

United States
Environmental Protection
Agency

EPA530-K-98-004
December 1998
<http://www.epa.gov>

Solid Waste and Emergency Response (5306W)

Extended Product Responsibility



A Strategic Framework for Sustainable Products



United States
Environmental Protection Agency
Washington, DC 20460

Official Business
Penalty for Private Use \$300

 *Stay on the cutting edge with
Extended Product Responsibility.*

 *Work with designers, suppliers, and customers to
reduce environmental impacts and save money.*

 *Appeal to the growing ranks of "green" consumers and
watch your sales grow!*



Printed on paper that contains at least 20 percent postconsumer fiber.

Extended Product Responsibility

EXTENDED PRODUCT RESPONSIBILITY, AN EMERGING ENVIRONMENTAL PRINCIPLE, can help businesses spark product innovation, cut costs, and enhance customer loyalty, while growing market share at home and abroad.

Making Product Systems a New Focus

Worldwide demand for more complex products, coupled with the challenge of sustainable development, highlights the limits of traditional environmental protection strategies. End-of-pipe emissions controls, and even pollution prevention measures, generally address environmental impacts at individual industrial facilities. But the diffuse impacts from products themselves (whether from obtaining or making raw materials, manufacturing, or product use and disposal) are not fully addressed by these facility-specific strategies.

A new emphasis on “greening” product systems is emerging as a means to advance pollution prevention and resource conservation in a more holistic and global fashion. This thinking is having powerful implications in the global marketplace. One manifestation is the growing trend in Europe to mandate producer takeback and recycling of products at the end of their useful lives. This approach, known as “extended producer responsibility” is intended to reduce waste, boost recycling, and drive environmentally conscious design. Some Asian countries, as well as several Canadian provinces, are implementing or considering producer responsibility mandates as well.

In the U.S., a different concept is taking hold. “Extended *product* responsibility” recognizes that manufacturers have considerable ability to reduce the life-cycle impacts of their products. However, it also recognizes that lasting and substantial environmental improvements in product systems can only occur with the combined expertise, ingenuity, cooperation, and commitment of all the actors in the product chain—from suppliers, designers, manufacturers, and distributors to retailers, customers, recyclers, remanufacturers, and disposers. While reducing

end-of-life product waste is an important part of extended product responsibility (EPR), identifying other important life-cycle environmental impacts of products, such as energy efficiency, is also integral to the concept. In this sense, EPR applies a life-cycle approach to “greening” product systems.

EPR is related to several familiar environmental policies and trends—pollution prevention, design for the environment, “greening” the supply chain, product stewardship, eco-efficiency, and sustainable development. What distinguishes EPR from these concepts is its focus on product systems and engaging all players in the product chain. EPR is a means for making product systems sustainable.



Consumers and Governments Are Also Critical Players for EPR

In keeping with the principle that responsibility is “shared,” EPA is promoting actions that different players in the product chain can take to reduce the environmental impacts of products. Examples include giving consumers better economic signals to reduce waste through variable rate pricing for garbage disposal and working to ensure that governments buy environmentally preferable products and reduce regulatory barriers to recover products at the end of their useful lives.

Why Should My Company Consider EPR?

Many companies have realized important product improvements—enhanced reliability, performance, and energy efficiency—by applying EPR. By bringing more value to customers through greener products, companies can earn greater customer satisfaction and loyalty. In addition, reducing toxics in products helps reduce potential future environmental liabilities.

EPR also can save companies money through increases in efficiency and recovery of previously wasted materials. Many major manufacturers are realizing that, in the long run, it is more efficient to reuse certain



*Ford Motor
Company's
bumper take-back
program saves about
\$2 million each year.*


components and recapture the value added during the original manufacturing process. For example, *Xerox Corporation* created its Asset Recycle Management program to take back used products for remanufacturing, conversion, or disassembly and saved over \$50 million in the first year. The *Ford Motor Company* estimates that its plastic bumper take-back program, created to recycle old bumpers into new bumpers, saves about \$2 million each year.

Finally, many U.S. companies already practicing EPR are responding in part to initiatives in Europe, Asia, and other critical international trading regions. For the global marketplace, EPR is becoming a passport for doing business.

How Does EPR Work?

