



# Pollution Prevention News

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Your comments and  
letters are welcome!

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## Editor's Corner

This month we bring you a forum of ideas and views on the subject of municipal solid waste (MSW) recycling. Despite the numerous issues still open for discussion on recycling, we are heartened by the enormous progress made in a very short time and the widespread interest in solid waste recycling around the country. Congratulations are in order to the many people across the private and public sectors who are making this happen.

With all this activity, however, it also is important to keep recycling in perspective and to remember that waste *prevention* must remain a priority. The Congressional Office of Technology Assessment (OTA) makes this point very clearly in its recent report, *Facing America's Trash: What Next for Municipal Solid Waste*. The report outlines a national MSW policy based on "the dual strategies of waste prevention and better materials management," with waste prevention defined as "activities by manufacturers and consumers that reduce the toxicity or quantity of products before they are purchased."

We promised last issue to report on EPA's own recycling efforts, and so we talked to Gail Wray, EPA's in-house Recycling Coordinator since May 1989. Her aim is to build a model in-house EPA recycling program at headquarters, regions, and laboratories. In fiscal year 1989, EPA Headquarters diverted 402 tons of high-grade paper from the waste stream, up 150% from 1988 collections of 253 tons. According to Wray, EPA's recycling goal is "100% divergence and 100% compliance." Wray's efforts are supported by a dynamic 30-person Recycling Working Group at EPA who have volunteered their time to get the program underway.

Starting in December, EPA headquarters buildings will shift to a 2-paper sort of high-grade paper (mostly white paper and envelopes) and low-grade paper (mostly colored paper, file folders, brown envelopes, and old Codes of Federal Regulations!). Sorting will be done at each employee's desk, with additional large color-coded bins placed at another 300 locations. Glass and aluminum recycling is available to employees nearby, and will be col-



EPA Administrator William Reilly addresses the EPA Recycling Kick-Off in August 1989.

lected inside EPA buildings by October 1990 under the District of Columbia's new recycling law.

EPA also will be placing an increasingly heavy emphasis on the demand side to change federal procurement practices in order to support the development of markets in recycled products. As Wray points out: "We had collection in the 1970s, but recycling failed then because there was little procurement and volatile markets. This time procurement and markets need to get as much attention as collection."

In the Pollution Prevention Office, we also will be working hard to promote EPA's in-house model program and to extend it beyond recycling, so that it includes a strong emphasis on prevention — ultimately moving towards the use of alternative fuels in EPA's vehicles, reducing the use of chemicals on EPA lawns, achieving greater fuel efficiency in office lighting, using less toxic materials in EPA laboratories, and expanding employee training programs.

In short, we will be working towards a comprehensive program that can serve as a model for other federal agencies and a variety of offices, businesses, and organizations. In this, recycling clearly has an important role to play. But prevention still comes first.

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# Forum on Solid Waste Recycling

## Will Recycling Succeed?

by William L. Kovacs

Maybe! Hopefully! But it is not certain.

Recycling will only succeed when American society and its laws reward conservation and the efficient use of materials, and impose upon those who waste the real cost of the waste. Such a formula sounds simple, perhaps even logical, but it is a formula that is totally at odds with mainstream American thinking. Obstacles to recycling exist throughout our laws and social habits.

What practical measures can be taken to encourage American industry to use recyclable materials as their raw material supply and to encourage consumers to purchase products made from recyclable materials? Following are some key steps:

1. Congress should refrain from passing any new recycling laws until it implements the laws already on the books. Many of the programs proposed in pending legislation have already been enacted. Such laws need

to be funded and implemented, not re-written.

2. Government must permit disposal costs to rise to their true level, which includes the economic value of decreasing disposal capacity, environmental remediation and the inability to site new capacity.

3. The federal government must lead the way by giving preference in procurement to items made from recycled materials and should require all other government contractors (consultants as well as vendors) to procure items made from recycled materials as a part of obtaining a government contract.

4. States and localities must act together as regions in order to create larger and more uniform markets for products made from recycled materials and to amass greater economic clout in order to attract recycling industries into the region and to develop markets for these products.

5. A catalyst, like the Clean Japan Center, must be created in order to bring government, industry, and the community together

in the development of recycling activities and markets for recycled products.

6. Where practical, governments should mandate minimum recycled content requirements for products. For example, all newsprint should contain at least 40% recycled fiber. California now requires that at least 25% of all newsprint used in the state contain recycled fiber. This percentage rises over time to 50%. Six other states are considering similar proposals and Connecticut has enacted similar requirements.

