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Do We Need a Federal Garbage Man?

by
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EXECUTIVE SUMMARY

"We must not nationalize the garbage problem," cautioned EPA Administrator William Reilly in testimony before a Senate subcommittee in September 1991. Yet that is what Congress will do if they approve legislative proposals now drafted to reauthorize the Resource Conservation and Recovery Act (RCRA).

As they tackle the "garbage problem," federal legislators are keying on two basic policy questions: 1) how to "create" markets for the deluge of recycled materials generated as a result of state and local recycling legislation, and 2) how to address state-level concern about the interstate transport of waste.

Much of the legislative activity is driven by a perception of recycling as an end in itself. Resource conservation is not well-served, however, by measures that dictate inflexible, one-size-fits-all, usage of secondary materials as prescribed in current federal RCRA reauthorization bills. Such measures are likely to result in significant cost increases to consumers, representing, in effect, a regressive "hidden tax" on consumer products.

Market creation does not require public-sector intervention. Examples of private-sector initiatives to build recycling infrastructure abound--and these efforts do not impose costs on taxpayers. The push to "create markets" is a political response to what is likely to be only a temporary mismatch of supply and demand for many materials. For example, the paper industry is already on track to reach a 40 percent recovery rate for wastepaper by 1995.

Taking a secular view of recycling would turn attention to the problem of providing adequate solid waste management capacity. Recycling goals of recovering 50 percent of the solid waste stream by the year 2000 are likely to prove to be unattainable. More realistic recycling rates may peak at, or below, 25 percent. Thus, to head off a real garbage crisis, modern, safe combustors and landfills need to be sited at a more rapid pace.

Legislators crafting the current RCRA reauthorization proposals have lost sight of the problem--to safely manage municipal solid waste in a cost-effective manner. This requires 1) conveying to consumers information about the full costs of waste collection and disposal; and 2) allowing waste to flow to disposal facilities without regard to state boundaries.

Many cities still provide "free" trash collection to residents. In a 1991 Roper Organization survey, of the one-third of the respondents who said their trash is paid for by local taxes, 93

percent had no idea how much garbage collection costs. Treating trash as a "free" good has given little incentive to consumers to seek ways of generating less trash. And even when cities attempt to account for the costs of solid waste disposal, they typically understate the full costs by as much as 20 percent. The failure to fully charge for garbage disposal has inhibited the development of the most cost-effective waste handling systems and deterred recycling efforts where they might be economical.

If policy action is needed, it should be taken by the lowest level of government qualified to do so. Local and state solutions to waste problems are preferable to federal responses for two reasons: first, because of their proximity to the people affected by their legislation they are more likely to reverse ill-considered courses of action. Second, solid waste management needs vary significantly depending on local conditions.

To avoid a real garbage crisis, public policy must take a different direction than the current course of escalating state and federal intervention. The concept of an arbitrary hierarchy of solid waste management that emphasizes recycling must be abandoned. Instead, local decision makers should be free to decide which combinations of management methods are best for protecting public health and the environment in the most cost-effective manner. In short, we do not need a federal garbage man.

The Resource Conservation and Recovery Act Amendments of 1991 is a major, comprehensive piece of environmental legislation. It seeks to reorient what has come to be known as our "throwaway society." It will affect the consumer, the homeowner, the worker, and the manufacturer.

Senator Max Baucus, (D-Mont.)

Introduction of S.976 into the

Congressional Record

April 25, 1991 ¹

I.INTRODUCTION

The United States is on the threshold of establishing municipal solid waste (MSW) as a high-priority national environmental problem. Sen. Max Baucus (D-Mont.), who is leading the legislative charge in the Senate, echoes a widely held sentiment when he says, "[W]e are overwhelming ourselves with garbage and we are running out of safe and secure places in which to place it."²

Cities throughout the nation are grappling with how to manage trash in a NIMBY--"not-in-my-backyard"--environment. A May 1990 public opinion survey conducted for the National Solid Wastes Management Association (NSWMA) indicates that 59 percent of those surveyed would oppose building new landfills in their communities, while 38 percent would not object. Waste-to-energy plants fared a good deal better, with only 37 percent of respondents indicating that they would object to such a facility in their community--55 percent would not object.³

In this context, recycling has emerged as the preferred method of waste management. The 1990 NSWMA survey shows that 92 percent of the respondents believe that "a major commitment to recycling will substantially reduce the nation's solid waste." Nearly half of the survey respondents believes the United States can recycle more than 40 percent of its garbage.⁴

Not surprisingly, policymakers have embraced recycling--reusing materials before they reach the waste stream--and source reduction--reducing the amount of materials and waste in packaging--as the only politically acceptable methods for managing solid waste. Besides the current federal emphasis on recycling, state and local governments are also passing recycling mandates and packaging and product bans that, supposedly, complement recycling programs.

Indeed, state and local actions are a driving force behind federal proposals in the RCRA reauthorization process. Passage of state legislation that requires recycling by local governments has spawned two policy problems: 1) how to pay for the increased solid waste management expenses often associated with recycling programs; and 2) how to "create" markets for the deluge of recycled materials generated as a result of state and local recycling legislation. State-level concern about a third issue--interstate transport of waste--is also drawing significant attention from federal legislators.

This study examines federal prescriptions for solving America's garbage woes that focus on comprehensive approaches: specifically, the solid waste provisions of S.976 (the Resource Conservation and Recovery Act Amendments of 1991) and H.R.3865 (the National Waste Reduction, Recycling, and Management Act), introduced by Rep. Al Swift (D-Wash.), chairman of the House Subcommittee on Transportation and Hazardous Materials. State and local statutes are discussed primarily in the context of the federal proposals.

After surveying the legislative landscape, a broader perspective is offered. Principles for separating federal, state, and local roles are suggested, based upon this wider view of MSW problems.

One such principle is that economic considerations should not be ignored. The costs of collecting and managing solid waste should be fully reflected to waste generators--firms, public agencies, and individuals. Prices also signal which items in the waste stream should be recycled and which should be landfilled or incinerated. We will waste valuable resources--energy, water, or human or physical capital--if we blindly swear allegiance to recycling regardless of these price signals.

A second key principle is to allow MSW management decisions to be made at the lowest level of government possible. Garbage traditionally has been a local problem. Shortcomings in local management of MSW facilities have largely been the result of ignorance, not willful mismanagement. Each level of government has a role to play in solid waste management but many current government initiatives inappropriately apportion these responsibilities.

II.RCRA REAUTHORIZATION: WASHINGTON OFFERS ITS CURES

The impending debate on reauthorizing the Resource Conservation and Recovery Act (RCRA) is affording Congress an opportunity to analyze what role the federal government should take in addressing MSW problems. Sen. Max Baucus introduced a RCRA reauthorization bill, S.976, on April 25, 1991, with Senators Burdick (D-N. Dak.) and Chafee (R-R.I.) as co-sponsors. Rep. Al Swift submitted his "National Waste Reduction, Recycling, and Management Act," the first stage in a comprehensive House RCRA reauthorization bill, on November 22, 1991. These proposals provide some insight into the direction that federal solid waste legislation may be headed. (Appendix A presents an abridged side-by-side comparison of the municipal solid waste provisions of the two draft bills as of January 1992.)

S.976, the "Baucus bill," states as national policy:

The Congress hereby establishes a toxic use and source reduction and waste management policy that gives highest priority: first, to toxics use and source

reduction, second, to recycling, third, to waste treatment, and fourth, to contained disposal and incineration, so as to minimize the present and future threat to human health and the environment and to maximize energy efficiency and to optimize the use of resources.

Provisions in both the Senate and House bill back up this hierarchical approach to MSW management.

Source Reduction and Recycling

Baucus bill. In the 1991 draft of S.976, Title III "declares it to be the national goal of the United States" to reduce the municipal solid waste stream by 10 percent by the year 2000 (not including sewage sludge, white goods, autos, yard wastes, and construction and demolition wastes).

The "national goal" is more problematic than it appears at first glance. For example:

- × The bill does not define a "baseline" from which this 10-percent reduction is to take place. Current estimates of the annual national MSW volume are quite imprecise, based on a materials flow analysis and not a physical measure of actual discards.
- × The bill does not even specify whether the waste stream is to be measured on a weight or a volume basis, although the presumption would be that it would be weight-based.
- × Since the U.S. economy will be growing, so too will be the amount of MSW. To require that the aggregate estimate of solid waste (excluding yard wastes, etc.) in the year 2000 be 10 percent lower than, say, 1990 levels might be unreasonable. Even if a source reduction goal were based on a per capita disposal figure it would remain an imprecise statistic.
- × The packaging downsizing and industrial reuse of materials that have already taken place, due to economic considerations for reducing materials and transportation costs, make further gains in source reduction more difficult, i.e., more costly. Moreover, since such reduction often depends on technological advances or substitution of new materials, the rate of reduction cannot be predicted.
- × Excluding yard waste significantly limits opportunities for reduction through composting or mulching of lawn clippings, since yard waste can account for as much as 20 percent of the residential waste stream.

