



Update on Electronics Product Management April 8, 2003

This paper provides a brief overview of electronics management in Europe and the United States. Due to the passage of legislation in Europe, demand has accelerated in the U.S. for a similar solution. The Product Stewardship Institute (PSI) will provide periodic updates on trends and emerging issues related to electronics management on its website: www.ProductStewardship.US. In addition, PSI will continue to manage its electronics list serve that is currently restricted to government participation, and will soon add a second electronics list serve for all interested parties.

European Systems

Product stewardship is a revolution in waste management policy that seeks greater accountability from manufacturers and retailers in reducing the health and environmental impacts of consumer products along their entire life cycle – from product design through disposal. This trend was sparked by necessity in Europe, where concentrated populations, limited landfill space, and high government costs combined to overwhelm traditional management systems. Discovering that electronic waste was growing three times faster than any other waste stream, it was quickly added to the list of materials for which manufacturers and retailers were held accountable. Passed into law in January 2003, the Waste Electrical and Electronic Equipment (WEEE) Directive seeks to divert electronics from landfills and incinerators, and encourages environmentally sound reuse and recycling. Beginning August 13, 2005, producers of electronic products are required to finance and implement strategies to achieve a 4kg/person/year collection goal, manage wastes according to stricter standards, and achieve specified recycling rates for recovered materials. Retailers are required to take one old product for each new product purchased.

Accompanying the WEEE Directive is the Restrictions on Hazardous Substances (RoHS) directive that would prohibit the sale, after July 1, 2006, of any equipment (with a few noted exceptions) that contains mercury, lead, cadmium, hexavalent chromium, and brominated flame retardants (PBB and PBDE).

Using the WEEE and RoHS directives, member nations of the European Union must now implement strategies to achieve compliance. In the Netherlands, Switzerland, Japan, and other countries, manufacturers have developed Producer Responsibility Organizations (PROs) to collectively recover and manage used electronics. These corporations run these nationwide systems like businesses, seeking the most efficient ways to achieve goals. Those working on product stewardship in the U.S. are watching the PROs to learn from their early experiences. PSI will soon develop a summary of the WEEE and RoHS policies on its website. For now, information on WEEE and RoHS can be found at http://europa.eu.int/eur-lex/en/oj/2003/l_03720030213en.html.

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NEPSI

The National Electronics Product Stewardship Initiative (NEPSI) is pursuing a national shared responsibility solution to electronics management. Momentum for the NEPSI dialogue grew from PSI's Product Stewardship Forum held in December 2000, as well as prior initiatives by state and federal agencies, and regional organizations. The first NEPSI meeting took place in June 2001 following six months of informal discussions. NEPSI is now a formal dialogue involving over 45 representatives from state and local government, U.S. EPA, electronics manufacturers, recyclers, and non-governmental organizations. PSI coordinates input into the dialogue from 26 states and several dozen local governments. Over the past two years, NEPSI has held five full group meetings, five small group meetings, and numerous subcommittee meetings. The deadline for a final NEPSI agreement has been postponed several times, and a meeting is now scheduled for June in Seattle, with a backup date of September, to reach an agreement on system financing. Even with a financing agreement, additional meetings will be required to develop a consensus on a comprehensive agreement.

NEPSI members are currently discussing the following three financing models for a national system. Each of the systems is subject to further change.

1. **Advanced recycling fee (ARF):** An ARF is a visible fee paid by the consumer at the retail level that would be imposed on every computer system and television sold. The fee would be deposited into a national trust fund to be used to develop the collection and recycling infrastructure. A third party organization (TPO) would manage the system, with the federal government providing oversight.
2. **Partial Cost Internalization (CI):** A Partial CI system would hold manufacturers responsible for internalizing costs to transport used products from consolidation points across the country to processing centers, and to process the materials. Costs to collect and transport to consolidation points would have to be covered by retailers, government, and/or other entities. Cost internalization could provide an incentive for manufacturers to design better products.
3. **Hybrid:** A Hybrid system would impose an ARF that phases out over time to become a Partial CI system. The ARF would jumpstart the system and target historic wastes (old products sold without fees attached) and orphan wastes (old products from companies no longer in business). Products sold from a specific date forward would have the cost to collect, transport, and process that product internalized into the purchase price. Manufacturers would eventually manage the system, perhaps through a TPO.

NEPSI subcommittees are meeting weekly to resolve key issues, including:

- ? How can the system accommodate manufacturers who want to manage their own products rather than join a collective system? Some costs (e.g., education, orphan products, collection, reporting) might be better accomplished through a collective process.
- ? How can the system influence more environmentally responsible design of products if wastes are handled collectively?
- ? What standards should be developed for managing used materials (e.g., ensuring safe processing, the use of prison labor, and phasing out hazardous components)?
- ? How are ARF fees set and adjusted? Should one fee apply to all products, or are fees varied by type and size of product?

- ? Who pays the fee into the fund – the manufacturer or retailer – and should it be invisible or visible to the consumer?
- ? Who pays for the costs of collecting historic and orphan products, and how are “free riders” eliminated?
- ? What is the base level of service that should be provided through a national system to ensure consumer convenience and reach system goals?

