

## What Is Waste Prevention?

There are more than 51,000 retail outlets in New York City, selling everything from the latest fashions to memorabilia such as Empire State Building banks and Statue of Liberty figurines. New York City sets the world's standard for shopping and offers an excellent opportunity to signal a new trend toward less wasteful practices in the future.

According to studies conducted by the New York City Department of Sanitation (DOS), retail operations contribute approximately 353,000 tons of waste to the City's waste stream annually. This figure represents almost nine percent of the solid waste generated by the City's commercial sector.

The opportunity for change is enormous, the competition among retailers is intense, and often, the profit margins for store owners and managers are narrow. And yet, resourceful retailers are finding practical ways to improve those margins — without raising prices, without cutting salaries, without compromising selections or service.

Their secret is found in a common message: "All waste is lost profit." In the City's bustling retail industry, the potential for behind-the-scenes savings is tremendous, especially considering that 68 percent of all waste generated by the retail sector is estimated to be paper waste, according to recent DOS studies.

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## Targeting Environmental Progress



As part of its waste reduction efforts, Target recycles its broken plastic shopping carts into 100% recycled dog and cat dishes.

At a NYC WasteLe\$\$ seminar targeting the retail sector, Doug Chellman, Operations Manager of the Target Store located on Long Island, described Target and its waste prevention initiatives. Target operates 881 stores in 44 states with 298 pharmacies and 94.5 million square feet of retail space.

Currently, there are 16 stores in New York State and the Long Island store is the first of three New York City-area locations.

Target stores are part of the Dayton Hudson Corporation (DHC) and have long been an environ-

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## Stop, Look and Calculate: It May Be Time to Rebid

You may find money hidden in your trash compactor or dumpster if you have not reviewed your waste carting invoices recently. Although exorbitant waste carting costs were reduced and capped when the New York City Trade Waste Commission (TWC) established the "Carting Customer's Bill of Rights," there may be opportunities for you to reduce your costs further, says Eugene DiToro, an Inspector with the TWC.

Simply analyzing your invoices and observing occasional pick-ups may highlight the fact that you are paying more than necessary to have your waste collected. By ensuring that you are charged only for the quantity of waste and



What would your waste carter charge you for this container of waste?

recyclables that you put out for collection, waste prevention efforts that decrease the quantity of materials generated will pay off by reducing your carting costs.

During a NYC WasteLe\$\$ seminar, Inspector DiToro offered retailers tips for working with their waste carters. He stressed that the key to successful waste management is to review your waste carting contract to ensure that your trash is being collected in the most economical way to best suit your operation. If you are paying a flat fee, take a look at the number of pick-ups and determine if a "per pull" system might be more economical.

If you are currently charged on a per pull basis, check to

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## Spotlight on Lighting

When Doug Sheppard breaks out his sample products, he is in the spotlight, quite literally. Nothing makes a stronger impression than seeing a new product in action. Sheppard, President of Advanced Energy & Lighting, Inc. in New York City, presented the newest in lighting technologies at a *NYC WasteLe\$\$* seminar for New York City retailers. He demonstrated each lamp's light quality and explained the cost and energy savings to be gained by considering different types of lighting in a facility.

Sheppard's company, Advanced Energy & Lighting, specializes in delivering energy efficient system designs that are reliable and affordable. He works with individual businesses and organizations to redesign lighting systems, often improving the quality of light, while reducing costs. "Customers are always amazed that they often have more light when the retrofit is complete, but the overall wattage of the fixtures is less," says Sheppard.

Among Sheppard's samples were LED exit signs, several small compact fluorescent lamps, and dimmable lamps. He described the additional benefit with many of the new fixtures in that most manufacturers offer a two-year maintenance warranty on lamps and ballasts.

Seminar attendees were most interested in



Doug Sheppard of Advanced Energy & Lighting, Inc., demonstrates several new lighting technologies at a *NYC WasteLe\$\$* seminar.

learning about fixtures that can maintain the desired atmosphere in a retail store. Several fluorescent biax lamps that Sheppard had on hand were able to dim to five percent of their maximum light output. Sheppard also explained that today's full spectrum fluorescent lamps allow you to choose the level of warmth or coolness you would like from the lamp's lighting color. Lamps are available in a wide array of light colors to suit any retail setting, from displays to dressing rooms.

In addition to the nuts and bolts of lamps and fixtures, Sheppard also described studies conducted by the U.S. Department of Energy and the Rocky Mountain Institute that found by improving lighting, workers are more comfortable and more productive. According to the Rocky Mountain Institute, an

increase of one percent in productivity can provide savings to a company that exceed its entire energy bill. He offered a report that documents eight cases in which efficient lighting, heating, and cooling have measurably increased worker productivity, decreased absenteeism, and improved the quality of work performed.

Wal-Mart opened a prototype store in 1993 that experimented with energy efficient features. Skylights were installed on half of the roof, leaving one half without direct sunlight. An energy management system monitored the daylight to adjust energy efficient lighting as necessary. Sales per square foot were significantly higher on the side of the store with daylighting and higher than similar departments in other stores.