7. Finally, to persuade industry to use recycled and recyclable materials, consumers must demand (a) that products be made from recycled materials; (b) that manufacturers disclose the recycled content and recyclability of their products; and (c) that manufacturers disclose the cost of the package in relation to the cost of the product.

*William L. Kovacs is a partner with the law firm of Eckert Seamans Cherin & Mellot in Washington, D.C.*

## Keys to Successful Curbside Recycling

by Jeremy K. O'Brien, P.E.

Interest in curbside recycling is spreading like wildfire across the United States. Many managers, however, are surprised at the costs of curbside recycling programs. Net costs following the sale of the recyclables can run up to \$50 per ton or more. Major costs elements are collection (75%) and processing (25%). Revenues from the sale of recovered materials typically cover about half the program costs.

The reason that curbside program costs are high is that an additional collection service is being provided to residents. To reduce costs and improve the effectiveness of curbside recycling programs, managers should:

1. **Consider combined collections.** Collection costs can be reduced in three ways:

- *Combined collection.* Mixed recyclables and yard waste can be put into clear plastic bags by the resident and collected along with the mixed waste. The bags can then be sorted from the mixed waste at a transfer station or materials

recovery facility. This approach, while relatively untried, offers the potential for eliminating the expense (and air pollution) associated with providing an additional collection service.

- *Modification of regular collection service* to allow for the collection of recyclables. For example, a municipality can go from a twice/week refuse collection service to a once/week refuse collection and once/week recyclables collection service. The City of Phoenix is experimenting with this approach.
- *Use of automated and semi-automated systems*, rather than manual collection of recyclables.

2. **Target large volume materials such as yard waste.** In Seattle, San Jose, and Los Angeles, yard waste recycling is expected to play as significant a role in waste diversion as all other curbside materials combined.

3. **Target other waste streams.** For example, many program managers are finding that the commercial waste stream offers more potential than the residential waste stream for recycling.

By implementing new collection ap-

proaches, targeting large volume materials, and including the commercial and other waste streams, municipal managers can reduce the costs and increase the effectiveness of curbside recycling programs.

*Jeremy K. O'Brien, P.E., is a Project Manager/Project Engineer with HDR Engineering, Inc.*



*San Jose, CA curbside collection*

# EPA and Recycling

by Sylvia Lowrance

EPA's national solid waste strategy, *The Solid Waste Dilemma: An Agenda for Action*, was developed by the Office of Solid Waste and published in February of this year. The strategy sets a national goal of 25% source reduction and recycling of solid waste by 1992, recommends the adoption of an integrated approach to solid waste management, and lays out EPA's objectives for finding solutions to the solid waste problems facing our states, counties, cities, and towns.

In order to meet the objective of increasing recycling, EPA is working to understand and develop markets; to promote separation and collection of materials; to promote recycling yard wastes, tires, batteries, and used oil; and to create the National Recycling Institute to foster the growth of recycling.

## Marketing

Marketing is perhaps the most critical and difficult step in the recycling loop; materials can be collected, but if they are not sold and reused, then recycling is not occurring. In order to gain greater understanding of the market issues, EPA is conducting market analysis studies on a wide variety of materials. EPA also is examining policies that could provide incentives for development of recycling markets or remove existing disincentives.

One action that EPA is taking that should have long-term impact upon recycling markets is a recently issued set of procurement guidelines that require the federal government, and state and local governments using federally appropriated funds, to procure paper products, building materials, used oil, and retread tires with recycled content. Since the government consumes large quantities of these products, the guidelines have a tremendous potential to create demand for goods with recycled content.

More information about EPA's procurement guidelines is available from the EPA Procurement Guidelines Hotline, (703) 941-4452.

The market for old newspapers is of particular concern to EPA because of the large impact newspaper recycling has upon reducing waste volume and the current low prices for used newsprint. In some areas of the country the avoided costs of disposal are high enough that brokers are being paid to

remove the newspapers. EPA is working with newspaper mills, publishers and other users of recycled paper, and government recycling programs to develop additional markets for old newsprint.

## Separation and Collection

Separation and collection of recyclables are the other half of the recycling loop. Here EPA has a key education and promotion role. In addition to recent publications (see box), EPA is preparing a *Decision Makers Guide to Solid Waste Management* which describes the policy options available to local solid waste management officials in the context of integrated solid waste management.

EPA also is providing a leadership role and an example for office paper recycling through its own waste paper recycling program, and by developing a guidance document entitled *Office Paper Recovery: An Implementation Manual*, as well as a training program for federal recycling coordinators.

