After pollution has been prevented at the manufacturing site (see RHWN #112), we will still have the problem of consumer products being discarded. If these consumer products contain toxic materials, their discharge into the environment through landfills or incinerators will damage humans and the environment.

Therefore, the prevention of pollution at the manufacturing site is only a partial solution. Preventing pollution by consumer products is an equally important aspect of the problem. This week, we consider pollution prevention from the viewpoint of consumer products.

One way to prevent pollution is through regulation. For example, some kinds of consumer products could simply be banned. For instance, beverage cans made from metal and plastic (which makes recycling of those cans nearly impossible) could be banned. Plastic packaging that is not biodegradable could be banned. Certain "convenience" items, such as non-refillable cigarette lighters, or disposable plastic cameras, could simply be banned. An alternative to banning such items outright is to lay on a large tax, to drive them off the market by making them expensive.

More subtle product design regulations could be imposed (or encouraged through taxes). For example, the percentage of secondary material used in the manufacture of certain products can be regulated. For instance, the amount of recycled paper in certain paper products, the proportion of recycled glass in glass containers, and the amount of scrap aluminum or scrap steel in new metal items can be specified by regulation. In the extreme case, the use of a virgin material could be outlawed entirely; for example, virgin cadmium could be outlawed, forcing all users of cadmium to adopt recycled cadmium. This would create a market for recycled cadmium and would induce people to recover cadmium, a very toxic metal, rather than dump it.

An alternative is to establish procurement guidelines for local, state, and federal government agencies. For example, if a state government can only purchase recycled paper, this alone creates a substantial market for recycled paper in that state.

The durability of products, extending their useful lifetime, can be encouraged by regulations (or through taxes). For example, requiring unconditional warranty on specified products for specified minimum periods would quickly result in design changes to increase product life. Manufacturers could be charged a fee to pay the administrative and enforcement costs of such a program. There is a precedent for this type of regulation in the federal energy efficiency standards set for certain home appliances. All governments could encourage product durability by including minimum warranty provisions in the purchasing specifications for their own purchases. A danger in imposing product durability standards is that it could force manufacturers to change to more toxic materials (for example, increasing durability by changing from glass to PVC plastic). This danger would need to be addressed specifically in any regulations (not a simple matter).

Regulations can require that products be made reusable. An obvious example is beverage containers, which can be designed to be reusable.

Economic Incentives--Alternatives to Regulation

The simple, familiar bottle deposit can be (and, in a few places, has been) extended to other products, such as automobile batteries, which contain toxic lead. Other products that are good candidates for a deposit are major household appliances, automobiles, automobile tires, automotive lubricating oil, dry cell batteries (which may contain toxic lead, cadmium, and nickel), and containers for pesticides, petroleum products, organic solvents, and some kinds of paints. To work well, such deposits require that consumers be able to return used products easily, and an environmentally safe means of recycling or reusing the products must be developed.

A related, but different, idea is the "product disposal tax." This is a fee charged on a new product when it is manufactured; the fee is to cover the hidden costs of disposing of the product, including long-term costs such as groundwater contamination. The fee would be set larger or smaller, depending on such items as (1) the eventual disposal costs of the product; (2) the amount of waste generated by the manufacture of the product; (3) the environmental impact of disposing of the product and of its manufacturing byproducts.

In principal, the product disposal tax is an excellent way to encourage manufacturers to produce smaller amounts of waste, and less-hazardous products. Products made by the least-polluting methods using the least-polluting materials would carry the smallest disposal tax. Low-pollution products would thus be cheaper to buy and would enjoy an economic advantage over more-polluting products in the marketplace. This would cause market forces to tend to drive pollution out of existence. There is no more powerful force than the market.

Money collected from the disposal tax could be used to fund the tax collectors, enforcement efforts, and research to make sure the taxes were being set properly to penalize the worst polluters the most.

To set such a tax properly, we would need to classify chemicals according to "degree of hazard." High-hazard chemicals would be taxed more than low-hazard chemicals. A simple system, ranking chemicals on a scale of 1 to 3, should suffice to begin with; later the system can be refined. Irving Sax's book, DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS, ranks chemicals by acute (immediate) hazard on a 1 to 3 scale from the viewpoint of workers handling those chemicals. What is now needed is a similar system ranking chemicals according to their environmental impacts and their chronic (delayed) hazard. High-impact chemicals can be taxed heavily, to make them more expensive and thus less popular. [Degree-of-hazard ranking systems are discussed in Joel Hirschhorn, TECHNOLOGIES AND MANAGEMENT STRATEGIES FOR HAZARDOUS WASTE CONTROL (Washington, DC: Congress's Office of Technology Assessment, 1983), pgs. 233-242, 259-261.] It is pathetic that the U.S. government in 1989 still has no hazard ranking system to guide development of waste management policies.

The federal Community Right to Know law (SARA Title III) goes one short step toward the system that is needed. It requires large manufacturers to report discharges of 300-or-so toxic chemicals. If SARA looked at more chemicals, and if it looked at them in relation to the amount of product a facility produced each year, we'd have the necessary information to begin to set a "product disposal tax" for consumer products. This would put the marketplace to work driving toxics out of products, a major step toward preventing pollution.


--Peter Montague

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