The Main Post Office in Reno, Nevada, became the most productive of all sorting facilities in the western U.S., with the lowest error rate for mail sorting, all as an extra benefit of a money-saving lighting retrofit. The facility was redesigned to include a lowered, sloped

ceiling in the sorting area and longer-lasting lamps providing a better quality of light. The lower ceiling made the area easier to heat and cool, improved acoustics, and enhanced indirect lighting. Besides combined energy and maintenance savings of about \$50,000 — a six-year payback — the post office estimates that its productivity gains were worth \$400,000 to \$500,000 per year. The six to eight percent increase in productivity gained by providing a quieter, more comfortably lit work environment, paid for the entire renovation in less than one year.

For more information about increasing productivity through energy efficient design, contact the Rocky Mountain Institute at (970) 927-3851, and ask for *Greening the Building and the Bottom Line*.

For more information about lighting options for New York City businesses, contact Doug Sheppard of Advanced Energy & Lighting, Inc. at (212) 589-4313. ■

### Stop, Look and Calculate → continued from page 1

see that you are not paying for compactors and containers to be removed when they are less than full. Your waste prevention efforts will only pay off financially if you reduce the cost of waste disposal by reducing the number of pulls you pay for.

businesses find that they are paying for a compaction ratio that is not possible to achieve. For example, food waste is not easily compacted. Therefore, collecting food waste in a dumpster instead of a compactor may be less expensive. However, you also must consider the odor and vector problems caused by food waste and weigh the advantages and disadvantages of collecting in an open container versus a sealed compactor.

One New York City business recently switched from a flat fee to a "per pull" system and discovered that its carter was billing based on loose waste prices. However, the business had both compactors and open-top dumpsters. To make the billing uniform, the carter elected to charge the loose waste price by converting the compacted waste volumes to a loose waste volume using a conversion ratio. Not only did these converted volumes create a higher price, but the carter used conversion ratios that were unreasonable (2:1 or 3:1 are standard), making the volumes and, therefore, the price even higher. Using the business's waste volumes and TWC's maximum prices as an example, the business estimated that they were being overcharged almost \$10,000 per month — a significant cost to the company.

#### Six Simple Steps That Can Save You Money

- Ensure that your compactor is operational, has working gauges, and that staff checks gauges prior to pulls to make sure compactors and dumpsters are full.
- Confirm that your trash bills comply with the TWC's maximum legal rates for removal of waste.
- Request a waste stream survey by your carter to help you establish a baseline waste generation rate.
- Monitor your containers to ensure that recyclables are not being discarded with general trash.
- Reduce the frequency of pick-ups as recycling and waste prevention activities reduce the quantity of waste discarded.
- Ensure that your carter has not incorrectly classified your open dumpsters as construction and demolition (C&D) debris, for which there are no maximum rates. Waste from normal daily activities should not be considered C&D waste.

If you have a trash compactor, you are paying the higher rate charged for compacted waste. Consider what type of waste you discard in your compactor. Is it waste that can be compacted? For some materials that can be compacted significantly, a compactor may be much more economical than a dumpster, but many

#### TRADE WASTE COMMISSION MAXIMUM RATES

Rate	Weight (by volume)
\$30.19 →	per cubic yard for compacted trash
\$12.20 →	per cubic yard for loose trash
\$ 2.66 →	for 55-gallon trash bags > 80% full
\$ 1.45 →	for 30-gallon trash bags > 80% full

For more information, contact the New York City Trade Waste Commission at (212) 676-6275. ■

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mental leader and a key member of the U.S. Environmental Protection Agency's WasteWise program. Mr. Chellman said that part of his job at Target is to reduce overall expenses by improving operating expenses and he believes that this is where waste prevention becomes a key focus.

According to Chellman, in 1998, Target Stores eliminated 48 million pounds of solid waste and saved \$1.9 million in avoided disposal costs. Target's efforts to move toward a paperless operation helped achieve some of these savings. For example, since 1993, Target has moved to a paperless system for its domestic purchasing orders, eliminated paper labels in the repack operation and initiated paperless price changes to reduce the reliance on paper transactions.

Target has many other waste prevention and reuse programs in place, including a pallet management program where useable pallets are repaired and pallets that are broken beyond repair are chipped into mulch. Target returns approximately 300 million hangers per year and ships them to a vendor in collapsible, reusable crates for reuse, diverting 25 million pounds of waste from disposal each year. Mr. Chellman indicated that staff at the Long Island store recover enough

hangers to fill a 53-foot tractor trailer each week.

Mr. Chellman noted that to achieve their outstanding level of success, Target staff work closely with vendors to identify initiatives that the stores and the vendor can collaborate on to reduce packaging waste. By working with its vendors, Target eliminated four million pounds per year of unnecessary packaging, according to Chellman. For example, almost no clothing shipments contain garments individually wrapped in plastic. Similarly, packaging of shoes has been reduced dramatically, eliminating paper and plastic inserts and plastic bags.

Mr. Chellman estimated that 75 percent of Target's remaining waste stream is recycled, including 1.6 million fluorescent lamps, 1.9 million pounds of plastic wrap and 1.5 million pounds of unusable plastic hangers during the past year. Target also collects rechargeable nickel-cadmium batteries from its customers who return the spent batteries to the store's service desk or to the electronic area service counter.

