the development and implementation of a pilot pharmaceutical take-back project in Lincoln and Lancaster County. Two factors are currently driving the project. They include a July 12, 2010 decision by the Nebraska Board of Pharmacy that unanimously determined that current Nebraska statute allows for the return of

non-controlled medications to the dispensing pharmacy and an ongoing pharmaceutical return project in Iowa called the Iowa *TakeAway Environmental Return System*. To date, the Iowa project has signed on more than 400 pharmacies (one in every county) in Iowa. They properly disposed of more than 6,000 pounds of unwanted medications so far.

If funds become available, the Nebraska MEDS group will work to duplicate the success of the Iowa project in addition to modifying the project where the Iowa approach falls short. This will include working with area pharmacies, both corporate and independent, in providing a year-round safe and legal medication disposal system. The Lincoln and Lancaster County pilot will serve as a model for a possible statewide pharmaceutical waste disposal system.

The NDEQ has also provided grants for local organizations to offset the cost of pharmaceutical collection events. At least four KAB affiliates have held pharmaceutical collection events during the past year; KAB will produce a brochure and other public awareness materials in the near future. In communities where local law enforcement officers are willing to participate, special pharmaceutical events have been held to collect controlled substances.⁹ This includes the September 25, 2010 one-day National Medication Take Back Day sponsored by the Drug Enforcement Administration. Four Walgreens participated in this event in Lincoln with higher participation rates than anticipated. Some communities that sponsored household hazardous waste collections also collected pharmaceuticals. For information on all of the grant funding provided in the state for programs involving pharmaceutical take-back, please see Appendix F.

In 2009, five communities sponsored pharmaceutical collections. One collection reported number of pills or medications collected, while others reported the pounds of pharmaceuticals collected or did not report anything. According to Keep Scottsbluff-Gering Beautiful, their program collected a total of 1,350 pounds from approximately 200 participants in the spring of 2010. The inconsistency in reporting has made it difficult to accurately track statewide collection data.

Status Nationwide

Pharmaceutical collection programs are happening across the country, and examples can be found on PSI's drug take-back website at: http://takebacknetwork.com/local_efforts.html. Similar to the fluorescent lamp collections, these are typically local or regional programs and based on the development of local partnerships and funding sources. Pharmacies are increasingly playing a role as collection sites, or, in some cases, they distribute envelopes for patients to mail their leftover drugs back to a reverse distributor or other facility where they will be destroyed. Seven states have considered EPR legislation for pharmaceuticals, though none have passed. Examples of EPR for pharmaceuticals can be found in Canada and Europe.

Recently, Congress passed legislation to change the Controlled Substances Act, thereby allowing for more options for collection of these drugs than just law enforcement. PSI has [recommended factors that should be considered](#) in developing new laws and rules, and worked

⁹ Currently, the federal Controlled Substances Act prohibits the collection of this subset of drugs (characterized by their high rates of abuse and addiction) by anyone but law enforcement. See 15 U.S.C. §2601 et seq. (1976). 21 USC Ch. 13. Controlled Substances Act.

<http://www.justice.gov/dea/pubs/csa.html><http://www.epa.gov/lawsregs/laws/tsca.html>

closely with Congressional offices, the Administration, and a unique coalition of state and local agencies, organizations, and companies to effect this change. PSI will continue to provide information from its members and partners to inform the rule-making process. For more information about national product stewardship programs for pharmaceuticals, please go to the PSI pharmaceuticals webpage at

<http://www.productstewardship.us/displaycommon.cfm?an=1&subarticlenbr=181> or PSI's webpage for the drug take-back network at <http://www.takebacknetwork.com/>.

Telephone Directories

Status in Nebraska

Some municipal recycling programs accept telephone directories as part of residential mixed paper. In addition, some directory publishers set up recycling programs when they distribute their directories locally. They may also make a monetary contribution to local recycling programs that accept telephone directories as part of their services.

In southeast Nebraska, Yellow Pages Direct worked with the regional phone company, Windstream, and with Recycling Enterprises to set up a telephone directory recycling program. Six collection containers were located at the city's Community Recreation Centers for six weeks. A total of 5,500 pounds of unwanted telephone directories were collected. Recycling Enterprises estimates they processed roughly 70,000 pounds of phone directories that came from businesses, Windstream, and the local drop-off sites. Yellow Pages Direct provided \$1,000 to the host collection sites.

