

Selecting Products and/or Materials for Product Stewardship Programs

A White Paper Prepared by Abby Boudouris for the Product Stewardship Stakeholder Group July 2010



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Introduction

This paper will provide brief overview of product selection for product stewardship programs in the U.S. and Canada. In addition, the paper will present criteria that could be used to inform the selection process. Programs with an agreed process for product selection may reduce regulatory uncertainty as well as to allow for innovation and flexibility to respond quickly to new concerns.

To date, most products have been selected and acted upon based on response to public demand for collection services, financial burdens to local programs, and political opportunities. While those are all good reasons for selecting products and could be included in a set of selection criteria, many programs seek to set out clear selection criteria and a public process for choosing products to be regulated. While it is tempting to develop elaborate tools to evaluate and select products, it is important to consider the context of product selection within the overall purpose of product stewardship. Below are the reasons presented at the January 29, 2010 Stakeholder Group meeting for using product stewardship as a tool:

- Reduces environmental and human health impacts
- Shifts and potentially reduces waste management costs
- Promotes the improvement of product design

There is general consensus in the programs that were reviewed that products should be selected that make a significant impact on our society through their effect on the environment and human health, costs to taxpayers, and good potential for environmental improvements. But looking more broadly, products could be evaluated from the perspective of the total lifecycle of the product (extraction, production, use and end-of-life management). The specific process and criteria to select and evaluate them is less well established.

Oregon Background

While Oregon has followed a path similar to other states in product stewardship policy and product selection, it is worthwhile to highlight a few milestones that are unique to the state. First, in 1999, DEQ's Director Lang Marsh appointed a diverse stakeholder group, **Oregon Waste Policy Leadership Group** (WPLG) to make recommendations to the department regarding future policy and program directions in solid waste management. The *Waste Policy Leadership Group Report: Recommendations for New Directions in Solid Waste Management* proposed a product stewardship legislative concept that included three priority product groups (electronics, mercury containing products, and carpet) and criteria for selecting future priority products. The recommended criteria included products that:

- Contain toxic or hazardous constituents or a PBT (persistent, bioaccumulative, and toxic) pollutant that is discharged as a result of its manufacture;
- Are banned from municipal solid waste disposal;
- Pose a threat to safe or efficient operation of a solid waste facility or the solid waste system;
- Place significant economic burdens on the state or local government for end-of-life management because there is a significant amount of the product in the waste stream or because the nature of the product makes it difficult to manage in the existing system; and
- Possess significant potential for increased reuse and recycling.

The WPLG legislative concept also outlined a process where Environmental Quality Commission by rule would add or remove from the list priority products. DEQ would then form a Product Group for each priority product composed of appropriate interested parties. Finally, DEQ would report to the legislature on the progress of the process. Although the legislative proposal did not move forward as described, the WPLG recommendations did guide product stewardship policy in Oregon over the following ten years including passage of electronics and paint legislation, signing a memorandum of understanding with the carpet industry, pilot projects on mercury containing thermostats as well as the 2009 framework legislation.

Although it did not ultimately pass, the 2009 the **Product Stewardship Framework Legislation (HB 3060)** called for DEQ to develop and implement a statewide product stewardship system to reduce the environmental and health impacts of a product over its life cycle from design to management at end of life. HB 3060 specifically identified the development and implementation of programs for rechargeable batteries and mercury containing lighting as well as outlining a product selection process. The legislation directed DEQ to conduct a public process to identify a list of potential products that may be appropriate for a product stewardship program and select products and present them in a report to the Legislature. HB 3060 directed DEQ to consider the following criteria in the process:

- Potential to reduce waste, toxicity, greenhouse gas emissions or other environmental or health impacts;
- Potential to encourage product design or manufacture that reduces environmental or health impacts;
- Current or potential contribution of the product to the weight, volume or toxicity of the solid waste stream;
- Public demand or need for improved recycling, reuse or disposal opportunities;
- Producer ability to manage the product through a product stewardship program;
- Fiscal impacts to local governments, producers, retailers, consumers and other affected parties of using a product stewardship program to address the management of a product after the end of the product's useful life; and
- Any other consideration relevant to the management of a product under a product stewardship program.