Title III of the Baucus bill also specifies recycling targets--a minimum 25 percent rate by 1995 and a minimum of 50 percent by 2000. These recycling targets are the result of casual comments by Environmental Protection Agency (EPA) officials, not considered analysis. The arbitrary nature of these goals should be obvious but appear instead to be accepted by policymakers at all levels of government as based on actual analysis of the waste stream.

In its landmark study, *Facing America's Trash*, the Office of Technology Assessment cautioned against uncritical acceptance of the initial 25-percent recycling goal:

Although such a goal is a useful target, it does not appear to be based on a

*quantitative evaluation of market potential. The actual amount that recycling can be increased on a national level is not easily predicted, nor is such a prediction particularly worthwhile given the dynamic nature of materials markets.*⁵

Swift bill. The "Swift bill" does not set forth overall source reduction or recycling targets, per se. It does, however, specify a "menu" of recovery, recycled content, reuse, or source reduction rates for packaging (see the "Products and Packaging Provisions" discussion that follows) and minimum "diversion" of groups of materials from incineration and landfilling facilities. As of July 1, 1995, 40 percent of all metals, glass and paper must be diverted from disposal facilities. By that same date, 25 percent of all plastics and 75 percent of yard wastes must be managed in some way other than landfilling or incineration.

State recycling goals. State legislators are ahead of Congress in codifying arbitrary recycling rates. As of August 1991, 29 states and the District of Columbia had established recycling targets.⁶

Each state has its own interpretation of how to define and reach these recycling rates. In California, 25 percent of the waste stream must be diverted from disposal facilities by January 1, 1995 with a 5-percent increase each year, reaching 50 percent by January 1, 2000. A maximum of 10 percent of this diversion may be through waste-to-energy disposal systems.⁷

Some states do not require a fixed percentage diversion of the waste stream from landfills and incinerators as a result of recycling but require, instead, a given percentage of source-separation and collection--"recovery rate" goals. Wisconsin requires that district waste management plans provide for source-separation of 50 percent of all aluminum containers, corrugated paper or other container board, polystyrene packaging, glass containers, magazines, newspapers, office paper, plastic and steel containers, and tires by 1993.

Recycling Rates: Problems and Prospects. To the extent that mandates for high recycling rates are unrealistic, the problem of providing adequate safe capacity for managing municipal solid waste will remain an unresolved issue, even if codified in federal law.

Harvey Alter, Manager for Research Policy at the U.S. Chamber of Commerce, has used information from Franklin Associates prepared for the EPA and an estimate of recyclable material determined by William Rathje (an archaeologist who directs "The Garbage Project" at the University of Arizona) to estimate potential recycling rates. After adjusting this information for citizen participation rates and yields of usable materials, Alter estimates recycling rates might reach 25 percent, but only if composted yard wastes are included as recycled material.⁸ A 50-percent goal seems unrealistically optimistic, however.

Why then do media accounts indicate that 30- to 40-percent reductions in solid wastes have been achieved as a result of municipal recycling programs? One explanation is that high recycling figures quoted to the press include items that typically are not a part of the waste stream going to landfills--auto salvage, salvage of major appliances, or reclaiming construction and demolition debris.

Table 1 shows state recycling goals versus actual performance. Most states do not have estimates of current recycling rates. The majority of the figures reported are far below target. New York, for instance, hopes to recycle 40 percent of its trash and source reduce another 10 percent by 1997 but was recycling at a rate of only 15 percent in 1989.

New Jersey, which claims a 39 percent recycling rate, includes items not generally a part of the MSW stream in its figures. Scrap metal contributes 14 percent of the tons recycled and construction and demolition debris is another 13 percent.⁹ A more representative MSW

recycling figure would be much closer to the national average--12 to 13 percent.

insert table 1

Recycled Content and Recovery Rates. The federal recycling "goals" originally specified in S.976 were supported by other more restrictive provisions:

The administrator, in consultation with the Secretary of Commerce, is directed to promulgate (a) minimum recovery and utilization rates for products or groups of products (b) commodity specific minimum recycled content requirements as necessary to meet this goal.(emphasis added)

In the earlier draft, the EPA administrator was to specify the minimum recycled-materials content or minimum recovery rates for paper, glass, metals, plastic products, and "other such commodities as the administrator determines" necessary to meet the recycling goals. The standards for minimum recovery and utilization rates for each commodity could extend to "individual products, product lines, or groups of products."

Determined to leave nothing to chance, the Baucus bill even specified minimum recovery rates for specific commodities. Table 2 compiles the specific minimum recovery and utilization rates first detailed in the bill, the 1988 recovery rates, and the projected 1995 rates for these categories of materials. The 1988 and 1995 data are from U.S. EPA's report, "Characterization of Municipal Solid Waste in the United States: 1990 Update." Unfortunately, the categories of materials specified in S.976 were not well-defined, making a match-up with items detailed in the EPA document subject to interpretation. For example, "High-grade Deinking Papers" in the 1991 draft of S.976 were compared to recovery rates for "Office Papers."

Not surprisingly, EPA's report does not project recovery rates beyond 1995. It is not obvious why the minimum recovery requirement for glass cullet in S.976 was extended to 2005 when all other targets were set for 1995. EPA estimates a 22-32 percent recovery rate for glass bottles and containers by 1995 versus the 65 percent goal by 2005. All in all, the Senate bill presented an odd list of materials for special consideration, omitting aluminum, ferrous metals, and yard waste.

Several materials already enjoy relatively high rates of recycling. Aluminum is recycled at a rate of about 32 percent (using 1988 EPA data). Collecting and reprocessing aluminum is more cost-effective than mining and processing bauxite. (Aluminum beverage containers are recycled at even higher rates--55 percent or more.) Paper and paperboard is recycled at approximately a 26-percent rate.¹⁰

(Corrugated boxes are recovered at a 45-percent rate.)

Typically, high recycling rates do not happen overnight. The celebrated example of the aluminum beverage can is a good case-in-point. As Figure 1 indicates, five years after beginning an industry-wide push for recycling, the recycling rate for aluminum cans was less than five percent. A steady climb took place for the next

insert table 2 here

ten years, reaching about a 25-percent recycling rate. Only after 20 years, did aluminum can recycling hit nearly the 50-percent rate. Recycling of polyethylene terephthalate (PET) soft drink bottles is slightly ahead of this pace at present.

Other MSW discards such as glass (13 percent recycled), ferrous materials (6 percent), and plastics (1 percent) may begin to exhibit marked improvement in their recycling rates due to the

explosion in curbside recycling programs and in construction of reprocessing facilities. In the past, the high costs of collecting and reprocessing these materials have resulted in rather low recycling rates.

Table 3 shows projections of recovery and composting of selected products by 1995. The estimates were made by Franklin Associates for EPA and are somewhat optimistic because "recovery" and "composting" include unusable residues that are not "recyclable." Glass containers would jump from a current (1988) 13 percent recovery rate to between a 22 and 33 percent rate. Steel beer and soft drink cans would be recovered at a rate of 45 to 55 percent versus 15 percent currently.¹¹

The February 1992 revised draft of S.976 retains the underlying philosophy of the earlier draft with its emphasis on recycling and source reduction, but offers a different mechanism to promote those ends. The bill now calls for a "responsible party"--manufacturers of products and materials--to ensure that utilization rates of recycled materials are met by a) "utilizing covered materials in its own products or packaging; b) assuring that covered materials are utilized in a product or

insert table 3

packaging by another person; c) reusing the packaging for a purpose that is identical to its original purpose; or d) reducing the amount of covered materials (by weight) used in the packaging from the amount used during the base year."

The effect of this provision is to make manufacturers, not local governments, responsible for ensuring that recycling takes place. While this new approach might satisfy local governments, alleviating them of the responsibility for finding markets for recyclables, it does not overcome the fundamental problems with forcing recycling and use of recycled content.

Recycled Content--Politics and Pitfalls. Both the Baucus and Swift bills are responding to demands by local governments that federal legislators "create" markets for the secondary materials that local communities--largely as a result of state mandates--are now collecting. Thus, the purpose of mandating recycled content is to increase the "demand" side of secondary materials markets. Municipal recycling programs can create large supplies of potentially recyclable materials. However, the costs of further transportation and reprocessing of the collected materials may make them uncompetitive with virgin materials. As a result, they will find their way to a landfill or incinerator and not be "recycled," unless potential users can be required to purchase these secondary materials.

This push to create markets through the political process is likely to invite inefficient resource use while doing little to improve waste management, for several reasons.

Specifying particular recycled content levels without regard to changing relative prices of materials:

- 1)limits opportunities for cost-saving materials substitutions;
- 2)can inhibit efforts to reduce the amount of materials used in any single packaging unit;
- 3)can cause supply/demand bottlenecks.

Just as political action to mandate recycling created gluts, content requirements could result in supply bottlenecks as manufacturers' mandated needs are not met by available supplies. These bottlenecks could then create political pressures for local communities to further increase their

recycling rates.