As the NEPSI process continues, it is uncertain whether it will conclude with consensus around one national system. Over the past two years, manufacturers have initiated their own collection and recycling programs. NEPSI government representatives believe these programs are a good interim step to providing consumers with an opportunity to have their old equipment collected and recycled, and may play a role in a more comprehensive final solution. However, government officials strongly oppose these end-of-life fees as the sole final solution because they will increase illegal dumping and limit recovery rates.

State Legislation

State and local governments in the U.S. have neither the existing infrastructure nor the necessary funds to properly manage used electronic products. Concerned that the NEPSI process was moving too slowly to meet increasing constituent pressures, many states began to seek a more immediate solution. In 2002, over 50 state electronics bills were introduced in the U.S., ranging from disposal bans on cathode ray tubes (the picture tubes in TVs and computer monitors that contain lead) to requiring manufacturer take-back of electronics. Many of these bills have been reintroduced in the 2003 legislative session, and new legislation has appeared in additional states. Currently, nearly 30 bills have been introduced in over 19 states. As a result of administrative and legislative inquiries about the type of electronics management system they would recommend, PSI's state and local government members asked the Institute last fall to assist in developing model state legislation.

PSI Model Legislation: With extensive input from state and local government representatives, PSI has begun to draft model legislation that incorporates many of the concepts discussed in the NEPSI process, as well as those in place in Europe, Canada, and Asia. To meet the diverse needs of the states, PSI decided to develop three “archetype” model bills that reflect the three alternative approaches that its members would like to pursue. PSI expects that these models will be used as a resource in the states and that, based on their own local conditions and creativity, other versions of legislation will appear. These state model bills are written so that, if the NEPSI dialogue were to reach an agreement, the state bills could be pre-empted, allowing a truly national, consistent solution to take place.

Of PSI's three models, one has been completed, while the other two are in the advanced draft stage. **Model A**, the one completed, would place responsibility on manufacturers to provide collection systems, transportation, processing, and management for end-of-life consumer electronics. **Model B** would establish an advanced recycling fee to be deposited into a trust fund managed by a private corporation, while **Model C** would establish an advanced recycling fee managed by the state.

PSI Model A: Performance Goals

Model A is the least prescriptive by government and the most like European systems. It would require manufacturers to provide consumer education, collection, transportation, and processing for used computers and televisions. The collective system must recover 2 pounds per capita and recycle 65% of recovered materials within 4 years. Individual manufacturers are responsible for managing their market share of this targeted amount or joining a collective system. The formation of a third party organization (TPO) to fulfill requirements for all manufacturers is authorized and encouraged. Manufacturers can recover costs for the system in a variety of ways, and are assured anti-trust immunity for doing so.

In this model, the state would evaluate and approve manufacturer plans, enforce against free riders, impose landfill disposal bans on unprocessed electronics, and keep the legislature and public informed on the system progress. With input from a multi-stakeholder advisory committee, the state could add products to the system, and adjust recovery and recycling goals. It is expected that goals will expand as the system and technology improve.

PSI Model A, or parts of it, are reflected in the 2003 bills introduced in Florida, Maine, Massachusetts, Minnesota, and Washington. California's emerging legislation is also expected to incorporate parts of this model.

PSI Model B: Third Party Organization

Model B is in late draft stage and would impose an ARF on used computers and televisions, paid by consumers to retailers, who would then deposit it into an Electronics Trust Fund. A corporation would be established by legislation to develop and manage the state system. The governor would appoint the corporation's board of directors, which would be representative of state and local government, manufacturers, retailers, environmental organizations, and the waste management industry. The corporation would authorize contracts and expenditures from the trust fund, and would report to the state. Portions of PSI Model B are reflected in 2003 legislation from Florida, Texas, and Washington. Precedents for similar systems are found in state environmental trust funds.

PSI Model C: Advanced Recycling Fee

The final model – Model C – reflects a more traditional ARF system, with fees imposed on the sale of computers and TVs to consumers, and collected by the state from retailers or manufacturers. The fees would be deposited into a recycling fund or state-controlled trust fund, and used by the state to establish education, collection, and processing systems. States with proposed legislation reflecting Model C are Nebraska, North Carolina, Oregon, and South Carolina. A national bill introduced by Senator Thompson (D-CA), would place an ARF on computers, and would establish a new grant and market development fund managed by the U.S. EPA.

PSI Continued Efforts

There are over 30 state electronics bills in the 2003 legislative session that PSI is tracking with great interest, and will comment on these bills when requested. We will continue to update the state legislative summary on the PSI website, which will soon include detailed methods that states can use to forecast their own costs for proposed electronics recovery and recycling systems. PSI has also submitted an exciting proposal to a major retailer to develop a pilot program that would measure costs for a retailer take-back program. Retailer take-back is promoted in Europe and has been discussed in NEPSI, but there are no cost data on using reverse distribution systems. Finally, PSI intends to facilitate discussion to develop national standards for electronics recyclers, and will seek to identify best management practices that exceed regulatory compliance and address concerns about export markets and worker health and safety.

Mission of the Institute

The Product Stewardship Institute assists state and local government agencies in establishing cooperative agreements with industry and developing other initiatives that reduce the health and environmental impacts from consumer products. The Institute seeks out the active input from, and cooperates with, environmental groups, business interests, academic institutions, the federal government, and related organizations to achieve product stewardship goals.

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