In 2009 DEQ also began work to develop a consumption-based greenhouse gas emissions inventory for Oregon. This project, which DEQ plans to complete in 2011, is intended to provide information on how Oregon contributes to climate change through consumption of energy, services, and materials, including products. When completed, the project may be useful for identifying categories of products with large climate impacts. Even if climate is not chosen as a criteria for product selection, the study may be useful for product selection, as separate research by the EPA finds that when comparing product categories, upstream climate impacts tend to correlate well with several other categories of upstream environmental impacts, including smog potential, acidification potential, eutrophication potential, and human toxicity potential.

Selection Criteria in the US and Canada

Oregon is just one of several places in the world reviewing the role that product stewardship programs can take in addressing the impact of products. A summary of initiatives and legislation from other states and Canada that describe how products are evaluated and selected follows.

Maine

In March 2010, LD 1631 (An Act to Provide Leadership Regarding the Responsible Recycling of Consumer Products) passed to promote product stewardship and support Maine's waste management hierarchy. The legislation directs the Department of Environmental Protection (DEP) to collect available information regarding products in the waste stream and assist the legislature in designating products or product categories for product stewardship. By January 15, 2011 and annually thereafter, the DEP may submit to the legislature a report on products and product categories that when generated as waste may be appropriately managed under a product stewardship program if the DEP determines one or more of the following criteria are met:

- Product or product category contains toxics which pose an adverse impact to the environment or public health and safety;
- A product stewardship program for the product will increase the recovery of materials for reuse and recycling;
- A product stewardship program will reduce the costs of waste management to local governments and taxpayers;
- There is success in collecting and processing similar products in programs in other states and countries; or
- Existing voluntary product stewardship programs for the product in the State are not effective in achieving the state's policy.

After the report is reviewed by the legislature, the joint standing committee may submit a bill to implement recommendations to establish new product stewardship programs. Maine already has four product stewardship laws (electronics, thermostats, auto switches, and mercury lamps) but no products have been identified in this process yet.

California

In 2007 the California Integrated Waste Management Board (CIWMB now CalRecycle) adopted a set of Strategic Directives that included Strategic Directive 5: Producer Responsibility. This policy directs staff to seek statutory authority to foster "cradle-to-cradle" producer responsibility and develop producer-financed and producer-managed systems for product discards. To achieve Strategic Directive 5, in 2008 CIWMB staff developed the proposed framework approach to provide a comprehensive, yet flexible method for managing products that have significant impacts on the environment and serve as an alternative to the current piecemeal approach with many different laws and methods. The framework was intended to provide the CIWMB with the statutory authority to develop and carry out state government roles and responsibilities, including but not limited to establishing agency-wide product selection procedures and selecting product categories.

In order to focus on products having the more pressing environmental and public health and safety concerns, the CIWMB conducted an analysis of priority product selection. The analysis looked at quantitative analysis, qualitative analysis and a combination of the two and selected a combination approach using a primary and secondary filter. The primary filter consists of three evaluation criteria:

- Significant end of life impacts;
- Feasibility; and
- If the product is already being effectively handled by another program.

The secondary filter is meant to determine which products are best suited to a product stewardship program and include:

- Difficult to manage;
- CIWMB is appropriate agency to deal with the material;
- Increasing/steady trend in product usage;
- Stakeholder concern;
- Lifecycle impact; and
- Potential for lifecycle improvement

Based on a preliminary analysis, products passing the secondary filter included: major appliances, batteries, carpet, electronics, mercury containing lamps, and paint.

As a follow up to this process CalRecycle is working to develop a scientifically-based method of analyzing products that is specific to California conditions which will focus on those products with the greatest potential for realizing environmental benefits under a product stewardship approach. This methodology will be used to implement a cost-effective and environmentally sound approach to product life-cycle management in support of the framework. CalRecycle is working with the University of California and results are expected in several phases over the next year or two. California's project builds on recent efforts to identify categories of products with high environmental impact by both the European Union EIPRO (Environmental Impacts of Products) study as part of the EU's Integrated Product Policy initiative, and the US EPA ("2020 Vision" and report, "Sustainable Materials Management: The Road Ahead").