Costs of higher recycling collection rates and politically determined materials inputs into products and packaging are not known, but are likely to mean higher solid waste collection and consumer product prices. Increased packaging and product costs could result from:

- 1) higher materials input costs--for example, in some instances recycled plastic costs 20 percent more than virgin resin.
- 2) higher manufacturing costs--for example, producing a container with recycled content can require moving from using a single resin to using a laminate with recycled plastic sandwiched between two layers of virgin plastic. This requires three extruders, rather than one, meaning increased costs.
- 3) product quality compromises, or increased costs to achieve a quality comparable to products from virgin materials.
- 4) capital equipment investments in infrastructure to handle secondary materials.
- 5) increased transportation costs--for example, a manufacturer that makes its own containers from virgin resin often will not have the capability of making containers using recycled plastics, because that process is more complicated. Consequently, a truckload of virgin resin used by a consumer product manufacturer for containers made in-house will be replaced with 17 truckloads of empty containers purchased from a container manufacturer capable of using recycled content to make those containers.
- 6) legal and other compliance costs--for example, a regulated HDPE container now made to hold pharmaceutical products costs 25 percent more than the identical container made to hold products for which packaging is not regulated.

Furthermore, significant indirect costs from the bill's inhibiting effects on manufacturers' efforts to "source-reduce" packaging may result. For example, Tom Rattray, associate director of corporate packaging development at Procter & Gamble, offers evidence of the important source reduction attributes of the coffee brick pack. Ground coffee can be purchased in metal cans or vacuum brick packs made of an aluminum foil/plastic laminate. The brick pack yields an 85-percent reduction in packaging material per pound of coffee compared to the conventional can.

Tin cans are recovered at about a 30-percent rate and are considered "recyclable," whereas the aluminum foil/plastic laminate, while technically recyclable, is not economically recyclable. But if the consumer purchases 65 pounds of coffee in 13-ounce steel cans, the cans will weigh 20 pounds versus only 3 pounds if brick packs are used. At a 30-percent recovery rate, 14 pounds of tin cans will go to the incinerator or landfill compared to only 3 pounds of brick packs. To achieve the same weight of material to be disposed of, coffee cans would need to be recycled at an 85 percent rate.¹²

At the state level, less ambitious recycled-content mandates already exist, giving some concrete indication of potential economic impacts of such requirements. Seven states mandate that newspapers use recycled newsprint. In a dozen states, "voluntary" agreements with newspaper publishers have averted legislation.

Generally, the requirements for use of old newsprint are phased in over a number of years and limited to major publishers. Missouri, for example, requires that newspapers with daily circulations over 15,000 must use newsprint with recycled content of 10 percent in 1993, increasing by 10 percent a year through 1996 and then reaching 50-percent recycled content in 2000. Failing to achieve these targets will cost newspapers \$100 a day in fines).¹³

The economics of public-sector mandates to recycle old newsprint are not favorable, at least not in the near term. Carl Landegger, chairman of Black Clawson Company, the largest producer of machinery for paper recycling, says, "The economics are a disaster."¹⁴ A 300- to 400-ton-per-day wastepaper recycling plant costs \$60 million. Plants are replacing perfectly good facilities rather than adding to newsprint capacity. Depreciation continues for the now-obsolete plant, and the cost of borrowed capital for the new plant averages \$30 to \$50 a ton. Capital costs, plus transportation costs for old newsprint, plus the operating costs of cleaning wastepaper raise the price of newsprint.

Landegger concludes, "The present trend of accepting any program under the emotional code name of recycling is both socially and economically short-sighted and wrong."¹⁵

Product and Packaging Provisions

Recycling provisions of the Swift bill, H.R.3865, are directed specifically at packaging. The proposal offers a multiple-option approach to packagers to reach recycling goals, specifying percentage targets for each option and category of materials. Packaging producers could achieve compliance by meeting or exceeding goals for source reduction, for reuse, for recycling, or for minimum recycled-content. Targets are set for December 31, 1995, December 31, 1998, and December 31, 2000. Table 4 is an effort to summarize the complex packaging/recycling requirements in the bill.

Minimum-content standards would be imposed if packagers fail to reach any of the other acceptable goals. The EPA administrator is required to conduct a study by December 31, 1995, to determine what these minimum-content requirements should be.

In the name of flexibility, the November 1991 draft of the Swift bill creates a hodgepodge of requirements, based on arbitrary recovery, recycled-content, reuse and source reduction rates. Packagers are required to certify to the EPA administrator that they are in compliance by 1995. A new certificate is required annually or each time a package is reformulated or replaced.

insert table 4

H.R.3865 also specifies penalties for noncompliance. The first "violation" results in a warning, the second in an administrative penalty up to \$25,000, and the third in a penalty up to \$75,000. The EPA administrator can ban any product after the third violation--four strikes and you are out of the ballgame. Presumably a "violation" occurs if the packager cannot certify compliance each year.

Though deemed more flexible than an earlier version of the Swift bill, which simply required recycled content, the current proposal in fact still effectively leaves manufacturers only with recycled content or recyclability options.

The first option--reusable five times--is simply not an alternative for many kinds of packages. Moreover, even good-faith industry efforts to design reusable packaging will not assure that consumers will, in fact, comply with the reuse provisions by returning the package to the manufacturer. Indeed, consumers have increasingly turned away from returnable bottles over the past several decades, even when the returnables had deposits.

The second option--source reduction--also holds significant problems for manufacturers. First, as defined in the Swift bill, it refers only to waste reduction--not reductions in energy or other inputs nor reductions in air or water emissions associated with the manufacture of the product. Second, the bill calls for reductions of 15 or 20 percent, using the package design of five years earlier as the baseline. Most packages have been significantly lightweighted or otherwise "source reduced" over the past three decades, with the result that major additional reductions are not always possible without seriously compromising the functional attributes of the package (See Figure 2).

Many manufacturers are now working for small, incremental reductions--for example, shaving off another 1 pound of material per 1,000 aluminum soda cans, bringing the weight down from 35 to 34 pounds. This type of effort would not meet source reduction standards as specified by Swift, though it would actually be a notable achievement in source reduction since the nation consumes some 90 billion soda cans each year.

With source reduction and reuse not offering real options for many packages, manufacturers would be left to incorporate recycled content, or to strive for high levels of recycling of a particular package. Yet these requirements, as noted above, could increase costs to consumers and taxpayers, but offer dubious environmental benefits.

The packaging component of the 1991 Senate draft bill, S.976, called for a new Products and Packaging Advisory Board to recommend the development and implementation of a comprehensive voluntary program to:

insert figure 2

- × Minimize the quantity of packaging and other material in the waste stream;
- × Minimize consumption of scarce natural resources in the production and use of packaging;
- × Maximize recycling and reuse of packaging;
- × Reduce litter; and
- × Assure that human health and the environment will not be affected adversely as a result of the use and disposal of packaging and products.

The "voluntary" aspect of this provision could be altered by the EPA administrator, who was given authority to "publish guidelines" to accomplish these same objectives after the Board submitted its report.

The February 1992 draft actually establishes annual recycling utilization requirements and requires the EPA administrator to "promulgate regulations to implement" the packaging requirements set forth in the bill. The draft bill specifies that "for any violation after a third violation, the Administrator may ban the sale in commerce of the product or packaging concerned."

By and large, nondurable consumer goods come in some type of packaging. Three decades ago, milk was sold primarily in heavy glass bottles that could be returned to the store or dairy to obtain a refund. Throw-away cartons became popular in the 1960s because they eliminated the chore of returning the bottles. Paperboard cartons are still popular, but plastic jugs are the most practical containers for storing a full gallon of milk. This transition in packaging

development has occurred smoothly, based on a host of technological developments, relative prices of packaging materials, and consumer preferences.

If the packaging and recycling provisions of S.976 had been applied to this situation while milk still came in bottles, these valuable packaging innovations would likely have never developed. Returnable bottles would "minimize the packaging material in the waste stream"; "minimize the consumption of scarce natural resources used in packaging" (sand is hardly a scarce resource); "maximize recycling and reuse..."; "reduce litter"; etc. Glass milk bottles would meet all the goals of the Product and Packaging Advisory Board and, provided they contained 65 percent cullet by 2005, would meet the recycled content provisions also. But the consumer would be deprived of the types of packaging that clearly are preferred in the 1990s--and that offer some environmental advantages as well.

Current federal packaging proposals in part reflect an effort by federal legislators to develop nationwide standards that might slow or altogether halt the proliferation of state and municipal efforts to regulate packaging. These state and local efforts are often arbitrary, limiting consumer choice with little or no payoff in reducing the volume of municipal solid waste.