Target's parent company, Dayton Hudson Corporation, established a simple but effective mission statement to back up the waste prevention and

### Dayton Hudson Corporation's Environmental Mission Statement

"We strive to do business in an environmentally responsible manner and must operate the company in compliance with all environmental laws."

recycling activities throughout the organization. In addition, technical assistance is provided through the corporation's Environmental Services Department and through the EcoLogic employee newsletter.

Target Stores are working to build a more sustainable corporation, to establish cross-company waste reduction and recycling goals, to increase recycling and to expand computer and electronics recycling. For more information about Target Stores, visit their web site at [www.target.com](http://www.target.com). ■

## Donate Your Way to Cost Savings

Businesses throughout the City effectively reduce the cost to manage and dispose of unneeded items by donating usable material to receiving organizations. Donors also are eligible for tax deductions when donating items to not-for-profit organizations.

Each year, a number of non-profit organizations in the City facilitate the exchange of usable, high-quality items between retailers and receiving

organizations. According to Susan Glass, Director of Materials for the Arts (MFA) during FY 99, approximately 514 tons of material was diverted from the City's waste stream. These items have a combined value of more than \$3 million. MFA, a program sponsored by the New York City Department of Cultural Affairs in partnership with the Department of Sanitation and the Board of Education, makes the items available to New York City-based, non-profit

cultural organizations; health, social and community service organizations; schools; and City agencies.

The next time you are about to discard usable materials, consider contacting one of the many charitable organizations throughout the City. Many organizations offer guidelines and tax advantages. Save money while helping others.



FOR MORE INFORMATION:

#### Materials Donations:

- Goodwill Industries of Greater New York, Inc. – (718) 728-5400, accepts clothing, furniture, and furnishings.
- Helping Hand Community Center – (212) 722-0400, accepts anything in usable condition, and will pick up.
- Materials for the Arts – (212) 255-5924, accepts almost anything in usable condition with at least one week notice, and will pick up.
- New York WaSteMatch – (212) 240-6920, helps identify potential donors and users of used industrial materials, packaging, equipment and other reusable items.
- NYC Stuff Exchange (contact the Sanitation Action Center at (212) 219-8090 for more information), toll-free telephone system with listings of reuse outlets in the City.
- Salvation Army – (212) 337-7200, accepts clothing, furniture, furnishings.
- St. Vincent de Paul Society – (718) 292-9090, accepts clothing, furniture, furnishings.
- United Way of New York City – (212) 973-3800, accepts office furnishings and equipment.
- Wilson Major Morris Community Center – (212) 234-4661, accepts almost anything in usable condition, and has limited collection service.

For additional organizations and ideas, contact the Sanitation Action Center at (212) 219-8090 and request a copy of *Reuse It, Repair It, Rent It — But Don't Throw It Away!* ■

## What Is... continued from page 1

So what is waste prevention in the context of operating and managing a retail operation? In retail businesses, waste prevention means reviewing and changing those practices that result in unnecessary packaging and shipping waste. It means implementing systems that eliminate waste cardboard, pallets, hangers, plastic film, and other extras. It also means encouraging customers to expect that your sales staff will inquire as to whether they would like a shopping bag.

Innovative retailers demonstrate their commitment to waste prevention by finding less wasteful ways to package and display products. Eliminating excess display packaging may lead to new, creative methods of showcasing your products.

In many cases, wastes can be eliminated simply by working with your suppliers and vendors to eliminate unnecessary packaging. Learn about the successful waste prevention initiatives implemented by Target Stores and Smith & Hawkin in this issue.

Waste prevention is as much about what you buy as it is about what you throw away. It also is about when you buy and how you use what you buy. Keep an eye on what fills your dumpster each day or over a week, and ask yourself if *and how* that wasted



Patagonia stores wrap their line of Capilene® long underwear in a rubberband instead of plastic film to reduce packaging waste.

material could have been prevented.

Essentially, waste prevention is inventorying the waste in your operation and taking deliberate steps to eliminate it. In this issue of *NYC WasteLeSS*, we present strategies and success stories of waste prevention, as well as highlights from an *NYC WasteLeSS* seminar featuring waste prevention, recycling, and energy conservation initiatives. For more information about these topics, visit [www.nycwasteless.com](http://www.nycwasteless.com). Preventing waste saves money, saves time, and conserves resources. It makes good business sense. ■

## Waste Prevention in Your Office

Once you have considered waste prevention opportunities on your retail floor, you may want to shift your focus to ensure that you are not overlooking some of the waste prevention opportunities available in your offices and related administrative activities.

Implementing innovative waste prevention programs in your administrative operations — beyond common initiatives, such as double-sided copying and using reusable coffee mugs — may require coordination among staff and with suppliers. However, implementing waste preventing practices beyond the basics will result in savings through both reduced purchasing costs and avoided disposal costs. Consider the following when developing a waste prevention plan that meets the needs of staff in all your retail operations.