Minnesota

The 2008 legislature directed the Minnesota Pollution Control Agency (MPCA) to develop recommendations for establishing a comprehensive product stewardship approach to reducing environmental and health risks posed by the use or disposal of products. The recommendations were required to include a set of criteria to be used to evaluate products proposed for product stewardship solution. The January 2009 Product Stewardship Recommendations report included the following questions and criteria to be considered in designating covered products or covered product categories:

Does the product present adverse environmental and public health impact including:

- impacts on public and/or environmental health
- presence of toxic and hazardous constituents
- opportunities for reducing waste and toxicity

Does the product have potential for enhanced resource conservation including:

- climate change impacts and benefits
- potential for energy conservation
- potential resource recovery and material conservation
- opportunities for increasing reuse or recycling, recycled content, and design for reuse or recycling
- potential to act as a contaminant in solid waste management programs

Does the product significantly burden government solid waste programs and/or offer business opportunities including:

- management costs to governments, taxpayers, and solid waste ratepayers
- difficult to manage in traditional recycling collection and other standard solid waste management systems
- opportunities for existing and new businesses and infrastructure to manage products or product categories
- level of collection/recycling infrastructure currently in place
- opportunities to increase markets for materials
- willingness of potential partners
- success of other stewardship programs in other jurisdictions

Minnesota considered whether the criteria should be prioritized, screened, or weighted but there was a lack of consensus as to whether that would provide an enhanced level of guidance. Using the product selection criteria, the MPCA biennially will submit a recommended list of products or product categories to the legislature for consideration under the product stewardship program based on the applicable criteria, describing why the products or products were recommended for legislative consideration. The MPCA's recommendation suggests a role for the agency in recommending products but leaves the actual designation of products to the legislature.

Canada

Throughout Canada there are dozens of product stewardship programs, primarily developed and operated at the provincial level. Since the provincial programs were developed to meet regional needs, the Canadian Council of Ministers of the Environment (CCME) is working to harmonize product stewardship program through the **Canada Wide Action Plan for Extended Producer Responsibility**. The 2009 Action Plan's objective is for jurisdictions to work towards EPR framework legislation and/or regulations for two phases of products and materials and provides a tool to prioritize products. Phase 1 includes packaging, printed materials, mercury containing lamps, other mercury-containing products, electronics, household hazardous wastes, and automotive products. Phase 2 includes construction and demolition materials, furniture, textiles and carpet, and appliances.

The CCME Extended Producer Responsibility Product Evaluation tool was designed to be used by decision makers across Canada to assist in the prioritization of candidate products. This evaluation tool can be used for a single candidate product (or a family of related products) to determine whether product stewardship is a suitable program option or a list of possible candidate products (or families of related products) to help prioritize and determine which is best suited.

This Excel tool uses a three step process:

- 1- Review the criteria and determine the relative weight assigned to each. The criteria fit in three categories: environmental impacts, extended producer responsibility and public/political readiness.
- 2- Select candidate products/categories
- 3- Evaluate each candidate product or product category.

The criteria include:

- Does the product, or its components or byproducts, contain toxics or otherwise hazardous substances to the environment or human health?
- Is the anticipated duration of the environmental or human health effects likely to be significant?
- Are reductions in greenhouse gas emissions possible if the product were managed through an EPR program?
- Is this product a significant component by volume to the municipal wastestream? *or* Is this product a significant component by weight to the municipal wastestream?
- Is this a wasted resource that is not currently recycled, reused or otherwise marketed?
- Is this a nuisance product in terms of: litter; curbside collection or other infrastructure difficulties; or are there problems marketing the collected product?
- Are similar products managed under an EPR system?
- Is it possible that an EPR program for the product could stimulate product redesign (Design for Environment) to reduce material and resource usage, nonhazardous and hazardous waste generation, and toxics usage?
- Is there public support for an EPR system for this product?
- Could producers be ready to implement an EPR system for this product?
- Is there political interest in a program?

Product Selection Processes

Generally, there are two primary methodologies used to select products or product categories. Either an agency or other entity recommends products to its legislature for possible legislation on a product-by-product basis or the legislature sets a framework and delegates product selection to a state agency. The authority for designating which products could rest primarily with the legislative branch, the executive branch, or to both branches through a coordinated process. Alternatively legislation may identify an initial schedule of products to come under regulation with products selected later according to established selection criteria process. Regardless of the methodology it seems clear that there is a need for a consistent approach that can be applied to multiple products.