Thirty-seven states have some type of product or packaging restrictions on their books, with the level of detail in product and packaging restrictions varying greatly by state. Twenty-six states require that the resin type be labeled on plastic containers in accordance with standards recommended by the Society of the Plastics Industry--a sensible aid to plastics recycling efforts. Thirty-five states require plastic resin labelling, and/or prohibit nondegradable plastic beverage rings, and/or ban metal beverage containers with detachable flip tops. Rhode Island, for example, adds to these basic three the following:

- × Packaging containing potentially toxic heavy metals is prohibited (the CONEG provision).
- × Retailers are prohibited from packing goods in plastic bags unless the customer is advised of the availability of a paper bag.
- × Beverage containers not recycled at a 50 percent rate by 1992 are prohibited.
- × Degradable plastic containers which interfere with recycling are prohibited.
- × Plastic food or beverage containers composed of more than one resin, (excluding its cap, lid, or ring) are prohibited.
- × Telephone directory binders which interfere with recycling are prohibited.
- × The State Plastic Recycling and Litter Commission is empowered to mandate a plan for maximum recycling of plastic and foam service products.¹⁶

The only certain result of the states' war on plastics and packaging, however, is that it increases consumer costs. Producers that are required to develop more costly materials or produce more stock-keeping units to meet the barrage of conflicting state requirements pass these costs on to their customers. Indeed, the problems faced by nationwide marketers is far more complicated than presented here because many cities have also enacted their own requirements for plastics and packaging.

Federal legislation to regulate packaging based on recycled content or recycling rates is not likely to preempt state packaging laws. Hence, federal regulation is not a cure for the current costs associated with the piecemeal regulations now being imposed on a state-by-state basis. Indeed, the kinds of proposals now being offered in the Swift and Baucus bills will likely increase packaging costs nationwide and bring about fundamental distortions in materials usage that will require long-term subsidies or long-term "hidden taxes" imposed on consumers.

Procurement Preferences

Senate bill S.976 directs federal purchasing agencies to give preference to items "produced with the highest percentage of recovered materials practicable...." It further orders that a minimum of 20 percent of each agency's annual procurement be items that comply with recommended levels of recovered material as specified in federal guidelines. This 20-percent minimum requirement increases by 2 percent every two years over a ten-year period. Thus by 2001, 30 percent of federal agencies' purchases should contain significant amounts of recycled materials. Agencies are not allowed to pay more than a 10-percent premium for items with greater recycled content, however.

The bill goes on to mandate purchasing preferences for any private company with a federal government contract of \$1 million or more. Fifty percent of the materials coming under recycling guidelines must be produced from recycled materials. The \$1 million threshold is likely to cover a wide variety of contractors, including construction firms, universities, defense contractors, and a host of smaller suppliers.

Interestingly, while the federal government need not incur more than a 10-percent price premium to purchase goods with prescribed recycled content, manufacturers are not afforded the same escape clause in the packaging provisions of federal proposals. Packaging must reach recycled-content targets regardless of cost--and consumers will have no options other than these packages even if they cost more.

The House bill, H.R.3865, does not contain specific percentage targets for federal agency purchases of items falling under procurement guidelines for recycled content. The proposed legislation does, however, require the EPA administrator to prepare procurement guidelines for an extensive list of items over a five-year period. The administrator is to prepare final guidelines for: 1) compost made from yard waste and other organic waste, 2) asphalt made with crushed glass, 3) lead-acid batteries, 4) rubberized asphalt, 5) items produced with recovered rubber, plastics, ferrous and nonferrous metals, 6) additional paper products, and 7) products produced with fibers recovered from pulp and paper mill sludge.

A federal agency may purchase items not meeting these guidelines if the items: (a) are not available within a reasonable period of time, or (b) fail to meet performance requirements or (c) are available only at an unreasonable price. "Unreasonable price" is defined to be a price more than 10 percent higher than a comparable item not meeting the recycled-content guidelines. In the case of paper products, however, the bill appears to consider any price premium to be reasonable.

A number of state MSW statutes also are meant to increase recycling rates. Thirty states have bidding preferences for recycled materials or some type of set-aside program for purchasing goods with recycled content. Usually these procurement preferences amount to a 5- or 10-percent higher price allowance for office or computer paper or similar state purchase that makes use of recycled materials.

The idea behind these procurement differentials, whether at the federal or state level, is to use the purchasing power of government to help jump-start markets for recycled goods. This approach acknowledges that successful recycling requires markets for products made from

recycled materials. Procurement preferences are efforts to help provide market incentives to stimulate the private investments needed to develop a recycled-materials infrastructure.

Regardless, the taxpayer is footing the bill for purchasing preferences. If the costs of collecting and reprocessing these resources are higher than using virgin materials, higher prices will have to be paid indefinitely.

In addition, efforts to "pull through" recyclables to the marketplace are being hampered by the low quality of some secondary materials. A few bottles made from polyvinyl chloride can contaminate a truckload of PET. Recycling plastic grocery bags costs ten times as much as making the bags from virgin plastic, in part because of contamination of the bags in the recycling bins. Purchasing preferences can't pull through trash; recycled materials must meet the performance requirements of public and private customers to be successful in the marketplace.

Nonetheless, procurement preferences as a means of jump-starting recycling efforts are preferable to the other measures in the Swift and Baucus bills that attempt to micromanage packaging inputs and recycling rates. Procurement preferences in essence offer encouragement to public-sector agencies to use recyclables, but such preferences do not interfere with fundamental private-sector decisions about materials usage based on market price signals.

Regulating Environmental Claims

The most dramatic addition to the House proposal is a section that would govern environmental claims. Acting on the recommendations of an Independent Advisory Board on Environmental Marketing Claims, the EPA administrator would "promulgate regulations containing standards and criteria for...substantiating claims to the effect that a product or package" is source-reduced, refillable, reusable, recyclable, compostable, ozone neutral, nontoxic, photodegradable, biodegradable, degradable, decomposable, or has recycled content or "other claims related to an environmental impact or attribute." The Federal Trade Commission would then be charged with determining whether an environmental claim is unfair or deceptive based upon these EPA standards.

Doubtless, many consumers are confused about such terms as "degradable," "biodegradable," "photodegradable," "recyclable/recycled," and "environmentally friendly." Indeed, a recent poll by Environmental Research Associates found that about 60 percent of Americans were not aware that symbols are being used to indicate recycled or recyclable packaging. A third of those surveyed did not know the meaning of the term biodegradable.¹⁷

A *Wall Street Journal*/NBC News poll found that three-fourths of those surveyed say a product's or manufacturer's environmental reputation is important to them in deciding what to buy. Yet, only 46 percent answered that they actually bought an item for that reason within the last six months, while 45 percent did not make their choices based on environmental reputation. Fifty-four percent said that they had paid more for a product because of its perceived superior environmental characteristics.¹⁸

An October 1991 Roper poll, conducted for Citizens for the Environment, found, however, that consumers are not willing to pay much more for green products. Asked how much extra they would pay for each of five hypothetical environmentally sound products--autos producing one-third less air pollution, biodegradable plastic packaging, etc.--respondents, on average, said less than 6 percent more. On average, 38 percent said they would pay nothing extra.¹⁹

Interestingly, product manufacturers are among the leading advocates of FTC guidelines for environmental advertising and labeling, providing a prima facie case, at least, that most

producers are not intent on "misleading" consumers. The driving forces behind producer petitions for guidelines for environmental claims are twofold: (1) to preempt the proliferation of state activity that threatens to "balkanize" interstate commerce and (2) to prevent manufacturers from costs and public embarrassment resulting from FTC or state attorney general charges of deceptive practices.

According to the FTC, twenty-two states define or regulate the use of the terms "degradable," "biodegradable," or "photodegradable." The simple solution to the state-level hyperactivity in the environmental claims area would be for producers to present no claims at all. Of course, lack of information, it could be argued, would be as harmful to consumers desiring this information as provision of misleading information.

State efforts to regulate environmental performance claims may produce worse anti-consumer effects than merely stifling environmental information. State definitions of "degradable" or "recyclable" are usually tied to product bans or restrictions which truly thwart consumer interests. For example, if Maine and Minnesota prohibit the sale of items that are not "degradable" or "recyclable" but do not have a uniform definition of these terms, manufacturers of nationally distributed products will either abandon one of these markets or consumers will pay more for the custom-designed items that meet the non-uniform state regulations.

Consumer products producers and even state officials see that some uniformity is needed to counteract well-meaning, but ill-considered, state and local legislation. But establishing standards for environmental claims at the EPA would be a daunting task because the target is moving--materials development and recycling technology will not stand still. Moreover, standards and criteria could slow product developments that would prove more environmentally benign than those that meet static requirements established at any point in time.

For example, the plastics industry has developed a process to allow "closed loop" recycling--reusing the post-consumer package or product as a raw material in the production of the same type of packaging or product--of polyethylene terephthalate (PET) soft drink containers.

In 1991, Coca Cola and Pepsi announced their intentions to use this process for their soft drink bottles. PET is depolymerized and then repolymerized in an innovative process that, in the eyes of Food and Drug Administration officials, is not "recycled" material.²⁰

If FTC definitions were written to be consistent with the FDA's, then Coca Cola and Pepsi would not be allowed to claim that their depolymerized beverage bottles had any recycled content. In the process, the consumer would receive misleading information about the recyclability of the plastic bottles and the repolymerized containers would be less attractive to bottlers.

