PRODUCT STEWARDSHIP

THIS PRINCIPLE—WHICH FOCUSES ON THE MANAGEMENT OF END-OF-LIFE PRODUCTS—IS ENTRENCHED IN EUROPE AND GAINING GROUND IN THE UNITED STATES. WHY SHOULD YOU CARE? BECAUSE IT POSES POTENTIAL BENEFITS AND DRAWBACKS FOR SCRAP RECYCLERS.

BY JONATHAN V.L. KISER

Product stewardship is a term that's becoming increasingly familiar to U.S. manufacturers, policymakers, and scrap recyclers—but what is it precisely, and what does it mean for the scrap industry?

In short, product stewardship is a principle that "directs all those involved in the lifecycle of a product to take responsibility for reducing the health and environmental impacts that result from the production, use, and disposal of the product," says the Product Stewardship Institute (Lowell, Mass.).

Product stewardship is not a new trend, though it has been a high-profile issue only within the past 20 years, especially in Europe. In 1991, for instance, Germany issued an ordinance requiring companies to take back packaging from consumers and recycle a specified amount. By 1994, this packaging directive—known as the Green Dot system—had been adopted by the entire European Union.

Over time, the take-back concept evolved into the principle of extended producer responsibility, which makes manufacturers bear most or all of the burden for reducing the environmental impact of their products. Product stewardship, in contrast, is a broader, more collaborative principle that

seeks results from multiple stakeholders, such as manufacturers, retailers, consumers, recyclers, and government entities.

Unlike the EU, the U.S. government hasn't adopted any directives on product stewardship or extended producer responsibility, in part due to opposition from manufacturing groups and in part due to the sovereignty of the states in waste and recycling matters. As a result, such efforts in the United States have been primarily voluntary thus far—though that could change.

Product stewardship is also nothing new to ISRI, which has promoted the concept for years through its Design for Recycling® initiative. As the name suggests, Design for Recycling asks manufacturers to reduce hazardous and nonrecyclable materials in their products so the products can be safely and efficiently recycled at the end of their useful lives.

Currently, ISRI is advancing the DFR concept through a task force under its government relations committee. Last year, the task force decided to promote an ISRI Recyclability Standard that would measure and rate consumer goods based on their recyclable content and ease of recycling in the same manner as the well-established Energy Guidelines for appliances. For years, ISRI has also promoted Design for Recycling in the automotive industry, including its current battle over mercury-containing switches.

As these and other developments show, product stewardship and extended producer responsibility are gaining ground in America, with both positive and negative implications for the scrap recycling industry.

AN ELECTRONICS FOCUS

Currently, the majority of product stewardship activities in the United States center on electronic products. This makes sense for several reasons:

- Electronic products have traditionally not been designed for recycling;
- The amount of electronic products in the market has skyrocketed, making their subsequent end-of-life issues a growing concern for states (especially since these products can contain potentially hazardous materials such as lead, cadmium, and beryllium); and
- As relatively new entrants to the recycling market, electronic products lack the established recycling infrastructure that captures other industrial and postconsumer recyclables.

The EU addressed electronic scrap concerns by imposing the Waste Electrical and Electronic Equipment (WEEE) directive, which sets criteria for the collection, treatment, recycling, and recovery of electrical and electronic "waste."

While the U.S. government is unlikely to pass a similar directive, there have been some legislative moves on the federal level. In 2003, for instance, Congress considered HR 1165, the National Computer Recycling Act, which sought to establish a federal computer recycling system. Though that act was not enacted, similar legislation could be introduced in future congressional sessions.

Also, the U.S. Department of Commerce held a panel last September to discuss issues related to electronics recycling. The panel included ISRI as well as U.S. EPA, electronics manufacturers and retailers, and nongovernmental organizations. This discussion—as well as comments submitted afterward by various stakeholders—provided the foundation for a planned Department of Commerce report to the 109th Congress on electronics recycling in the United States. This report could provide background for possible federal government action on this issue in the future.

Aside from these federal government efforts, U.S. states have been extremely active regarding end-of-life electronics. In 2003 alone, state legislatures reportedly introduced more than 50 electronics-related bills that touched on manufacturer take-back requirements, disposal bans on cathode-ray tubes (CRTs), and mandated toxicity reductions in electronic components.

Last April, Maine adopted what some called the nation's first extended producer responsibility law for the recovery and recycling of used electronics. The law establishes a statewide system for collecting used electronics and transferring the products to "environmentally sound" recycling facilities. The program will initially receive funding from a $6 fee charged on all television sales in Maine, starting January 2006, with computer manufacturers responsible for the costs of their branded units. By 2012, television and computer manufacturers are expected to cover all program costs.