- **Lease furniture and equipment.** Leasing furniture for your offices, rather than purchasing and discarding items every few years, reduces the significant cost of disposing of bulk items. Leasing also reduces the cost of acquiring updated equipment on a regular basis. Ever-changing technologies make it more efficient to lease equipment, such as photocopiers, printers, and fax machines, rather than discarding old models to get the newest features in a new model.
- **Repair or donate existing furniture and equipment.** If a new look for your store is part of the plan, consider refurbishing and recovering existing furniture, equipment, and displays or donating used furniture, equipment, and displays to a non-profit organization as an alternative to discarding it. If equipment is old and outdated, several companies in New York City can help you to keep your store's computer system updated and your office equipment running properly. ACE Computer Repair, at (212) 869-0988, will repair and upgrade your computer, as well as repair faxes, copiers, typewriters, and other office equipment. Lincoln Business Machines, Inc. (212) 769-0606 will repair and upgrade your computer system, and also installs and rents computers. MacVision (212) 586-8445 specializes in Macintosh computer equipment repairs and upgrades.
- **Get off mailing lists.** Request to be removed from mailing lists to eliminate unwanted advertising mail by contacting:

Direct Marketing Association  
Mail Preferences Service (MPS)  
P.O. Box 9008  
Farmingdale, NY 11735-9008

Or visit the Association's web site at [www.thedma.org](http://www.thedma.org) to obtain an electronic form requesting to be removed from mailing lists. Remember, not all companies use MPS to purge their mailing lists; therefore, you may continue to receive some companies' promotions. In this instance, contact the company directly and ask to be placed on the company's do-not-mail list. For more ways to reduce business junk mail, visit the National Waste Prevention Coalition's web site at [www.metrokc.gov/nwpc/](http://www.metrokc.gov/nwpc/).

- **Buy products in the largest quantity for the job.** This applies to office supplies as well as store

merchandise. Purchasing supplies and merchandise in the largest quantity that you can use cuts down on packaging waste, and your waste stream. Consider consolidating purchases so that you are getting larger shipments once a month or quarterly instead of smaller ones daily or weekly. If your supplier is delivering single items in larger shipping boxes, request that they wait until they have your full order ready before sending the shipment. You can help your supplier by coordinating your orders so that you are requesting multiple items for each shipment. This will reduce the amount of transport packaging, such as cardboard, plastic film, and strapping, that must be managed or discarded.

- **Reuse packaging.** Consider reusing scrap paper, packing materials, pallets, bags, and boxes for shipping products and other materials. Collecting shipping materials and reusing them eliminates the costs of disposal of often bulky materials, and eliminates the purchase of new materials, such as plastic bubble wrap, new pallets, and cardboard boxes.
- **Make your store environmentally smart.** If you are considering any refurbishing, remodeling or construction projects, contact Eco Smart Healthy Properties, LLC, in Manhattan. Eco Smart's Building Center showcases environmentally and technologically advanced building and office products, such as furniture, textiles, lighting, and carpeting, by more than 300 manufacturers. Contact them at (212) 430-4000.
- **Survey your vendors.** Your vendors and suppliers may be more willing than you think to make changes. They also may have some creative and practical ideas about reducing waste. Call them or distribute a simple survey asking for their ideas and gauging their willingness to make changes and improvements to the distribution system already in place. You may be able to work with them to reduce or take back packaging for reuse, use reusable shipping containers, or pursue other initiatives that save money for both of you.
- **Go paperless.** Businesses have made tremendous progress in reducing the quantity of paper necessary to operate successfully. Deliveries from suppliers can be tracked using computerized scanning systems. Managers can keep merchandise purchasing schedules updated using computers rather than paper printouts. Linking terminals using a network system allows everyone to view the same documents. Sales staff can special order merchandise using computer terminals instead of written orders. Consider these and other paperless strategies in your store to cut down on paper purchases, and storage and disposal costs.
- **Buy recycled.** Ask your suppliers to provide you with a list of all of the items they carry that have recycled content. Paper products, desk accessories, trash and recycling bins, restroom dividers, floor mats, furniture, and laser toner cartridges all are widely available at competitive prices with recycled content. (See *Advances Continue in the Recycled Product Market* in this issue for more about recycled products.) ■

## How Electric Energy Market's Deregulation Affects Your Business

Following in the footsteps of the telecommunications industry and the telephone company, the electric utility industry in New York, and specifically Con Edison, will undergo a deregulation process over the next few years. At a *NYC WasteLe\$\$* seminar, Ron Slosberg, of SAIC Energy Solutions Division, explained the impact that these changes will have on retailers in the City. In New York City, Con Edison is implementing a phased approach to deregulation. Phase III of the deregulation process is in effect as of April 2000 and systemwide by the end of 2001. Resulting from this change, energy service companies (ESCOs) will emerge and customers will have the option of selecting an electricity commodity provider or remaining with Con Edison.

Slosberg assured retailers that energy deregulation will not affect the energy system's reliability, but it will provide customers with an opportunity to save money. The first step to getting the best energy deal for your business is to select an ESCO and negotiate an agreement that will reduce your electricity costs. The ESCO will be responsible for providing electricity to Con Edison who in turn delivers the electricity to you.

As a customer, you will receive a bill from Con Edison and your selected ESCO. Whether or not you will save money depends on the ESCO price versus shopping credit or commodity component. Rate reductions apply to all customers. An ESCO offer may include other services that will benefit your business, such as completion of an energy audit to identify cost reduction opportunities, bill aggregation, and energy project implementation assistance.

Energy customers who decide to buy energy on the open market from a service provider may want to do some research prior to selecting a supplier. Consider the company's background and shop around to compare prices and services of various ESCOs. Also, consider the terms of agreement, available customer service features, and the billing and payment options provided by each potential supplier.