While there are problems with the current somewhat narrow focus of Green Cross Certification and the Green Seal, such private initiatives may yet provide an environmental equivalent to the important product safety services offered by Underwriters Laboratory. Private initiatives should be given more time to take hold and prove themselves beneficial. Moreover, the importance of reputation effects will move producers toward more specific and responsible environmental advertising and labeling without governmental intervention.

A list of voluntary responses to consumer solid waste concerns would be virtually endless. This response is not motivated by altruism or even fear of legislation. It is largely caused by fear of "king consumer"--environmental aspects of packaging and products offer competitive advantages or disadvantages.

State Planning and Interstate Waste

The Baucus bill requires EPA to publish additional guidelines for state solid waste management plans within nine months of enactment. The proposal establishes minimum requirements for these plans, including the following:

- × An estimate of the type and amount of municipal waste, industrial waste, and waste residuals to be generated within the state or planning area or accepted from other states under existing contracts for a minimum of ten years into the future (to be updated at least every five years);
- × Identification of each solid waste management facility and recycling facility within the state or planning area and its capacity and projected remaining useful life;
- × Estimates of the total solid waste to be reduced, recycled, transported to another state, or disposed of and incinerated within the state;
- × Establishment of measurable goals for recycling, including interim goals;
- × Identification of existing available markets for recovered materials and actions to be undertaken to develop or create such markets;
- × Specific plans for managing household hazardous waste, tires, yard waste, batteries, plastic products, waste paper, glass containers, and scrap metal and containers;
- × Annual certification by the Governor (beginning in 1995) that the state has issued permits for sufficient capacity to recycle, incinerate, or dispose of the state's waste stream for the next five years and that sites have been identified and approved to provide sufficient capacity for the ensuing eight-year period; and
- × Identification by each state of the annual amount (by weight) of MSW exported to other states for incineration or disposal, net of all MSW imported to the state for incineration or disposal. States where the ratio of net exports to the total MSW generated within the state exceed the national average at the time of the law's enactment must demonstrate that they will reduce this figure to the national average within five years. Fifty percent of the needed reduction must be achieved within three years.

Full-Cost Accounting and Customer Cost Information. The Swift Bill, H.R.3865, also specifies additional requirements for state solid waste management plans. (See Appendix A for detail.) The House proposal has many features in common with the Senate bill, including identification of MSW management capacity, markets for recycled materials, and specification of recycling plans.

H.R.3865 also contains some new wrinkles--some that deserve praise and some that are less attractive. The good news is that state plans would be required to show life-cycle cost analyses of various waste management options--recycling, composting, landfilling, and combusting--to determine an appropriate level for each. The language of the bill clearly favors source reduction and recycling, however, and is vague about precisely how the life-cycle cost analysis information could be used to overcome this bias.

If the language in this provision can be worked out to provide a guide for state and local governments to introduce business-based, full-cost accounting systems, this could facilitate efforts to plan for the most cost-effective mix of waste handling and disposal practices in individual communities. Currently, for example, many public-sector landfill operators underprice the use of those facilities. In 1987, two economists with the National Economic Research Associates noted "dramatic underpricing" of landfills so that disposal rates (tipping fees) were not covering actual disposal costs.²¹

The bill would also require local governments that provide solid waste services to give their customers separate bills for these services or at least an annual statement of the costs of MSW services. Such information could help send the right price signals to customers, if the full costs of MSW management--labor, capital, administrative costs of hauling and labor, capital, administrative and other management and closure costs of disposal facilities--are furnished.

Requirements that state plans include diversion of specified percentages of metals, glass, paper, plastics, and yard waste detract from the constructive provisions in H.R. 3865, however. Regardless of the relative cost-effectiveness of recycling, 40 percent of all metals, glass, and paper, 25 percent of plastics and 75 percent of yard wastes would need to be sent to recycling facilities rather than disposal facilities.

State Plans: Problems and Prospects. If the purpose of these guidelines for state solid waste management plans was merely to cause state and local officials to take a comprehensive approach to their MSW problems, they could be helpful. But the purpose, ultimately, is to force reporting to federal authorities so that the information can be used to control solid waste management from Washington, D.C. The emphasis on measurable recycling goals and markets for recoverable materials reinforce a hierarchical approach to MSW management, regardless of relative costs and environmental impacts of waste management methods.

Certainly it behooves state and local agencies to see that municipal solid waste will be handled in a safe manner. An estimate of waste generation and management capacity is necessary to avoid garbage crises. Identifying available markets for recovered materials would be helpful for determining likely limits for recycling in an integrated waste management program. Reporting to EPA on "actions to be undertaken to develop and create such [recycled-materials] markets" is a heavy-handed requirement, however, since legislating markets is far easier said than done. To succeed in the marketplace, secondary materials must compete with virgin materials on price and quality unless we are to be faced with long-term subsidies of secondary materials.

Waste Exporting. The final state planning provision in S.976-- that all states exhibit the same average ratio of net exported wastes to total waste generated--seems "fair" but makes little economic or environmental sense. A state with high population density and a wet climate or high water table should not be expected to exhibit the same ratio of MSW exports to MSW generation amounts as a sparsely populated state in an arid climate. The notion that New Jersey should have the same net MSW export profile as New Mexico makes as much sense as requiring Missouri and Texas to exhibit the same export profile for natural gas or soy beans, or any product shipped across state boundaries.

Data gathered by the National Solid Wastes Management Association shows that most interstate shipments are among contiguous states. Metropolitan areas near state boundaries become, in effect, waste sheds (similar to water sheds), where safe economical disposal favors interstate shipment. Thirty-eight states are both importers and exporters of trash. Five states are garbage exporters only, four states only import and Montana is self-sufficient. Of the estimated 15 million tons of MSW in interstate commerce (8 percent of the solid waste stream), more than half of these shipments are exported from New York (2.4 million tons) and New Jersey (5.5 million tons).²²

The garbage crisis has created a form of "civil war" among the states. Statutes to ban, or greatly reduce, the importation of out-of-state solid wastes are being considered in many states, and in some instances have been enacted already.

Delaware specifies that solid waste generated outside the state may not be accepted at a facility operated by the Delaware Solid Waste Authority. Indiana imposes a fee for waste imports that is "the average cost per ton of disposing of solid waste (including tipping fees and state and local government fees) in the state in which the solid waste was generated."²³

Nearly all of these statutes run afoul of the Commerce Clause in the U.S. Constitution, which gives Congress the power "to regulate commerce with foreign nations and among the several states...." The Supreme Court held that waste is a commodity deserving of constitutional protection and, thus, invalidated New Jersey's embargo on out-of-state solid or liquid waste.²⁴ Similarly, the tenth Circuit Court struck down Oklahoma's statute that banned importation of waste from states not having "substantially similar" standards as Oklahoma's.²⁵

Senate bill S.976 would enable states to circumvent the Commerce Clause. It would allow state governments to make use of bans and disposal fees to restrict solid waste imports. Both types of restrictions have phase-in schedules giving added authority over time to states that meet the milestones in their EPA-approved MSW plans. Initially, any state that has met the requirements for closing and upgrading open dumps could prohibit imports of municipal solid waste for disposal or incineration "from any state with an intrastate restriction on the movement of solid waste." New Jersey trash, for example, could be banned under this provision.

After three years, an importing state can ban out-of-state waste only if it is in compliance with all the required elements of a state MSW plan and the exporting state is not in compliance.

Within five years after the bill is enacted, no MSW can be imported without the prior consent of the governor of the receiving state unless the waste was previously identified in the terms of a private disposal contract. This escape clause expires eight years after the bill is enacted; MSW imports not having the specific consent of the governor of the receiving state will then be prohibited.

The Baucus proposal also allows each state to enact laws that impose fees on incineration and disposal of municipal solid wastes generated in another state. These fees must be applicable throughout the state and must not apply to recyclable materials being transported to a recycling facility.

Trash import fees in S.976 apply on an escalating scale. Effective upon enactment, states may charge up to two times the base state surcharge on MSW or \$4 a ton, whichever is greater, for trash generated in contiguous states. States receiving trash exports may charge five times the base state surcharge or \$20 a ton, whichever is greater, for noncontiguous trash imports. Three years after enactment, states may charge contiguous waste haulers up to four times the base surcharge or \$10 a ton and noncontiguous exporters up to ten times the surcharge or \$50 a ton, whichever is greater. (Fees also are indexed to the CPI to keep pace with inflation.)

The Swift bill allows states to either limit trash imports or charge higher fees for out-of-state waste. The fees escalate over a 42-month period. From 6 to 42 months after enactment, states may charge a maximum of four times either the receiving or exporting state's within-state waste surcharge fees. If the exporting state does not have an approved MSW plan 42 months after enactment of the bill, the permissible fee rises to a maximum of ten times the within-state disposal fees. (See Appendix A.) These waste disposal surcharge privileges are revoked if the receiving state fails to submit an acceptable plan or is deemed by EPA to be dragging its feet in implementing the plan.

