

## SUMMARY

There is now a historic opportunity for the United States to improve environmental protection while reducing industry's costs. Applying the concept of prevention to environmental protection is a major change in thinking for nearly everyone. The Federal Government, industry, and environmental interests have not yet committed themselves to preventing rather than controlling pollutants and wastes.

The conventional approach to improving environmental protection is to impose more regulations and enforce them more firmly. Progress has been made, but overall the environmental results of this strategy have been disappointing. Control technologies have failed to perform as expected, and human failures have compounded the problem. For example, it took a long time to recognize that land disposal of hazardous waste is usually not a safe option.

Economically, the conventional strategy increases government spending and adds to the competitive disadvantage of domestic manufacturing industries through high environmental spending. In 1980, for example, capital investments in pollution control by American industries as a percent of gross industrial domestic product was nearly four times greater for the United States than for Japan and France and nearly three times greater than for West Germany. Manufacturing industries in newly industrializing nations such as South Korea and Brazil have an even larger cost advantage because of far fewer environmental regulatory requirements.

OTA finds that a concerted national effort to reduce the generation of hazardous wastes and environmental pollutants at their sources, whether they are regulated or not, is a logical next step in the development of a comprehensive environmental protection system for the United States. According to recent reports by OTA and the Environmental Protection Agency, waste reduction is the acknowledged environmental option of choice and has unique and undisputed environmental and economic benefits. Studies by OTA, EPA, and others have

### **The Reader Is Cautioned To Pay Attention To The Exact Use of Terms In This Report**

Simply put, **waste reduction** always means cutting the generation of hazardous waste to avoid its handling, treatment, or disposal and **waste minimization** always is a broad umbrella term that includes waste reduction, recycling, and possibly waste treatment such as incineration.

As discussed in this report, definitions have policy implications.

found that many waste reduction opportunities remain.

Today waste reduction proceeds slowly—not because of a lack of technology—but because it is inhibited by human, organizational, and institutional obstacles in industry and government. Industry's attention and resources go chiefly to regulatory compliance. As the government presses companies to fix the mistakes of the past, it provides little help to prevent problems for the future. Companies having the worst competitiveness problems are the least likely to be able to examine and implement waste reduction, even though they need it the most. Potential economic benefits are not being understood or captured systematically in industry.

Moreover, recent changes in the Resource Conservation and Recovery Act and Superfund send ambiguous and contradictory messages to EPA and industry about the priority of waste reduction. Use of the term waste minimization, broadly interpreted to include waste treatment, and regulatory restrictions on land disposal are driving capital investments to new waste treatment capacity (e. g., incineration). These can inadvertently restrict waste reduction, which offers better environmental protection at lower costs. Uncertainty about waste reduction and concerns about strains on waste management capacity may lead regulatory officials to relax requirements for hazardous waste facilities.

Can enough waste reduction occur to decrease near-term waste treatment needs? Not always and probably not under present circumstances. Waste reduction can significantly decrease, but not eliminate, the need for waste treatment capacity. More explicit attention to waste reduction can help the public understand which new waste management facilities are truly needed.

Congress faces clear but difficult choices. However, nearly everyone agrees that prescribing waste reduction through regulation is technically infeasible and administratively impractical. The OTA and EPA reports to Congress help bring three fundamental policy options into focus:

**Policy Option I:**

**Take no new action to directly help industry to reduce waste generation**

Rely on current industry efforts. This implicitly discounts obstacles to waste reduction that confront nearly all waste generators, like poor information on the exact sources of their wastes and ways to reduce their generation. The valid basis for congressional and public criticism of regulatory programs weakens their positive impacts on waste generators. Regulatory programs that are ineffective for their designed purposes are even more ineffective in causing comprehensive waste reduction. Waste reduction does not typically prevail over other traditional responses to rising environmental costs and liabilities, such as changes in pollution control technologies, acceptance of high and avoidable costs, and, in exceptional cases, plant closings.

**Policy Option II:**

**Institute a small Federal effort through existing environmental statutes and regulatory programs**

This would limit reduction to certain regulated wastes, pose administrative problems because of many other congressionally mandated tasks to EPA, and have limited credibility because existing environmental programs are not expert about production processes and have shown little interest in waste reduction. It might not significantly change what is now occurring.

**Policy Option III:**

**Through new legislation, establish a separate Federal program within EPA to support waste reduction and to provide national leadership. Fund it and State programs by allocating several percent of EPA's operating budget**

A nonregulatory approach would address many obstacles. It would assist American industry to learn by experience that reducing the generation of all wastes is technically feasible and in its own economic self-interest to do as soon as possible. A 5-year seed grants program for State efforts could build on existing but limited State programs. Government funded in-plant technical assistance and central sources of information, for example, could overcome inertia and smooth a path from sole dependence on costly end-of-pipe regulations to a dual environmental strategy that includes voluntary, comprehensive waste reduction. Increased corporate profits from waste reduction savings are likely to result in sufficiently increased tax revenues to rapidly offset the cost of a Federal program, possibly in as little as 1 year.