Con Edison's new role begins to move the company out of the electric generation business and into delivering electricity supplied by the ESCOs. One important note, Con Edison will continue to provide and maintain transmission and delivery services and systems and will respond to emergencies.

Small retailers that don't consume significant electricity may find the greatest savings by joining forces with other businesses to purchase electricity in greater amounts. Slosberg suggested that businesses join together and identify an aggregator to help them save money as a result of increased buying power. The aggregator's role will be to organize a group of electricity customers, enroll group members through an ESCO and leverage the group's buying power. Check with your local development corporation, trade association or business organization to determine if there is an effort underway to join together to purchase electricity.

For more information or assistance, contact NYSERDA at (518) 862-1090 or your local Con Edison utility representative. ■

## Waste Prevention News from Hudson News

**H**udson News has been serving travelers and commuters in New York City for 15 years, providing a wide selection of magazines and newspapers at its news stands in airports, bus depots, and train stations. Hudson News also has committed to preventing waste. Four years ago, Hudson News determined a need to reduce the quantity of cardboard boxes it uses.

In the past, magazines were bound with plastic strapping or shrink wrap and shipped to retail stores in cardboard boxes. Some stores would then return the unsold magazines in the same cardboard boxes or buy new cardboard boxes to ship returns back to the distribution facility. Because of the high cost of cardboard, Hudson News made the decision to switch to reusable totes made with recycled plastic for delivery and retrieval of magazines to all of its retail operations.



Making the switch to the reusable totes completely eliminated the use of plastic strapping, shrink wrap, and cardboard. As a result, Hudson News lowered its disposal costs by 20 percent. In addition to the cost savings, the use of totes prevents product loss since the totes are sealed at the plant and remain unopened until they reach their destination.

Mike Bartow, Operations Manager at the

North Bergen, NJ, wholesale facility, performed a “back of the envelope” cost/benefit analysis to confirm the decision to change to reusable totes. Based on the cost of cardboard alone, he described it as a “no-brainer.” He notes, however, that he considers all wastes to be a potential commodity. Eliminating cardboard also eliminated the revenue that would be generated from the sale of recycled cardboard — a factor in the cost/benefit analysis.

Magazines, cardboard, computer paper, and returned magazine overruns are all recycled from Hudson News’ distribution facility, and the company’s hauling contract is structured so that Hudson News receives a percentage of the proceeds from the sale of recyclables. Even with the lost revenue from the sale of cardboard, Bartow determined that switching from cardboard boxes to reusable totes was cost effective and a good decision. ■

## The New Bottom Line — Leading the Nation to a New Sustainable Growth Economy

**W**hat do DuPont, Texas Industries, Interface Carpets, Intel, the George Washington University Business School, Anheuser-Busch, and Baxter International have in common? These organizations are part of a rapidly growing global movement, attracting large and small businesses of all types that not only recognizes but races in hot pursuit of a new bottom line. That new bottom line measures the sustainability of business enterprise; sustainability achieved through direct and deliberate efforts to minimize waste. Proponents of this movement are searching for new and better ways to eliminate practices that waste natural resources and human capital. In so doing they are enhancing their stature in both the business and consumer communities, and they are increasing their profits in the process.

This new and growing breed of business leaders recognizes environmental, social, and financial efficiency as factors influencing profit, and as inroads to strengthened consumer confidence and growth in market share. As Craig Barrett, CEO and President of Intel, stated recently “Business is on the ‘front line’ in making sustainable development a reality. Companies need to take a hard look at how they make their products and deliver their services.” This new hard look is what will ultimately determine which businesses will prosper in the new economy; an economy that increasingly recognizes the ultimate limits of our natural and human resources and values and conserves them accordingly. This way of thinking has thus given rise to a new set of metrics that reflects the new bottom line.

Nowhere are the potential gains of conservation, reuse, and waste prevention more evident than in densely populated urban centers, such as New York City. Here, in a city of eight million, the gains to be realized by even modest behavioral changes are enormous simply because of the population scale. Here business leaders have enormous potential to initiate and fuel trends that can spur literally millions of other enterprises, as well as consumers, to adopt growth practices such as waste prevention.

Across the country, industry leaders are adopting the new sustainable growth paradigm. DuPont’s sulfur products business minimizes chemical waste and reduces worker and consumer hazard through its acid handling and recovery services. Though this service, customers are freed from having to own or handle the chemical substances, and the acids

can be treated for reuse by DuPont when the customers’ needs are met. Meanwhile, Texas Industries is conserving natural resources by producing steel from recycled scrap and cement from steel mill slag, thereby eliminating two waste streams and at the same time conserving virgin materials. In the area of carpet products, Interface Carpet is enjoying enormous public recognition and customer loyalty based on its strategy of leasing of flooring systems to customers, thereby eliminating consumer disposal of end-of-life carpet. Rather, Interface collects the used carpet for reprocessing and reuse.