The import limit provisions of H.R. 3865 are quite confusing as written. A state may limit all future amounts of MSW incoming from another state to the amount imported as of a specified date, or it may limit the amount of solid waste coming to its landfills and combustors from another state in the future to the percentage of outstate trash being landfilled or combusted at a specified point in time. If the percentage approach is adopted, all permitted landfills and combustors can be required to limit their management of MSW imports to the established percent of their total annual waste volume. Municipalities or other local government authorities can opt out of this percentage limitation. The right to impose import limits does not appear to be conditional upon a satisfactory MSW plan.

The Senate and House proposals, thus, would exempt municipal solid waste from application of the Commerce Clause. Both would tie a state's ability to penalize out-of-state waste disposal to its conformity to EPA requirements for state MSW plans. The Senate bill would allow out-and-out bans of solid waste imports, while the House bill would limit, rather than ban imports. Only the Senate bill would differentiate between contiguous state exports and trash from non-bordering states.

Because the Baucus bill would allow for lower surcharges for shipments of MSW from adjoining states, it could be seen to be more in tune with the concept that urban areas create waste sheds that have no relationship to political boundaries. Trash from St. Louis, Missouri may be disposed of more cheaply and safely in Illinois while trash from Kansas may be managed more efficiently at a site in Missouri. But neither proposal's interstate transportation provisions can be justified on the basis of any special nature of trash as opposed to other commodities shipped across state lines.

MSW Management Facility Permits

S.976 also establishes a federal permit system for MSW management facilities. Storage, treatment, or disposal of solid waste and recycling of solid wastes or secondary materials would require a permit one year after enactment. Permits could not run for more than five years, and states would be required to collect fees of \$2 a ton in the aggregate from all such facilities (except for recycling facilities) in order to cover the costs of administering the permit program.

The EPA administrator is required to promulgate guidelines for facilities that manage: (1) municipal solid waste, (2) MSW combustion ash, (3) medical wastes, (4) industrial solid wastes handled in surface impoundments, landfills, waste piles, and industrial boilers, and (5) industrial solid wastes handled in underground injection wells.

S.976 spells out minimum guidelines for several of these categories. MSW landfill guidelines must include controls to detect and prevent disposal of hazardous waste, nonhazardous bulk liquids and nonhazardous liquids in containers (other than household wastes); daily cover to control disease; gas monitoring and controls; access controls to prevent unauthorized traffic; run-on and run-off controls; closure that minimizes further maintenance and ensures no adverse effects from post-closure releases to groundwater, surface water, or the atmosphere; financial responsibility for closure and post-closure; groundwater monitoring (variances are possible); and corrective action of releases to air, water, and land to protect health and the environment.

New landfills or lateral expansions of existing fills require that a composite liner and leachate collection and removal system be constructed unless it can be demonstrated that no leachate will be generated. Also, landfills cannot be located within the one-hundred-year flood plain, within a wetland, or within 200 feet of a fault line.

Minimum requirements also are spelled out for MSW combustor ash. Treatment and testing guidelines would be required. Landfill requirements for fly and bottom ash are detailed, and

minimum standards for reuse and recycling of combustor ash are described.

The EPA administrator is to promulgate performance standards for solid waste recycling facilities "as may be necessary to protect human health and the environment." The regulations also would establish standards for the reuse or use of products from recycling or resource recovery and for the use and composition of compost made from solid waste.

Lead-acid batteries, tires, and used oil require separate management standards. Used oil that is not recycled is deemed a "hazardous waste." The proposed requirements for record-keeping by collectors, transporters, and recyclers of used oil are extensive.

The House bill also establishes a permit system for combustors, landfills, landfilling (and monofilling) of combustor ash, mixed waste composting facilities, intermediate processing facilities for recycling, and scrap tire collection sites. Permits could be valid for as long as ten years rather than merely five years as in the Senate proposal. H.R.3865 does not specify added minimum requirements for landfills, as does S.976, but the bill addresses standards for composting facilities in addition to combustion ash management and recycling storage facilities. While the Baucus Bill focuses much attention on management of used oil, the Swift Bill does not.

Federal Permitting: Critical Review. The rationale for a federal permit system for MSW management facilities is not particularly clear. State and local officials have been doing this task adequately until now. For example, the EPA, in its 1988 *Report to Congress: Solid Waste Disposal in the United States*, noted that 68 percent of all states had adopted federal landfill guidelines for groundwater protection and air emissions mitigation, and 57 percent had adopted the surface water protection guidelines.²⁶ The same report showed that 40 states had some form of groundwater protection and run-off control regulations, and 36 had some regulations regarding surface water. Since that survey, states have introduced additional regulations regarding landfill construction, operations, and closure.

Landfills and combustors are not particularly harmful to public health or the environment. According to EPA estimates, current U.S. MSW landfills pose only a probability of one cancer case every 13 years, and this was prior to new federal guidelines issued in 1991.²⁷ Moreover, this is a statistical probability figure derived from EPA risk assessment models that already overstate risks.

The Municipal Solid Waste Task Force concluded, "Although combustion is not risk-free, a state-of-the-art combustor that is well operated should not present a significant risk to human health and the environment."²⁸ In addition, the United Nations' World Health Organization found that the emissions of dioxin and furan from a properly constructed and operated combustor represent from a tenth of a percent to a few percent of the background levels of these compounds in the atmosphere.²⁹

In short, state plans and MSW facility permits will have to satisfy a host of federal criteria in either bill. Ultimate authority (if not responsibility) for MSW management would move from the cities to Washington, D.C. Already, the 1991 landfill regulations set forth by EPA were estimated to cost \$330 million per year. Cost estimates for the the regulations proposed by the Swift and Baucus bills are not available.

Summary: RCRA Reauthorization Proposals

RCRA reauthorization proposals place the federal government squarely in the forefront of MSW management. States are required to submit plans that demonstrate adequate capacity to manage solid wastes. If a state meets all the requirements of the legislation, it can block solid

waste imports. Nearly every aspect of MSW management requires a permit from a federal or federally approved state authority.

In summary, the key features include:

1) A hierarchical approach to solid waste management.

A hierarchy of solid waste prevention given the highest priority, recycling the next, followed by waste treatment, and with contained disposal and incineration bringing up the rear. The Senate proposal declares a national goal of reducing 10 percent of the MSW stream by the year 2000. Recycling should reach a minimum rate of 25 percent by 1995 and 50 percent by 2000.

Key Problems. The pragmatic problems of measuring the baseline value of the MSW stream or of measuring performance against that baseline are ignored in S.976, leaving this issue open to much contention in the future should the legislation be adopted. These measures--or variations of them--would put the federal government in the role of restricting disposal options, even when options such as landfilling and incineration might be both environmentally sound and cost-effective.

2) Measures to "create" markets for recyclables and reduce packaging.

The 1991 draft of the proposed legislation in the Senate made several dramatic departures from past proposals for involving the federal government in MSW management. One example was the provision to promulgate "commodity-specific recycling standards" that established the amount of recycled materials to be used in products that can be recycled or require minimum recovery rates for products or groups of products in order to meet the recycling goals.

The EPA administrator was given authority in S.976 to publish guidelines based on the program recommended by a Products and Packaging Advisory Board. Following guidelines to minimize the quantity of packaging, to minimize "consumption of scarce natural resources in packaging production and use," and to maximize recycling and reuse of packaging would likely produce many anticonsumer consequences.

The newer, February 1992 draft borrows from the key provisions of the German Green Dot program that makes manufacturers responsible for taking back, or ensuring that someone else recycles, their packaging after it has been discarded by the consumer.

The House document (H.R.3865), like its Senate counterpart, outlines an ambitious federal program to "solve the garbage crisis." Efforts to establish flexibility in the packaging provisions of the bill create a confusing web of requirements backed up with threats of administrative fines and possible product bans. In addition, the House version adds "diversion" and environmental claims requirements that further involve the EPA in insuring that recycling is given preeminence in managing solid waste.

Key Problems. Emphasizing only this subset of packaging goals would almost certainly increase costs of products and reduce technological innovation based on other criteria such as convenience or product protection.

In essence, both the House and the Senate are in the process of using RCRA reauthorization to create a federal recycling bureaucracy, one with very much to say about the types of packaging and products that would be available to American consumers. If passed in anything like their current form, the MSW provisions in the Resource Conservation and Recovery Act would make the EPA administrator "the federal garbage man."

These provisions would also put federal regulators into the business of specifying materials inputs into packages and products, restricting manufacturers' ability to make decisions about materials inputs based on relative prices.

The 1992 Senate draft proposals presume that manufacturers do not have an incentive to reduce the amount of materials incorporated into their packages, or to seek ways to use recycled materials unless they are required to do so.

Moreover, these provisions rest on the mistaken assumption that "packaging is pollution." Packaging is not "pollution", and making analogies between packaging and air or water emissions is inappropriate for a number of reasons.