## Other Recyclables

Yard waste composting is a key element in our efforts to effectively recycle large amounts of our nation's waste, because yard waste on average accounts for nearly one-fifth of municipal solid waste. Efforts to remove this waste, compost it, and reuse it could have a tremendous effect upon extending landfill capacity, as well as providing a source of mulch and fill for communities. EPA is developing guides to compost operation and markets.

Certain types of waste—such as used oil, tires, and lead-acid batteries—are identified as special recyclables because of the difficulty of disposal, or the threat they pose to the environment if they are improperly disposed. EPA is using education and outreach materials, how-to manuals, and studies to make decision-makers and the public more aware of the dangers of improper disposal of these special wastes and to promote alternative methods of disposal.

## National Recycling Institute

In order to foster a better understanding of recycling, EPA has created a National Recycling Institute through a grant to the National Recycling Coalition. This Institute will provide national perspectives on recycling policies, staying abreast of technical,

regulatory, and legislative issues and initiatives that can enhance or hamper recycling efforts. We also expect the Institute to monitor national progress towards recycling goals, explore national and international markets for secondary materials and study world trends. The Institute will be comprised of representatives from the secondary materials and waste management industries, public interest groups, states, localities, and manufacturers.

*Sylvia Lowrance is the Director of EPA's Office of Solid Waste.*

## Recent EPA Publications

*Yard Waste Composting: A Study of Eight Programs.* Discusses composting technologies, and collection and marketing approaches in Davis, CA; East Tawas, MI; Montgomery County, MD; Omaha, NE; Seattle, WA; Wellesley, MA; Westfield, NJ; and Woodbury, MN. April 1989.

*Recycling Works! State and Local Solutions to Solid Waste Management Problems.* A description of programs in 14 communities, obstacles overcome, unique solutions, and helpful tips. January 1989.

*How to Set Up a Local Program to Recycle Used Oil.* Steps for designing and implementing a community used oil program. May 1989.

*Bibliography of Municipal Solid Waste Management Alternatives.* Abstracts and ordering information for over 200 publications. August 1989.

*Promoting Source Reduction and Recyclability in the Marketplace.* A study of consumer and industry response to promotion of source reduced, recycled, and recyclable products and packaging. September 1989.

To order any of these documents, or for further information on EPA's program, call the RCRA/Superfund Hotline, 1-800-424-9346. (In Washington, D.C., call 382-3000.)

# Recycling Conference

The 8th National Recycling Congress was held in Charlotte, North Carolina on Oct. 31–Nov. 3. Over 1,500 people gathered to discuss opportunities and prospects in recycling trends and technologies. The congress was sponsored by the National Recycling Coalition, Mecklenburg County, North Carolina Pollution Prevention Program, and the N.C. Recycling Association.

Charlotte recently confronted an unexpected recycling opportunity of its own: widespread damage from Hurricane Hugo created over two million cubic yards of tree and yard debris in the city and surrounding area. The county has set up a program to recycle the debris into wood chips and mulch. Below is a sampling from the more than 100 presentations offered at the congress.

## Impact of Federal Procurement Guidelines

Between June 1988 and February 1989, EPA issued four guidelines for purchasing products containing recovered materials: paper and paper products, lubricating, oil, retread tires, and building insulation. Each guideline triggers a statutory requirement that procuring agencies (federal agencies or those using appropriated federal funds) develop affirmative procurement programs for purchasing these items containing recovered materials. Are the guidelines having an impact? The short answer is yes, although the impact is mixed.

**Paper:** The federal government is purchasing various grades of paper and paper products containing recovered materials and many state and local governments are using the EPA recommended minimum content standards. Problems with availability, price, resistance to use, and definitions of mill broke and waste paper remain, however.

**Oil:** Implementation of this guideline has been slow or non-existent because the cost of testing oil against the military specifications remains a barrier, and some vehicle manufacturers are refusing to honor engine warranties if rerefined oil is used.

**Tires:** Specifications for new tires have been revised to include retreads; testing was scheduled to occur in September.

**Insulation:** The Departments of Energy and Health and Human Services are developing guidance for their regional offices and grantees about compliance with the guideline.

Dana F. Arnold  
E.H. Pechan & Associates, Inc.

## Aluminum UBC Recycling

In 1988, the aluminum can industry spent over \$15 million on promoting the recycling of aluminum used beverage cans (UBCs). The market for aluminum UBCs is tied closely to other related industries. Each of the industries in the supply chain is also a consumer — the sheet producers rely on a steady supply of UBC, the can manufacturers rely on the sheet producers, and so on.