For manufacturers, the essence of EPR is taking on responsibility and addressing the environmental impacts of their products where they have not done so before. This can include rethinking the very concept of the product (e.g., selling a service rather than a product); exploring new methods of product delivery; creating a feed-back loop with customers to drive environmentally sound redesign of products; and closing the product materials cycle and conserving resources by handling end-of-life products as assets. Here are some ways that product manufacturers can make a difference:

Raw materials selection Companies can reduce the amount and toxicity of the raw materials they use and incorporate recycled material into their processes. For example, in addition to its standard raw material performance requirements, *Hewlett-Packard* requires suppliers to address its “E” (for environment) standards, which include meeting minimum plastic recycled content levels and other specific environmental performance criteria.



*Xerox Corporation
saved \$50 million
in the first year of its
EPR program.*

Production impacts Companies can look for opportunities to reduce process wastes, energy consumption, and toxic chemicals used in production. *Nortel* teamed with its main chemical supplier in an innovative “shared savings” approach. The supply contract, based on chemical services provided rather than on the volume of chemicals purchased, contains incentives for both firms to reduce chemical use.

Product use Companies can design their products and services to use fewer resources (including less energy) and generate less waste after the products leave the factory, without compromising cost and performance features important to customers. Instead of simply selling carpets, *Interface Flooring Systems* leases long-term carpet services: the company designs and installs sections of carpet based on an analysis of traffic patterns in customers’ facilities, replaces worn sections as needed (recycling these sections), and periodically recarpetts the entire space using both new and existing carpet.

Recycling and reuse Products can be designed for recyclability and/or easy disassembly for repair, reuse, upgrading, and remanufacturing. To improve the recyclability of its refrigerators, *Frigidaire* consolidated several types of plastic into a single polycarbonate—improving reliability at the same time.

Products at end-of-life Companies can take products back for recycling or remanufacturing or establish themselves as a market for secondary materials collected by others. In 1995, members of the rechargeable nickel-cadmium battery industry established the *Rechargeable Battery Recycling Corporation (RBRC)*. Joined by over 28,000 retailers, the RBRC launched a nationwide industry-funded recovery system to take back and recycle nickel-cadmium batteries.



*After developing
a new recycling
technology, DuPont Films
now collects and recycles
used PET film from
retailers nationwide.*

As these examples illustrate, EPR means creating partnerships between manufacturers, suppliers, waste handlers, and customers to collectively improve the environmental performance of products. A number of U.S. companies are leading the way to sustainable product systems by incorporating the whole vision of EPR—applying its principles to all stages of the product life cycle.

Visit www.epa.gov/epr for more details on EPR worldwide.

To realize EPR in practice, companies must commit to weaving the EPR principle throughout the entire organization—starting from the top. Corporate leaders must promote this new vision and signal their willingness to consider innovative product strategies and nontraditional relationships with other players along the product chain.

There is no “one-size-fits-all” EPR solution appropriate for all product systems. Look for ways to implement this principle that make environmental and economic sense for your products. Companies are successfully implementing EPR as a strategy for improving product performance and increasing market share. Add EPR to your company’s future vision and realize many of its potential benefits.



EPR and the President’s Council on Sustainable Development
In the 1996 report *Sustainable America: A New Consensus*, the President’s Council on Sustainable Development (PCSD)

pointed to extended product responsibility (EPR) as a way to achieve better resource conservation and pollution prevention at lower cost. This endorsement “constitutes a challenge to the American people to develop models of shared responsibility and demonstrate how these models can be put into effect.” Following the report, a Workshop on Extended Product Responsibility, held in Washington, D.C., underlined corporate America’s growing interest in EPR. With this broad-based support as a backdrop, the U.S. Environmental Protection Agency (EPA) is encouraging America’s top companies to engage actively in EPR initiatives and help accelerate the move toward sustainability.

Are There Mandates for EPR in the US?

There are no federal mandates for product responsibility comparable to the existing or proposed takeback and recycling mandates for packaging, electronics, and other products in Europe. However, some states have EPR-like requirements, such as deposit-refund systems for beverage containers, tires, and used oil. Also, some states require producers to take back some kinds of used batteries and are considering ways to encourage recovery of other products such as electronics.

EPA is interested in steering producers and other players in the product chain voluntarily toward EPR. EPA has learned that voluntary measures implemented by those most familiar with products and their distribution and use often achieve more environmental improvement at less cost than mandates. Voluntary measures that potentially reduce the need for mandates can have environmental and economic benefits for both business and society as a whole.

Where Can I Find More Information?

For more information on EPR, including how other companies are using this principle and links to related programs, visit our EPR website at www.epa.gov/epr.

The mention of any company, product, or process in this publication does not constitute or imply endorsement by the U.S. Environmental Protection Agency.