Status Nationwide

Several state and local governments are currently developing opt-out legislation to manage the cost of collection and recycling from unwanted telephone directories. Opt-out legislation allows consumers who do not desire a phone book the opportunity to opt-out of receiving a directory. The legislation can also be used to limit materials that will pose an unreasonable burden to recycle, prohibit inks that may contain chemicals, assess fees for recycling and collection, and create mandatory recycled content standards. Other strategies include increasing recycling options, such as expanding curbside collection programs and holding periodic collection events. In 2006, the National Waste Prevention Coalition approached PSI to help them reduce phone book waste. After two PSI-facilitated meetings, directory publishers agreed to implement an opt-out provision allowing consumers to say "no" to telephone book delivery, increase phone book recycling, and enhance the sustainable production of the books. While the industry has put in place the first-ever opt-out system, it has resisted PSI's efforts to ensure that the system is effective. PSI has therefore embarked on a four-part strategy: (1) partner with Catalog Choice--a non-profit organization that allows consumers to opt-out of receiving direct mail--to promote the industry phone book opt-out system and track system performance; (2) develop model legislation that includes opt-out and opt-in provisions for white pages and yellow pages, as well as producer-financed recycling; (3) continue to communicate directly with phone book publishers and seek joint strategies; and (4) enhance PSI's clearinghouse of phone book information. For more information on the phone book product stewardship program, please go to PSI's webpage at

<http://www.productstewardship.us/displaycommon.cfm?an=1&subarticlenbr=186>

Thermostats

Status in Nebraska

The Health and Human Services Department promotes the program established by the national Thermostat Recycling Corporation (TRC): a non-profit, producer responsibility organization that facilitates collection and disposal of mercury containing thermostats. Many Nebraska heating and air conditioner contractors participate in the program. Consumers are not assessed a fee for recycling a thermostat. Please see Appendix G for a list of locations in Nebraska that provide recycling services of mercury thermostats. More information on these collection sites is available at <http://www.dhhs.ne.gov/mercury/DropOffSites.pdf>. Thermostats can also be put in the Bucket Program receptacles being distributed throughout the state by KNB and the DHHS through the School Chemical Cleanout Campaign Program.

Status Nationwide

TRC has worked with several state and local governments to promote thermostat collection and recycling programs, and develop legislation on thermostat collection and recycling. Eight states have passed laws requiring TRC to operate in their state, and set various requirements for contractors and wholesalers, as well as target collection goals for TRC to meet. These laws are based on a model developed by PSI through a multi-stakeholder negotiation in 2006. In 2008, TRC recorded 135,604 thermostats collected nationally; 998 of which were collected in Nebraska.¹⁰ For more information on product stewardship programs for thermostats, please go to PSI's webpage at

<http://www.productstewardship.us/displaycommon.cfm?an=1&subarticlenbr=337>

Toner and Ink Cartridges

Status in Nebraska

Companies and organizations are taking the lead on recycling toner and ink cartridges, which have the benefit of being refillable. There are a number of non-profit organizations that collect print cartridges and send them to local or regional recyclers as a fundraising effort. Local retailers, such as Walgreens, are collecting and recycling print cartridges and offer refilling of print cartridges for a fee. Several KAB Affiliates, WasteCap, schools and other non-profits have on-going toner/ink cartridge collections. Some retailers, such as Office Depot, also offer a discount on paper purchases when the customer recycles ink-jet cartridges.

Status Nationwide

Because of the ability to refill and re-sell used cartridges, industry is taking the lead in collecting and recycling these products. Staples, Best Buy, Hewlett-Packard, and Dell all receive used ink cartridges through in-store drop off or mail-in options which are offered nationwide. Private companies find economic benefit in recycling or refilling used ink cartridges and, as such, the industry take-back programs have diverted used cartridges from general waste streams.

¹⁰ http://www.thermostat-recycle.org/files/u3/2008_TRC_Annual_Report.pdf

Tires

Status in Nebraska

Nebraska law prohibits the disposal of tires in landfills as part of the Solid Waste Management Act. This ban went into effect in 1998. An advanced disposal fee of \$1 per car passenger tire is assessed by tire retailers. This money goes to the NDEQ to fund tire clean-ups, and to partially reimburse manufacturers for recycled tires used in new products. Waste tires are used to make rubberized asphalt roadways, running tracks, playground mats and crumb rubber for football fields.

Some local governments and NGOs have sponsored tire “amnesty-day” clean up events in which the public can drop off and recycle their scrap tires at no cost.