- × Packaging serves a set of direct functions that include, but are not limited to preventing product breakage, facilitating product transport and distribution, extending the shelf life of perishables, minimizing food waste, and providing consumer information. Consumers benefit from these packaging attributes.
- × Packaging is not a "negative externality"--that is, it does not pose harm to "third parties"--if it is not littered and is properly disposed of.
- × At every point in the production, consumption, and disposal chain, packaging costs can be directly incurred by the "owner" of the package. This is not the case with air or water emissions.

The fact that packaging is not pollution or a "negative externality" means the growing tendency among legislators to push for "industry responsibility" for taking back, or recycling, their packaging, or subsidizing collection efforts, is based on inappropriate assumptions. Such policies are also likely to significantly increase waste management costs, since waste handling will increasingly take place on a material-by-material, even package-by-package basis.

III.BACK TO BASICS

Federal proposals for comprehensive cures to solid waste woes are hardly more attractive than the hodgepodge of state laws that have evolved. Much of the legislative activity seems driven by a perception of recycling as an end in itself. Resource conservation is not well-served, however, by measures that dictate inflexible, one-size-fits-all, usage of secondary materials as prescribed in current federal RCRA reauthorization bills. Government "solutions," in many instances, have lost sight of the "problem"--to safely manage municipal solid waste.

A more constructive approach requires returning to the basics, in particular, applying two fundamental principles to solve the so-called garbage crisis. One of these principles is economic in nature; the other is political.

First Principles

The central objective of municipal solid waste management is to protect public health and welfare while effectively dealing with the volumes of solid waste generated by our society. The goal of protecting public welfare certainly includes safeguarding the environment. Protecting public welfare also implies using the most cost-effective means available.

Cost-Effectiveness. Cost-effectiveness is a first principle for MSW management because finite resources must be allocated to their most productive uses. Economists typically accept market prices as a measure of the relative values of resources. In this view, resources such as energy, metals, and even human labor and financial capital will be allocated to their most valuable use as a result of the prices placed on them by the "invisible hand" of the market. Environmentalists, however, often see the world as filled with "external costs" that are not captured in prices. What is the value of a clear view, of a virgin forest, or of biological diversity?

The most significant distortions in prices that affect solid waste management are caused by government interference with markets. For example, many cities still provide "free" trash collection to residents. Of course, trash pickup is not free; trash collections in these communities are paid for out of general revenues. The problem is that the decision by local government to pay for MSW management in this fashion destroys the market signals that provide incentives for individuals to reduce the volume of their trash.

Research by Lynn Scarlett, Vice President of the Reason Foundation, shows that even when cities attempt to account for the costs of solid waste disposal, they typically understate the full costs.³⁰ On average, municipalities fail to account for more than a fifth of the true costs of garbage collection. Cities overlook such costs as: (1) capital costs of garbage trucks, (2) interest on bonds, (3) operating costs such as fuel, oil and tires for vehicles, (4) labor costs for vehicle maintenance, (5) fringe benefits, (6) building costs and (7) costs for liability insurance.

Citing research by Robert Glebs of Creative Resource Ventures, Scarlett also points out that municipally operated landfills greatly understate costs. Fully capturing all the costs of operating a safe landfill in 1975 would have resulted in tipping fees of about \$25 a ton as opposed to the average tipping fee of \$5 a ton charged at that time.³¹

Local Control. Another first principle of MSW management is derived from political rather than economic concepts. If action is needed on the part of the public sector, it should be taken by the lowest level of government qualified to do so. Local and state solutions are preferable to federal responses for two basic reasons. First of all, local and state governments, because of their proximity to the people most affected by their legislation, are more likely to reverse ill-considered courses of action. There are far fewer instances where Congress has admitted making a mistake and fundamentally has revised major legislation. Secondly, solid waste management needs vary significantly depending on local conditions. Costs for landfills, recycling, composting, and incineration depend on demographics, industrial base, resource availability, and so on.

Applying Economic Principles

If the basic goal is to manage municipal solid waste in a way to protect public health and the environment while conserving resources, recycling and source reduction should not be accorded any *a priori* preference over other acceptable methods of managing MSW.

If waste can be disposed of by incineration and landfilling without significant risk to public health or to the environment, why should these disposal methods be assigned lower ranks in a

waste management "hierarchy"? Indeed, higher costs for recycling may be an indicator that more--not fewer--resources are being consumed through this process relative to alternatives.

Stripped of their arbitrary elevated status in an MSW management system, source reduction and recycling should have to compete with waste-to-energy and landfilling on economic as well as public-health and environmental grounds.

If recycling was viewed as just one of several mutually acceptable options for an integrated waste management system, much ill-conceived legislation could be foregone. In those instances where market values for items in the waste stream are higher than disposal costs, or nearly so, public-sector efforts to encourage the development of markets for recycled materials might be beneficial. Government procurement preferences--paying a premium of 10 percent or so above market prices for goods made with substantial recycled content--may help push some of these marginally profitable recycling efforts into the black.

Pump-priming activities need not require public-sector intervention, however. Examples of private-sector initiatives to build recycling infrastructures abound. Jefferson Smurfit and Waste Management, Inc. (WMI) are working together to recycle newsprint. Amoco's Foam Products Company is aggressively investing in polystyrene recycling and Dow Chemical and seven other plastics manufacturers have formed the National Polystyrene Recycling Company.

The American Paper Institute released a survey on December 11, 1991, which projects that 30 percent of the industry's consumption of fibrous raw materials will come from recovered paper in 1994. The Institute's president, Red Cavaney, said that the industry is "on track" to reach a recovery rate of 40 percent by 1995. He also warned that "mandated fiber content schemes, if enacted into law, would seriously jeopardize both the industry's recycling progress and its overall competitiveness."³² Mandates create havoc for planning for added or replacement capacity in this capital-intensive industry.

This is not to say that all private-sector efforts to build recycling infrastructure will be successful. In March 1990, WMI and DuPont announced a joint venture, the Plastics Recycling Alliance, to build five plants nationwide to recycle post-consumer plastics. On November 7, 1991, Waste Management pulled out of the alliance, selling its interest to DuPont. DuPont's Director of Environmental Affairs and Resource Recovery, Frank Aronhalt, said of the venture, "It's tougher than we anticipated." He also estimated that profitability is "at least another year or so away."³³

Even though the Alliance was able to charge a 20 to 30 percent premium for recycled raw plastics, compared to virgin materials, collection costs and problems with sorting and contamination have caused the venture to lose money. Big consumer marketing firms have been willing to pay a higher price in order to advertise that their packaging uses recycled plastic, but not a price high enough to make the venture profitable.

Local Application of Economic Principles. Ideally, local government should focus on "getting the prices right" for municipal solid waste management. One obvious way to do this is to privatize (or at least "corporatize") the task to ensure that costs are fully allocated and that prices charged for service reflect these costs. Using a bid process to select private haulers and leaving provision of recycling and disposal facilities to the private sector would result in market-determined prices.

Whether solid-waste management is fully privatized, partially privatized, or publicly provided, costs need to be fully accounted for and passed on to customers in order to properly plan for MSW management capacity. In a 1991 Roper Organization survey, slightly more than half of the respondents (56 percent) said they paid separate monthly garbage collection fees; nonetheless, more than a fourth of this group did not know how much they paid. Of the

one-third of the respondents who said their trash is paid for by local taxes, 93 percent had no idea how much garbage collection costs.³⁴

The Swift bill acknowledges this problem by requiring that states, in their MSW plans, mandate local authorities to charge for garbage collection or, at least, present a statement of these costs once a year to the taxpayers. Federal encroachment into such local matters raises some problems, since local conditions vary significantly. Moreover, many cities already are moving to a "pay-as-you-throw" system of charges per can or per bag of trash.

A key question is whether the higher pickup costs resulting from the separate collection of recyclables is offset by the recovery value of the recyclables and the tipping costs foregone. If not, resources are being wasted, not saved, by offering "free" pickup of recyclables.

Taking a secular view of recycling also helps turn attention to the problem of providing adequate solid waste management capacity. To head off a real garbage crisis, modern, safe combustors and landfills need to be sited at a more rapid pace.

Economic principles also can help solve the siting problem. Disposal facilities do not provide very many jobs to a community and can hardly be thought of as assets to their nearest neighbors. As a result, it should come as no surprise that these facilities are vigorously opposed. Much of this opposition could be defused, however, if affected residents were fairly compensated.

Local governments have been responsible for managing solid waste for decades and have, by and large, proven to be responsible agents in this task. Ignorance, rather than venality, explains most of the past mistakes in siting disposal facilities.

Economic principles are not the final word in determining the respective roles of business, individuals, and various levels of government, however. In particular, political principles need to be applied to sort out public-sector responsibilities.

Sorting Out Jurisdictional Issues

Restraining public-sector involvement to the lowest level of government that is competent to deal with the problem can head off much counterproductive legislation. A corollary to this principle is to restrain government from intervening in the first place or to choose the least disruptive means of intervention.

State Responsibilities. State or federal standards for safe disposal siting and operation can help local officials assure the public that MSW management facilities are safe. Current RCRA provisions already provide the EPA with authority to establish guidelines for these facilities. In fact, U.S. EPA released new landfill guidelines in September 1991.