Intel has adopted a corporate policy mandating a design-for-the-environment strategy to achieve 50 percent reduction in volatile organic compound emissions per product unit, a substantial achievement against the company’s new bottom line accounting. In the academic arena, more and more colleges and universities are developing curricula to train their students in the new math of the bottom line. For example, the George Washington University Business School encourages emerging business leaders to think and plan in terms of the sustainable growth metrics, as conveyed through courses in International Environmental Policy and Management, Environmental Ethics, Environmental Policy, and Environmental Values and Strategies. Students also can sign up for a course on eco-tourism to study the business cross-roads of the natural environment and the tourist economy.

Such thinking also is valuable to business leaders trading in products as wide ranging as computer hardware to beer and pretzels. For example, Compaq has reduced waste and packaging costs dramatically through its recent introduction of a reusable shipping container that can be reused for as many as fifty round trips. Anheuser-Busch, also mindful of the costs and wastes generated by packaging material, has formed an alliance with a local mail service to divert packaging waste from disposal to reuse. Baxter International, a manufacturer of medical products, found that by reducing packaging by one million pounds it could reduce costs by \$1.3 million. The company is now en route to realizing its corporate goal of 20 percent packaging reduction over ten years, by 2005.

The efforts of these companies and scores of other manufacturers, service enterprises, schools, stores, and consumer groups are raising the bar for waste prevention. They are the leaders of today and charting the way for the economy of the future. These businesses will enjoy a powerful competitive advantage as waste carting costs are likely to rise in the future.

You as a business leader have a choice. You can plan for, and capitalize on opportunities to lead by example — charting the way for constructive change — or you can wait until the quantities of waste and the costs of waste management force your hand. ■

**FEEDBACK . . . Tell Us What's On Your Mind.** We would like to hear from you. Please take a few minutes to let us know: (1) if you find the information provided in *NYC WasteLe\$\$* useful, (2) what waste prevention, recycling, and energy efficiency topics you would like to learn more about, and (3) any other thoughts and comments, including your own waste prevention, recycling, and energy conservation success stories. Simply write to us at *NYC WasteLe\$\$*, NYC Department of Sanitation, 44 Beaver Street, 6th Floor, New York, NY 10004, or you may fax information and comments to us at (212) 837-8255 (attention: *NYC WasteLe\$\$*). Thank you for your input.

## Toxicity Reduction Prevents Waste

Some cleaning products commonly used in routine cleaning and maintenance operations can pose health hazards to your staff, and to those who handle your waste after it is removed. Paint and paint thinners also can contain harmful substances. When compared to traditional products that serve the same purpose, environmentally preferable cleaning and maintenance products have a reduced impact on human health and the environment.

Take a close look at the products used in your daily operations to identify opportunities to consider testing and switching to alternative products. Look on your shelves, review the material safety data sheets (MSDSs), and talk to staff. You may be surprised at what you find. For example, review the ingredients in products used to disinfect restrooms and you may find these products contain ammonia.



Low-VOC paints, which reduce air pollution and the risk of worker exposure, are available from several major manufacturers.

### Are Your Employees Informed?

Material safety data sheets (MSDSs) are mandatory information sheets that accompany all potentially toxic products and materials. The Occupational Safety and Health Administration (OSHA) requires that MSDSs be readily available to all staff using or handling the materials. Each MSDS contains pertinent information about the material's or product's ingredients, its harmful characteristics, and how to respond to spills, accidental contact, and other exposure. An MSDS can provide life-saving information, as well as data about using the product safely and most effectively.

Disinfectants and other cleaners can be replaced by alternatives that offer the same performance standards. For example, the Enviro Solutions company produces a washroom cleaner with envirocide odor eliminator for daily cleaning of sinks, showers, and urinals.

When considering switching to a reduced toxicity product, check the labels of your current products to see whether they contain any of the chemicals listed in the box below: *Targeting Toxics*. This list is not comprehensive, but includes some of the more common, toxic chemicals found in cleaning and maintenance products.

#### TARGETING TOXICS

Common Toxic Chemicals Found in Cleaning and Maintenance Products Targeted by the U.S. EPA for Reduction or Elimination

Acetone	Aluminum oxide
Ammonia	Benzene
Carbon Tetrachloride	Chloroform
Ethyl benzene	1,2-Dichloroethane
Ethylene glycol	Freon 113
Glycol ethers	Hydrochloric acid
Lye	Methyl ethyl ketone
Methyl isobutyl ketone	Methanol
Methylene chloride	Naphtha
Phenol	Sodium hydroxide
Sulfuric acid	Tetrachloroethylene
Toluene	Trichloroethylene
1,1,1-trichloroethane	Xylene

When environmentally preferable products were first introduced, as with any new product, some were not as effective as the products they were meant to replace. However, based on approximately thirty years of research, many environmentally preferable cleaning and maintenance products now meet all of the same standards as traditional products. In addition, most vendors will ship samples so that you can test the effectiveness of the product before making a purchasing decision.

While you may not be able to find environmentally preferable cleaning and maintenance supplies for all your needs, alternatives to traditional cleaning supplies are available. Everyday new products are introduced to the market that have eliminated constituents of concern such as 1,1,1-trichloroethane, toluene, and methyl ethyl ketone.

Consider the following benefits of using environmentally preferable cleaning and maintenance products:

- May be less expensive than traditional supplies.
- May help reduce worker exposure to harmful chemicals, reduce the number of sick days taken by workers, increase worker productivity, reduce workers' compensation claims, and improve compliance with OSHA regulations.
- May reduce the quantity of toxins going down your drain, which may help you to comply with wastewater treatment permit requirements.
- May help to reduce customer exposure to certain chemicals, thus reducing the potential for adverse reactions.