In the model with strong legislative authority, programs rely on the legislature to determine which product(s) to include. This approach could include a system for products to be prescreened as in the Oregon framework bill, Minnesota's recommendations, and the Maine framework law, or could be responsive to bills that appear in each new legislative session. The later is the status quo and likely reflects stakeholder concerns about being involved in the selection of products.

Alternately a model with strong executive authority would rely on an agency to determine which product(s) to designate through regulation. The legislature would delegate the authority and either establish criteria in statute or grant authority to set the criteria in regulation. This approach would take advantage of agency expertise regarding mitigating environmental hazards. It would allow the agency to more rapidly respond to public demands and any new circumstances that may arise.

Criteria

There are many criteria that could be used to determine which products or groups of products are selected for product stewardship programs. The list below includes criteria that could be addressed, although it is not meant to be exhaustive or prescriptive, nor is it presented in order of importance. A limited set of criteria may create a more predictable regulatory environment, while a more broadly defined set of criteria might provide greater flexibility to respond quickly to new concerns. It is assumed that all of the criteria will not apply to every product being considered. The criteria have been organized into three categories:

Environmental Impact Criteria

1. Contains and/or uses in production a toxic chemical that is:
 - On DEQ's Toxic Chemical Reduction Strategy Focus List
 - On DEQ's Priority Persistent Pollutant List (SB 737)
 - On another toxic chemical list
2. Impact on human health or environment.
3. Significant greenhouse gas (GHG) emissions
4. Existing or potential problems with illegal dumping
5. Total life cycle net environmental impact

Potential for Environmental Improvement

6. Potential for reducing use/release of toxic chemicals.
7. Potential for significant GHG emission reductions.
8. Potential for significant upstream environmental improvement
9. Potential to reduce waste generation (total volume being disposed and recycled)
10. Potential to increase reuse, recycling, or recycled content.
11. Potential for a PS program to stimulate product redesign to reduce material and resource usage, solid or hazardous waste generation and toxics usage.

Political/Other

12. Management cost to governments, taxpayers, ratepayers
13. Difficult to manage in traditional solid waste system.
14. Business opportunities (economic development)
15. Market development opportunities
16. Willing partners
17. Appears on priority list in another state/province.
18. Successful programs in other jurisdictions
19. Level of market/infrastructure in place.
20. Effectiveness of programs currently in place (including voluntary)
21. Usage trends (increasing, decreasing, static)
22. Readiness of producers to implement a system

Questions for Discussion

- What process should be used to select products?
- What is the role of the legislature?
- What is the role of DEQ?
- Which criteria are most important for selecting products/materials?
- Which criteria are less important?
- Should products be selected individually or in groups?
- How do you maintain flexibility to seize opportunities?
- How do voluntary programs fit into the use of criteria and the selection process?
- Is a framework approach necessary to select products systematically?
- Are there products that stand out for consideration?

The following reports and websites were used as references:

- ASTSWMO Product Stewardship Framework Policy Document 2009
http://www.astswmo.org/files/resources/sustainability/ASTSWMO_Product_Stewardship_Framework_Policy_Document-Dec2009.pdf
- Minnesota Pollution Control Agency Recommendations Report
<http://www.pca.state.mn.us/oea/stewardship/study.cfm>
- Canadian Council of Ministers of the Environment (CCME) Extended Producer Responsibility Product Evaluation Tool-User Guidance
http://www.ccme.ca/assets/pdf/pn_1397_epr_guidance_manual_e.pdf
- CIWMB Board Meeting January 23, 2008 Attachment 1 (from CalRecycle website)
- CIWMB Board Meeting September 19, 2007 Attachment 3 (from CalRecycle website)
- CIWMB Board Meeting December 15, 2009 Attachment 1 (from Cal Recycle website)
- Sustainable Materials Management: The Road Ahead (June 2009), US EPA.
- Oregon Waste Policy Leadership Group, January 2001 Report
- Product Stewardship in Canada: Legislative Framework of Provincial Programs (October 2009), Northwest Product Stewardship Council
http://www.productstewardship.net/PDFs/policies/NWPSCCanadianPSPPrograms10_09.pdf
- A Comprehensive Product Stewardship Approach for Rhode Island: Study and Recommendations, Draft Report prepared by Product Stewardship Institute, (2010)
http://www.productstewardship.us/associations/6596/files/PSI_DRAFT_RI_Framework_Report_3-22-10_For_Comment.pdf