California has also been out front on this issue, passing laws last year mandating the recycling of CRTs and

Most product stewardship activities in the United States focus on electronic products, in part because the amount of such products in the market has soared, making their subsequent end-of-life issues a growing concern for states.

cell phones. Under the CRT law, expected to take effect in January 2005, California will charge consumers a fee ranging from $6 to $10 for each computer monitor, television, or other display device based on monitor size, then pay recyclers 28 cents a pound to safely handle the obsolete devices. Regarding cell phones, California retailers will be required, starting July 2006, to offer containers or other methods for recycling wireless telephones at no charge to consumers.

In response to this growing trend, electronics manufacturers and retailers have been taking voluntary steps toward product stewardship. Hewlett-Packard Co. was a trailblazer in this niche, partnering with one of the first electronics recycling operations (formerly named Micro Metallics Corp., now Noranda Recycling Inc.) long before other computer manufacturers. The company has taken other steps as well, such as joining Office Depot to offer what it called the first free, nationwide in-store electronics recycling program that allowed customers to drop off any brand of old electronics. The program—which ran from July 18 to Sept. 6, 2004—covered computers, printers, monitors, televisions of certain sizes, cell phones, and more, with all recovered electronics being sent to HP recycling facilities. The company plans to recycle 1 billion pounds of electronics and printing supplies by 2007.

Not to be outdone, Dell Inc. has held its own computer recycling events around the country and offered a home pickup service for old electronics, charging customers $15 for pickup of any computer unit. Dell has also been providing $10,000 grants to organizations to hold computer recycling events in their communities, among other activities.

AN INVOLVED ISRI

Recognizing the growing electronics recycling niche, ISRI established an Electronics Recycling Council in 2002, which has developed definitions and specifications relating to end-of-life electronic products. Such specifications "help facilitate and define each step of the electronics recycling process," notes John Hayworth, ISRI's director of environmental management. ISRI has also been reaching out to the electronics manufacturing industry to promote the Design for Recycling concept. In addition, the association has been helping its traditional scrap recycling members learn about electronics recycling since hundreds of them currently handle electronic scrap as either a sideline or main part of their recycling business.

Electronics aside, ISRI has faced its biggest product stewardship challenge in the automotive sector, specifically regarding automotive mercury switches (commonly used in convenience lights and antilock brake systems). In this battle, ISRI teamed with industry and environmental groups to form the Partnership for Mercury-Free Vehicles, and it has taken its case directly to various state legislatures to seek a resolution.

Toward that end, the partnership drafted model legislation in 2002 that would require the removal of mercury-containing switches from end-of-life vehicles (ELVs) prior to recycling. It also included requirements for auto manufacturers to Design for Recycling, among other provisions.

This model legislation was first introduced in Maine, where the state legislature voted in 2002 to require automakers to remove—or pay for the removal of—mercury-containing components from ELVs prior to recycling. Despite challenges from the automotive industry, Maine's mercury-switch law was enacted in July 2002 and was upheld by a U.S. District Court judge in February 2004. The Maine law increased pressure on U.S. carmakers to stop using mercury switches beginning with their 2003 models. The ongoing issue, however, is how to properly manage the mercury switches in older-model vehicles that continue to enter the recycling stream.

Through the partnership, ISRI is working to advance the issue and the model legislation in other states—notably Massachusetts, New Jersey, Pennsylvania, and Illinois. Progress is being made. Last November, for instance, Pennsylvania signed a Memorandum of Understanding with several groups—including ISRI—to implement the Pennsylvania Mercury Automobile Switch Removal Program. This program's goal is to recycle 600 pounds of mercury in the next two years in Pennsylvania through the removal of mercury-containing switches in ELVs.

THE SCRAP ANGLE

There's no doubt that the product stewardship ethic is here to stay, but what does it mean for scrap recyclers?

On the plus side, product steward-

Automotive mercury switches (such as those at left) are used mostly to turn on convenience lights in a car's trunk or hood. They are also found in antilock brake systems. On average, such switches contain a gram of mercury.

ship could open up new business niches and opportunities for processors. After all, any new product that enters the recycling stream becomes fair game for enterprising scrap operators. For instance, many traditional scrap recyclers have been accepting electronic scrap to process themselves, resell to specialized electronics processors or brokers, or export.

Also positive, product stewardship could increase the volume of material destined for scrap facilities. This volume could come from formerly unrecovered products as well as from greater dismantling of existing scrap items, which could create two or more streams from material that previously generated one stream. "This could come in the form of higher scrap capture rates resulting from additional processing steps being added," notes Frank Bernheisel, vice president of Gershman, Brickner & Bratton, Inc. (Fairfax, Va.), a solid waste management consulting firm.

On the positive side, product stewardship could increase the volume of material destined for scrap facilities.