Tire distributors and retailers recycle used tires generated from their business. They generally charge a fee of \$2.00 to the consumer to cover the cost of transportation and disposal of the tires.

Between 2007 and 2009 a total of 138 tire-collection events were held, with a total of 1,921,042 tires collected. NDEQ funded these collections at a cost of \$1,992,093. In 2009, tire collection events hit a three-year high: some 59 collection events recovered 767,131 tires at a cost of \$769,809. For more information about grant programs for tire recycling, please see Appendix H.

Nationwide

Scrap tires, as solid waste, are handled primarily by state governments. Currently, 48 states have laws regulating the management of scrap tires. Some automotive dealers may take back old tires in partial trade for new ones, as they can make money by recapping and retreading the tires for reuse (although this is generally limited to larger truck tires). Otherwise, many private tire recycling companies nationwide accept old tires for processing into fuel or for civil engineering applications such as rubberized asphalt. For more information about national product stewardship programs for tires, please go to PSI’s webpage at <http://www.productstewardship.us/displaycommon.cfm?an=1&subarticlenbr=197>

Used Oil

Status in Nebraska

NDEQ has provided grant funds to Keep Nebraska Beautiful to develop the Nebraska Used Oil Collection program. KNB has recruited 67 government agencies throughout the state to host a used oil collection tank. KNB then solicits bids from oil recyclers to collect the oil and antifreeze from the host locations. Oil tank hosts are paid a nominal amount per gallon from the recycler. The host locations typically collect between 30,000 and 60,000 gallons of oil from roughly 2,500 participants per quarter. In 2009, 178,251 gallons of oil were collected. For more information about the grant funding provided for programs involving used oil collection, please see Appendix I.

Some auto repair shops, farm cooperatives and auto parts stores accept used motor oil at no cost to the consumer for recycling. The amount of oil recycled through their efforts is not tracked.

Nationwide

Federal regulations exist in the United States to ensure the proper management of used motor oil by industrial and commercial sources, such as automotive repair garages. For consumers that change their own motor oil at home, used motor oil is accepted for recycling at some service stations and most municipal household hazardous waste collection sites. Used motor oil may be burned for fuel, used as a fuel source in asphalt production, or re-refined for use as a lubricating oil base.

The Future of Product Stewardship in Nebraska

There are several voluntary national product stewardship programs that are not being fully utilized in Nebraska¹¹. There are a number of local non-profit organizations, as well as local governments and regional organizations that are providing quality services to Nebraska residents for the proper disposal and recycling of their household hazardous waste and problem waste. Unfortunately, these programs rely heavily on grants from the NDEQ and the NET and these grants are not a reliable funding source for on-going programs. In addition, it is difficult for local governments to start new programs or services during times of reduced budgets and a poor national economy.

Current collection programs in the state for various materials do not fully reflect the product stewardship model because they do not share proportional responsibility with industry. These programs, however, do provide the necessary infrastructure for future industry-operated product stewardship programs, by developing sustainable end-of-life solutions for consumer products. The Nebraska Product Stewardship Initiative aims to strengthen these existing product collection programs, and, in doing so, build capacity for product stewardship program complete systems for extended producer responsibility.

Appendices

Appendix A	List of Nebraska Product Stewardship Leadership and Management Team
Appendix B	Grant programs for appliance recycling
Appendix C	Grant programs for CFL & linear fluorescent bulb recycling
Appendix D	Grant programs for electronics recycling
Appendix E	Grant programs for HHW recycling
Appendix F	Grant programs for pharmaceutical take-back
Appendix G	Thermostat drop-off locations in Nebraska
Appendix H	Grant programs for tire recycling
Appendix I	Grant programs for used oil collection and recycling
Appendix J	Table summarizing collection programs available by product and sector

¹¹Appendix J summarizes product collection programs currently available

**American Bar Association
Section of Environment, Energy and Resources**

“From Birth to Rebirth: Will Product Stewardship Save Resources?”

**Chaz Miller
National Solid Wastes Management Association
Washington, DC**

**19th Section Fall Meeting
Indianapolis, IN
October 12 - 15, 2011**

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

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%20203-24-10.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

[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

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

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 led 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

¹⁹ Press Release, NCER, Electronics Recycling Collection Index Shows Slight Decrease for 2010 (May 27, 2011), <http://www.electronicrecycling.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

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.

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 support, 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.

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).