Contamination — by moisture, heavy metals, and non-UBC metallics, combustibles, and dirt — is the greatest quality concern UBC consumers face today. Since contamination is more efficiently eliminated at the grass roots level, collectors need to know how to spot and eliminate contaminated UBC before it reaches the UBC consumer.

In getting to today's 55% aluminum can recycling rate, UBC consumers have relied largely on that segment of the public that needs the cash to live on or supplement their income. But these recyclers are "tapped out." The challenge is to change the behavior of those Americans who are not currently recycling. Two strategies seem to be working. The first involves convincing consumers who won't recycle for themselves, to save their cans for charities. The second approach involves getting consumers to recycle for the organizational equivalent of the cash hungry recycler — community groups like the Boy Scouts, marching bands and school athletic teams.

David R. Smith,  
General Manager,  
Continental Resource Recovery  
(Affiliate of Continental  
Can Company)

## After the Barge: 25%, 50%, or 85% Recycling?

How much of the waste stream is it reasonable to recycle? Three distinct views have emerged on Long Island, in the aftermath of the garbage barge fiasco, and under pressure of a law requiring landfills to close by December 1990.

The "25% solution" — recycle 25% — is supported by many local governments and by the incinerator industry. This level is seen as prudent in view of the newspaper glut and as a way to increase the overall economic and physical performance of waste-to-energy systems. Recycling at the 25% level would represent a significant increase for most of Long Island.

The "50% solution" (with 10% coming from source reduction) is the statewide 1997 goal set by the New York State Department of Environmental Conservation. Incineration is an essential component in this plan, but only after source reduction and recycling options have been exhausted.

The "85% solution" is urged by environmentalists who cite the intensive trash separation project headed by Barry Commoner in East Hampton, Long Island. The 85% solution precludes virtually all incineration. Each position uses a different method to calculate the percentage reduction and relies on a particular set of assumptions and theories concerning engineering, environmental impacts, economics, and social values.

Sheldon J. Reaven, Professor,  
Waste Management Institute  
State University of New York  
at Stony Brook

# Forum

## The Scrap Recyclers' View by Herschel Cutler

From the scrap recycler's perspective, the current American recycling picture is dotted with irony. In the midst of a positive orientation to increase our national recycling efforts, we are encountering increasingly difficult regulatory hurdles.

The presence of trace amounts of hazardous materials in consumer products destined for recycling often precludes recycling efforts because of scrap processors' realistic fears of potential liability, perhaps many years hence, for once having handled a commodity containing hazardous components. Household appliances, or "white goods," as they are known to scrap processors, come readily to mind.

Trace amounts of PCBs are present in certain electrical components, called capacitors, in some old (pre-1979) appliances. Capacitors can be extremely difficult to identify and locate. Many scrap processors are finding that the search for and removal of the

capacitor is so time-consuming that it no longer makes economic sense for them to recycle this particular commodity. If they stop handling white goods, those items, so readily recyclable except for the capacitors, are likely to end up in landfills when they could be returned to the marketplace in the form of a new product.

Society, and its government, should attempt to view recycling through the eyes of a businessman who happens to recycle scrap materials for a living. The recycler, despite serious efforts to learn the composition of the many products he handles, can never be fully aware of all of their components due to the complexity of manufacturing processes and the heterogeneity of the inbound scrap materials.

To make recycling more attractive and widespread, a hierarchy must be established for the limited disposal space. The recycler, who is returning materials to the marketplace for reuse rather than merely disposing of them in their entirety, should receive a high priority in this hierarchy.



Photo Credit: Institute of Scrap Recycling Industries.

What we need is increased interdependence, more mutual understanding of one another's difficulties, and a greater willingness to help one another reach desirable recycling goals in reasonable ways.

*Dr. Herschel Cutler is Executive Director of the Institute of Scrap Recycling Industries.*

## Recycling is Here to Stay by Jerry Powell

Recycling is no longer just the faddish activity of the brie-and-Chablis set. We have proven that Americans want to recycle, that Americans will recycle, that we can collect massive new volumes of secondary materials.

The rush to recycle has been frenetic. While only a million Americans had curbside recycling service a decade ago, 20 million residents now have household recycling collection service. What was once a suburban activity is an urban service. Seattle, Portland, San Jose, Minneapolis, St. Paul, and Cincinnati have citywide collection service. New York, Philadelphia, and other big cities aren't far behind.