Green Seal, an independent, nonprofit organization that promotes the manufacture and sale of environmentally responsible consumer products, sets environmental standards and awards a "Green Seal of Approval" to products that cause less harm to the environment than other similar products.

Green Seal-recommended 'green cleaners' must satisfy the following criteria: non-toxic to humans and aquatic life; pass specific aquatic toxicity tests; phosphate and phosphonate concentrations must be less than 0.5% by weight; biodegradable: work optimally when diluted with cold water; and packaged as a concentrate in recyclable/refillable containers with post-consumer recycled content. For more information, visit Green Seal's web site at [www.greenseal.org](http://www.greenseal.org) or call (202) 872-6400.

#### Environmental Attributes To Consider When Selecting Cleaning and Maintenance Products:

- Irritation potential
- Chronic health risks
- Time to ultimate biodegradation
- Bioconcentration factor
- Percentage of volatile organic compounds
- Presence of ozone depleters
- Potential exposure to the concentrated cleaning solution
- Flammability
- Presence of cosmetic additives
- Energy needs
- Amount of product packaging

Source: Cleaning Products Pilot Project, U.S. EPA, 1997

Many web sites highlight environmentally preferable cleaning supplies, with product descriptions and information on the environmentally preferable substitute for particular hazardous chemicals.



#### FOR MORE INFORMATION:

##### Defense Logistics Agency

[www.dscr.dla.mil/products/epa/epcat.htm](http://www.dscr.dla.mil/products/epa/epcat.htm)

Although the DLA site was designed for military customers, its information is valuable and accessible to the commercial sector, as well. You can request a hard copy of the list of product substitutes by calling (800) 345-6333.

##### Joint Service Pollution Prevention Technical Library

<http://enviro.niesc.navy.mil/p2library>

This site offers anyone information about less toxic alternative products and services.

##### New York State Department of Environmental Conservation, Pollution Prevention Unit

*Environmental Compliance and Pollution Prevention Guide for Small Quantity Generators*

[www.dec.state.ny.us](http://www.dec.state.ny.us)

This guide offers a straightforward summary of regulations for air, water, and hazardous waste. Call (800) 462-6533 or visit their website.

##### U.S. General Services Administration

*Commercial Cleaning Supplies*

This catalog lists hundreds of commercially available, environmentally preferable cleaning supplies. Call (800) 241-7246. ■



## Smith & Hawken: Commitment from the Top

As the sales staff and managers of the Smith & Hawken Store in SoHo will attest, commitment to waste prevention and recycling in retail begins at the top. Two years ago, the Smith & Hawken Corporate Environmental Council conducted a companywide environmental evaluation and issued a "Green Values Statement" in an effort to promote environmental efficiency throughout its retail stores and other operations. The company saw the initiative as "a great opportunity to motivate our staff and customers through an effective campaign to promote 'organic business' as we do organic gardening." As a result, the company inventoried successfully implemented environmental measures and related cost savings. In addition, Smith & Hawken identified opportunities for future actions, and challenged store managers and sales staff to champion their own efforts.

Stores across the country met the challenge. In one California location, recycling of white office paper, wooden pallets, corrugated cardboard and computer paper brought in \$900 per month. At this same office, old newspaper is reused as packaging and the staff sponsored aluminum can drives to raise money for the Sonoma Wildlife Refuge. They also initiated a donation program under which products too damaged for sale, rather than being discarded as trash, are donated to a local school for troubled teens. Based on successes with their waste prevention and recycling programs, they worked closely with their vendors to find ways to minimize the amount of non-recyclable packaging used.

Now the store's vendors use a new line of 100 percent recycled boxes, made with 80 percent post-consumer recovered content. These boxes also contain 17 per-

cent less material compared to the predecessor.

The sales team in the SoHo store explains that they make every effort to minimize packaging and to recycle materials generated at their store. Already conscientious in their waste prevention and recycling practices, their receipt of a questionnaire from headquarters, asking them how they could improve the store's environmental program, motivated additional thought and progress.

The Smith & Hawken employee handbook underscores the drive for continuous environmental improvement. It includes a section presenting the company's environmental philosophy — a philosophy that fuels the efforts of individual stores to launch a host of waste prevention and recycling programs, as well as to make their efforts known through a variety of intra-company networks. Among the initiatives so spawned are measures to adopt reusable packaging when products are shipped between Smith & Hawken facilities; efforts to eliminate retail pre-packaging, and emphasis on the selection of recycled and recyclable cushioning materials. The stores take these packaging strategies a step further by requesting that their vendors also adopt recycled and recyclable packaging and that they standardize their pallet strapping to facilitate Smith & Hawken's efforts to recycle these materials.