Requiring state permits for landfills, combustors, and recycling centers may help local government gain public acceptance for these needed facilities. Because of the political dimensions of siting problems, local governments are becoming more supportive of state standards for these facilities and of requirements for capacity planning and arbitration procedures for siting. Coupled with fair economic compensation to affected residents, these state-level requirements can help overcome the NIMBY syndrome.

Wisconsin's process of siting waste facilities is often held up as a model for other states to follow. The State Waste Facility Siting Board has the power to arbitrate between municipalities and developers as long as the agreements meet the requirements of the state. Of the 103 facilities subject to the law as of October 1989, 10 cases did not require Siting Board negotiation procedures, 26 reached an agreement, 41 were still in process, 5 were withdrawn,

and 1 was going to arbitration. Even so, siting in Wisconsin takes three to five years.³⁵

If states squarely face the need for adequate disposal capacity, then embargoes on out-of-state trash will seem far less desirable. Clearly, laws that build trash fences around state borders are beyond state authority, as evidenced by their failure to pass judiciary muster.

The Federal Role. As mentioned previously, EPA's responsibilities for establishing performance standards for combustors and landfills are already prescribed in Subtitle D of the Resource Conservation and Recovery Act. Current law authorizes EPA to promulgate regulations containing criteria to classify types of sanitary landfills, to facilitate the closing or upgrading of existing open dumps, and to revise landfill guidelines. Though current law requires states to adopt landfill criteria within 18 months of their effective date, it stops short of the federal permit scheme called for in reauthorization proposals.

Protecting citizens from incoming trash is also a new initiative. The interstate transport provisions of S.976 and H.R.3865 fail to acknowledge that three-fourths of the states simultaneously import and export solid waste. Only New York and New Jersey are significant net exporters, responsible for more than half of all interstate commerce in MSW. Interstate shipment of municipal solid waste is hardly the national emergency that Congress and state governors are making it out to be.

IV.CONCLUSION

Without adding safe disposal capacity, the United States truly will be facing a garbage crisis by the turn of the century. Optimistic recycling plans--hoping to recover 50 percent of the solid waste stream by the year 2000--are likely to prove disappointing. More realistic recycling rates may peak at, or below, 25 percent. If waste-to-energy or landfill facilities are not sited at a rate to compensate for the normal closure of old landfills, policymakers a decade from now will be forced to make the tough choices that today's political representatives appear unwilling to make. Furthermore, the alternatives available to future decision makers may be fewer and even less attractive.

Potentially, everything is recyclable, but everything is not economically recyclable. Market prices normally signal which items in the waste stream should be recycled and which should be disposed of. If we ignore these market signals, we will actually waste other valuable resources--energy, water, or human or physical capital--in our efforts to recover materials that should have been discarded in a safe and economical manner.

To avoid a real garbage crisis, public policy must take a different direction than the current course of escalating state and federal intervention. The concept of an arbitrary hierarchy of solid waste management with source reduction as number one, followed by recycling, then waste-to-energy and landfilling as methods of last resort must be abandoned. Instead, local decision makers should be allowed to take an "integrated" approach. They should be free to decide which combinations of these equally acceptable management methods are best for protecting public health and the environment in the most cost-effective manner.

State governments can assist in breaking the NIMBY syndrome by offering mechanisms to resolve siting disputes. The states can also provide information on successful siting experiences. In addition, state governments can act as certifying agents, requiring permits for waste management facilities that protect citizens' health and welfare. Product bans or recycling mandates are not productive, however.

The primary role of the federal government and its chief environmental agent, the U.S. EPA, should be one of information gatherer and disseminator. Guidelines, not standards, are needed to assist state and local officials in their efforts. Federal requirements for state solid waste

plans, and federal reduction and recycling "goals" that quickly become mandates, such as embodied in proposed legislation, represent excessive federal responses that will heighten costs and misallocate resources. Offering states the opportunity to block solid waste imports in return for jumping through all the federal "hoops" is not appropriate federal policy either.

In testimony before the Environmental Protection Subcommittee of the Senate Environment and Public Works Committee on September 19, 1991, EPA Administrator William Reilly criticized the Senate RCRA reauthorization bill for being overly prescriptive and costly.³⁶ The EPA administrator suggested that new legislation may be unnecessary and warned, "We must not nationalize the garbage problem."³⁷ In short, we do not need a federal garbage man.

About the Author

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NOTES

1.Senator Max Baucus, *Congressional Record--Senate*, April 25,1991, p. S.5261.

2.Ibid.

3.*Public Attitudes Toward Garbage Disposal* (Washington, D.C.: National Solid Wastes Management Association, May 3, 1990), p. 3. A word of caution is in order. A February 1989 NSWMA survey that asked a slightly different question (namely, "Would you favor or oppose placing a new waste-to-energy plant in your community?"), registered a 48 percent "oppose" response compared to 39 percent who would "favor" a waste-to-energy plant.

4.Ibid., p. 4.

5.Office of Technology Assessment, *Facing America's Trash: What Next for Municipal Solid Waste?* (Washington, D.C.: U.S. Government Printing Office, October 1989), p. 27.

6."Recycling in the States: 1990 Review," National Solid Wastes Management Association (Washington, D.C., September 1991), p. 13.

7.American Legislative Exchange Council, "State Solid Waste Policy: January 1991," Legislative Update, p. 3.

8.Harvey Alter, "The Future Course of Solid Waste Management in the U.S.," *Waste Management & Research*, Vol. 9 (1991), pp. 12, 13.

9."Recycling in the States," p. 15.

10.*Characterization of Municipal Solid Waste in the United States: 1990 Update* (Washington, D.C.: U.S. Environmental Protection Agency, June, 1990), p. ES-7.

11.*Characterization of Municipal Solid Waste*, p. 45.

12.Tom Rattray, "Source Reduction--An Endangered Species?" *Resource Recycling*, November 1990, pp. 64, 65.

13. ALEC, "State Solid Waste Policy," p. 25.
14. Carl C. Landegger, "The True Cost of Recycling," Chief Executive, June 1991, p. 35.
15. Landegger, p. 37.
16. ALEC, "State Solid Waste Policy," P. 27.
17. Frank Edward Allen, "Environmental Terms Catch On Very Slowly," *Wall Street Journal*, July 11, 1991, p. B1.
18. Rose Gutfeld, "Eight of 10 Americans Are Environmentalists, At Least So They Say," *Wall Street Journal*, August 2, 1991, p. A1.
19. "Sorting Out the Garbage: America Looks at the Consumer Solid Waste Issue," The Roper Organization, Inc. (for Citizens for the Environment), October 1991, p. 31.
20. Lynn Scarlett, "Integrated Waste Management: Rethinking Solid Waste Problems and Policy Options," *Policy Insight*, No. 128 (Los Angeles: Reason Foundation, May 1991), p. 21.
21. Frederick C. Dunbar and Mark P. Berkman, "Sanitary Landfills are Too Cheap!," *Waste Age*, May 1987.
22. *Interstate Movement of Municipal Solid Waste* (Washington, D.C.: National Solid Wastes Management Association, October 1990), p. 4.
23. Bruce J. Parker and John H. Turner, *Federal/State Issues Under RCRA* (Washington, D.C.: National Solid Wastes Management Association, June 18, 1990), p. 5.
24. *Ibid.*, p. 18.
25. *Ibid.*, p. 19.
26. EPA, *Report To Congress: Solid Waste Disposal in the United States, 1988* (Washington, D.C.: U.S. EPA, 1988).
27. "Solid Waste Disposal Facility Criteria," *Federal Register*, Vol. 53, No. 168 (Washington, D.C.: U.S. Government Printing Office), August 30, 1988, pp. 33387, 33394.
28. EPA Municipal Solid Waste Task Force, *The Solid Waste Dilemma: An Agenda for Action* (Washington, D.C.: U.S. Environmental Protection Agency, 1989), p. 6.
29. Michael J. Suess, "PCDD and PCDF Emissions and Possible Health Effects: Report on a WHO Working Group," *Waste Management & Research*, Vol. 5, No. 3 (1987), p. 257.
30. Lynn Scarlett, "RCRA Solid Waste Regulation: The Problem With 'One Size-Fits-All,'" *Journal of Regulation and Social Costs*, Vol. 1, No. 5, June 1991, p. 69.

31.Ibid.

32."Use of Recycled Fibers in New Products Growing at Fast Pace, Paper Institute Says," *Environment Reporter*, Bureau of National Affairs, December 20, 1991, p. 2060.

33.Jeff Bailey, "Major Venture for Recycling Loses a Partner," *Wall Street Journal*, November 7, 1991, p. B6.

34."Sorting Out the Garbage," p. 51.

35."Facing America's Trash," p. 344.

36."Reilly Rejects Senate RCRA Bill, Suggests New Legislation Unnecessary," *Inside EPA*, September 20, 1991, p. 3.

37.David Stipp, "Massachusetts Business Groups Propose a Broad Recycling and Packaging Law," *Wall Street Journal*, September 18, 1991, p. B7.

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