With all this activity, exciting developments have occurred. The trash hauling industry has become the trash-and-recyclables hauling industry. Truck manufacturers are rushing to introduce new recycling vehicles. Many city, county, and state governments are also active. Ten states have adopted comprehensive statewide recycling systems. In Oregon, for instance, over three-quarters of the state's residents receive recy-

cling collection service. By the end of 1990, more than 800 communities in New Jersey and Pennsylvania will offer recycling options to householders.

And governments have been more willing to experiment, to try different ideas. California has stuck its neck out with a one-of-a-kind beverage container redemption system. Florida, Minnesota, and Washington recently adopted major new waste management and recycling laws. Special wastes — such as old appliances, scrap tires, and lead-acid batteries — are being recycled under statewide programs. At least a dozen states offer recycling grants to local governments.

Recycling's recent growth is encouraging. But many problems are at hand. Though we've seen that Americans will take part in recycling, we haven't yet shown that American industry wants to buy all this extra secondary material. Certainly some industries, particularly aluminum and glass container producers, have demonstrated an historic interest in getting back scrap material for recycling. Other industries — such as plastics and steel can producers — have launched aggressive recycling efforts in recent years. And the paper industry is assessing all its

options in terms of expanded recycling of paper fibers.

Nonetheless, a public-private partnership is needed if we are to find a home for all these recyclables. Government needs to work with industry to increase the demand for recycled products. And it is incumbent on industry to maintain a recycling infrastructure for its products. It is no longer sufficient to say that "the public demands we make this item" when industry introduces products such as disposable cameras, disposable watches, or disposable razors. Many Americans want to break out of the purchase-consume-dispose mentality. There is a "green consumer" movement in the U.S. and businesses will benefit by serving these consumers.

From crises come solutions. Recycling's progress in the 1980s can only increase in the 1990s. In the end, we will see a nationwide waste management system that focuses first — not last — on waste reduction and recycling.

*Jerry Powell lives in Portland, Oregon and edits three recycling periodicals: Resource Recycling, Plastics Recycling Update and Bottle/Can Recycling Update.*

# Upcoming Events

<u>Title</u>	<u>Sponsor</u>	<u>Date/Location</u>	<u>Contact</u>
Pollution Prevention for the 1990's: A Chemical Engineering Challenge	American Institute of Chemical Engineers	Dec. 4-5, 1989 Washington, D.C.	Dr. Martin Siegel (202) 223-0650
Waste Equipment & Recycling Expo '89	Tower Conference Management, Inc.	Dec. 5-7, 1989 Long Beach, CA	Bill Harrington (708) 469-3373
5th Intl. Conference on Solid Waste Management & Secondary Materials	Journal of Resource Mngmnt. & Technology, EPA Regions 2 & 3, others	Dec. 5-8, 1989 Philadelphia, PA	Ron Mersky (215) 499-4042
Keep America Beautiful 36th Annual Meeting	Keep America Beautiful, Inc.	Dec. 6-9, 1989 Washington, D.C.	Lis Biles (203) 323-8987
Biocycle Southeast Conference '89: Successful Recycling for Solid Waste and Sludge	BioCycle Journal of Waste Recycling	Dec. 4-5, 1989 Clearwater/Tampa, FL	Celeste Madtes (215) 967-4135
Coping with Solid Waste in the 1990s	Govt. Finance Officers Assn., Amer. Public Works Assn., etc.	Jan. 10-11, 1990 New Orleans, LA	Cheryl Retta (202) 429-2750
Resource Recovery '90	Government Refuse Collection and Disposal Assn.	Jan. 15-18, 1990 West Palm Beach, FL	Steve Hirshfeld (202) 585-2898

The Pollution Prevention Office is pleased to announce an International Conference on Pollution Prevention: Clean Technologies and Clean Products, to take place June 10-13, 1990 in Washington, D.C., jointly sponsored by EPA and the International Association for Clean Technology. The focus of the conference will be on innovative technologies and socioeconomic issues relating to pollution prevention. Sensitive to the waste generated by any conference, this one will be "clean conscious." Efforts are being made to reduce or prevent the generation of waste at every conceivable

opportunity during the course of the conference. These efforts extend to reusable cups, saucers, and plates at coffee-breaks, recyclable paper materials for announcements and registration kits, eliminating "speaker and host" ribbons, minimizing the use of letterhead stationery, and providing recycle bins around the conference site. The conference hopes to demonstrate that clean practices are "do-able" and that it is not burdensome to incorporate them in the office and at home. For further information, contact Deborah Hanlon in the Pollution Prevention Office at (202) 245-4164.

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