Says Susan Benson, of Smith & Hawken's Corporate Headquarters in San Francisco, "Maintaining a strong environmental consciousness helps us attract and retain the kind of sales staff who are effective in promoting our garden products. Our commitment also reinforces a strong positive message for our customers. Our customers expect us to take full advantage of existing recycling programs and to find ways to further advance environmental efficiencies in our retail practice. Continuous improvement is our goal, our trademark." ■

## Joining EPA's WasteWise Program

The U.S. Environmental Protection Agency's WasteWise program can provide a framework for your waste prevention program and other waste reduction efforts. WasteWise is a free, voluntary partnership program that encourages organizations to reduce waste through waste prevention, recycling, and buying or manufacturing products with recycled content. WasteWise provides partners with technical assistance, publications, and public recognition opportunities. WasteWise partners saved an estimated

\$26 million in avoided disposal costs in 1997, and avoided paper purchasing costs for all the program's partners in 1997 could be as high as \$60 million, according to the Fourth Year WasteWise Progress Report, published by U.S. EPA in September 1998.

For more information, visit the WasteWise Web site at [www.epa.gov/wastewise](http://www.epa.gov/wastewise) or call the WasteWise helpline at (800) 372-9473 for a free information packet. ■



Lorraine Graves, an Environmental Specialist with the U.S. Environmental Protection Agency, Region II, explains the benefits of the WasteWise program at a NYC WasteLe\$S seminar.

## Advances Continue in the Recycled Product Market

In addition to preventing waste at the source of generation, guaranteeing that reused and recycled products are incorporated into business practices is a key component in improving efficiencies in business. Comparing the original Official Recycled Products Guide, published only a decade ago by American Recycling Market, Inc., to the myriad publications and

on-line resources available today, one can quickly see the advances achieved in the recycled-products industry.

Innovative manufacturers and product engineers have improved recycled material processing technologies and developed new systems to create products from an expanding variety of recyclable materials. Traditionally, consumers tend to think of paper when they think of recycled-content products. But in the past decade, entire industries have sprung up around manufacturing recycled products.



T-shirts and other clothing can be made from recycled PET bottles.

Today, there are a wide variety of high-quality, cost competitive products made from recycled materials. For example, if you are replacing floor covering, consider installing the Dodge-Regupol ECOSurfaces rubber flooring made from recycled rubber or post-production rubber scrap. According to Laura Dodge, Marketing Director of the Lancaster, Pennsylvania-based company, "ECOSurfaces, comprising five new flooring lines with a total of 38 refreshing color patterns, is made from a combination of recycled SBR tire rubber and reprocessed post-production EPDM colored rubber."

In addition, anti-skid fatigue mats and flooring for walk-in coolers are available with recycled-content materials. Energy and material efficient lighting fixtures can be made from post-consumer recycled glass. Even the clothing your staff wear can be made with recycled materials. You may want to consider shirts made from recycled PET soda bottles, when purchasing new uniforms.



For additional information on sources of recycled-content products, specification criteria, and product evaluations check the following:

- Buy Recycled Alliance of New York (518) 292-5340
- U.S. EPA's Comprehensive Procurement Guidelines [www.epa.gov/epaoswer/non-hw/procure/index.htm](http://www.epa.gov/epaoswer/non-hw/procure/index.htm) RCRA Hotline (800) 424-9346
- U.S. General Services Administration [www.pub.fss.gsa.gov/enviro/](http://www.pub.fss.gsa.gov/enviro/) (817) 334-5215
- Green Building Resource Guide — a database for purchase of more than 600 building materials and products with recycled-content material. [www.greenguide.com](http://www.greenguide.com) Fax request for guide to (650) 364-5116.
- King County Department of Natural Resources, Solid Waste Division [www.metrokc.gov/procure/green](http://www.metrokc.gov/procure/green) — King County's Environmental Purchasing Program [www.metrokc.gov/greenworks/products.pdf](http://www.metrokc.gov/greenworks/products.pdf) — a recycled-content building materials resource (206) 296-6542
- Association of New Jersey Recyclers — view the New Jersey Business Guide to Recycled Products [www.anjr.com/resources/buyrecycled](http://www.anjr.com/resources/buyrecycled) (908) 722-7575
- California Integrated Waste Management Board [www.ciwmb.ca.gov/rcp/rcpdbint.htm](http://www.ciwmb.ca.gov/rcp/rcpdbint.htm) — California's Recycled-Content Product Database (916) 255-2708
- Commonwealth of Massachusetts Environmentally Preferable Products Procurement Program [www.magnet.state.ma.us/osd/enviro/enviro.htm](http://www.magnet.state.ma.us/osd/enviro/enviro.htm) — (617) 720-3351

**The Central Market**, a store in Poulsbo, Washington, demonstrates the use of recycled, cost-effective building products. The 68,000-square-foot store was built on a \$40-per-square-foot budget. The project shows that recycled-content building products can be used cost-effectively in a commercial building. More than a dozen different recycled materials were used in the construction, including:

- 150 gallons of 100% recycled paint;
- 10% recycled asphalt hot mix;
- 54 tons of 15% recycled concrete with fly ash;
- fiberglass insulation (25% recycled glass);
- acoustical ceiling tile (82% recycled mineral wool);
- a drainage system made with 100% recycled polyethylene;
- parking stops and curbs of 100% recycled plastic; and
- a bike rack containing recycled steel.

In addition, all rubber mats in the store are made of recycled rubber, and grocery carts and baskets are of 100% post-industrial recycled plastic. For more information, call the King County Commission for Marketing Recycled Materials at (206) 296-4439.

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