A potential downside is that scrap processors could be left out of the product stewardship loop. If manufacturers are required—or feel obligated—to manage their end-of-life products, they could opt to:

- work with companies outside the scrap industry—such as traditional waste management firms;
- acquire, merge with, or form exclusive alliances with one or more existing scrap operators, limiting the opportunities available to the general scrap populace; and/or
- start their own reclamation operations.

On this last point, many scrap recyclers question why manufacturers would make major investments in their own processing equipment and infrastructure when they could easily tap into the existing scrap processing network. "Why recreate the wheel?" they ask.

In Europe, auto manufacturers have indeed opted to work with the existing scrap infrastructure rather than start their own operations, notes Scott Horne, ISRI's general counsel/vice president of government relations, who hopes that U.S. manufacturers would follow the same course. "By tapping into the existing scrap processing infrastructure, costs are minimized, material handling efficiency is maximized, and the marketplace balance is maintained," he says.

The growing push to recycle end-of-life electronics has even pitted for-profit recyclers against public-sector competitors. The most notable exam-

ple involves Federal Prison Industries, a branch of the U.S. Department of Justice, which has recycled electronics for Dell and the state of California in the past and which continues to do so for other entities. This raises the question whether product stewardship could create other public-sector competitors to scrap firms in the future.

For scrap recyclers, another important concern regarding product stewardship is that it could skew the supply-and-demand fundamentals of certain markets by driving the collection of material far ahead of market demand. The paper industry learned this the hard way back in the 1980s, notes Scott Horne. At that time, a surge in curbside collection of newsprint created a market glut, and "it took the market infrastructure several years to catch up." The lesson, Horne notes, is this: "If you legislate supply without sufficient demand, you will create a major problem."

NO SILVER BULLET

Looking ahead, several thorny questions must be addressed before product stewardship efforts can truly succeed in the United States.

One such question is: Who should pay for product stewardship? Some suggest that consumers should pay through some type of advance recycling fee on targeted products. Others counter that manufacturers should be responsible for financing the collection, transportation, recycling, reuse, and/or disposal of their products as a regular cost of doing business. Still others feel that the government—state and/or federal—should pay.

Another question is: Who should take the lead on product stewardship—industry or government? One view says that manufacturers should be responsible for managing the entire lifecycle of their products, from production through reuse, recycling, or disposal. Others see the situation as a "waste" management issue for the states, while some say it's a national issue that needs direction from the federal government.

While states can arguably provide closer scrutiny and better overall management of end-of-life product issues within their borders than the federal government, the reality is that state and local budget deficits and more-pressing fiscal priorities leave recycling and product stewardship programs vulnerable for the cutting floor.

For that and other reasons, some say a national resolution is needed. "Since there is no federal law, we're facing the specter of a state patchwork of product stewardship laws as the fall-back reality," says Michele Raymond, owner of Raymond Communications (College Park, Md.) and a specialist on take-back issues. "This is too bad since a lot of economies of scale could be realized through a federal program."

Others maintain that product stew-

ardship has to be implemented on a national level to ensure fairness in the marketplace—so those companies that take the initiative aren't at a competitive disadvantage to those that hang back seeking a "free ride."

Another thorny question is whether product stewardship initiatives—at the state or federal government level—should be voluntary or mandatory? Offering one view, David Wood, executive director of the GrassRoots Recycling Network (Madison, Wis.), says "experience has shown that mandatory extended producer responsibility programs, enforced by regulation, are more effective than voluntary programs at making meaningful change."

History has shown, though, that U.S. businesses strongly resist mandates, and it's likely they'll continue to do so. While Europe will provide a good example of the pros and cons of mandatory directives, what works there may not work in the United States due to the cultural, political, and geographic differences between the two nations. Recognizing the general problems of mandates, ISRI has traditionally sought to encourage Design for Recycling as a voluntary program.

"A lot of public education is necessary to move product stewardship forward in the United States."

—PAT FRANKLIN

One option would be to first establish voluntary recycling/reuse goals for various industries over a three-year period, allowing them to achieve the goal through their own initiative and creativity, offers Pat Franklin, executive director of the Container Recycling Institute (Arlington, Va.). If the goals aren't met by the specified deadline, then a mandate would kick in.

Obviously, there's no silver-bullet solution regarding product stewardship. "A lot of public education is necessary to move product stewardship forward in the United States," asserts Franklin. "The whole concept is not well-known or understood by the general public, and success will come when the public understands who is paying for waste generation."

Perhaps, as the definition of product stewardship suggests, the answer must be a collaborative effort by all stakeholders, including all levels of government, manufacturers, retailers, consumers, and—last but not least—scrap processors.

Jonathan V.L. Kiser is a Harrisonburg, Va.-based principal associate with Gershman, Brickner & Bratton, Inc. (Fairfax, Va.), specializing in waste management, recycling, and environmental assessments.