

What Is Waste Prevention?

There are more than 9,000 eating and drinking establishments in New York City competing for the tabs and tips of eight million diners every day and night. The variety of dining options is enormous, the competition is intense, and oftentimes, the profit margins for owners and managers are narrow. And yet, resourceful restaurateurs are finding practical ways to improve those margins — without raising prices, without cutting salaries, without compromising food quality or service.

Their secret is found in a common message: "All waste is lost profit." In the City's bustling restaurant industry, the potential for behind-the-scenes savings is tremendous, especially considering that New York City's eating and drinking establishments generate about 765,000 tons of waste each year. That is almost 30 percent of the total quantity of commercial waste generated in the City each year. According to the City, New York City's full-service restaurants generate 30 pounds of trash per \$1,000 of weekly sales. Fifty to sixty percent of that is food waste... and lost profit.

So what is waste prevention in the context of operating and managing a restaurant? In this business, waste prevention means reviewing and changing those

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NYC WasteLe\$\$ Partners In Action



Edwin Rosado and Ramone Silva, from Jamaica Market, spread finished compost in Jamaica's community garden.

Several NYC WasteLe\$\$ partners have successfully implemented waste prevention initiatives and saved money. Jamaica Market Food Court, in Queens, NY, a NYC WasteLe\$\$ partner, generates almost 100 tons of food waste per year, which is 40

percent of the Market's waste stream. With ten separate restaurants and an on-site farmers' market, organic waste is a significant part of the Market's waste stream. Recognizing this, the Greater Jamaica Development Corporation, which operates the Market, investigated the potential for composting the Market's organic waste.

Working with City Green, an environmental consultant, and using grants from the Empire State Economic Development Corporation and the Urban Resources Partnership, Jamaica Market now operates two Green Mountain Technologies Earth Tubs for composting. Four to six vendors participated in the composting program during the evaluation period of June 1998 through November 1998. About 1000 lbs. of food were collected weekly (150 to 200 lbs./day for 5 to 6 days/week). This equates to about one cubic yard of waste diverted weekly. Participation and quantities collected have increased since the evaluation period and employees look forward to expanding the composting program.

"We've saved about \$1,000 a year on our carting costs through composting," says Mary Reda, Director at the Greater Jamaica Development Corporation. Upfront costs for the program were

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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 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 restaurateurs and restaurant personnel 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



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

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Spotlight On: Waste Prevention

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

What 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 sustainable 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. ■

Need Help Greening Your Restaurant?

The Green Restaurant Association (GRA) is a national industry organization offering a comprehensive approach to helping restaurant owners in implementing environmentally conscious practices. GRA offers a "Green Certification" program and publishes a directory of its members. Michael Oshman, President of the nine year old, San Diego, CA-based organization, characterizes GRA's services as "part consulting, part education, and part public relations."

GRA's services include educating employees in recycling practices and procedures and providing a specific replacement program of recycled-content products. In order to become a member of GRA, an establishment must commit to the organization's 12 environmental steps. To receive a Green Certification, the first two steps, which are an environmental audit and ridding the establishment of all polystyrene foam, must be completed, and a plan to implement the other steps, which include a comprehensive recycling program, must be developed.

GRA staff work with each restaurant to develop the plan. Member establishments are reviewed every

year. Oshman describes the mission of his organization: "We provide the whole (environmental) picture, and we make it easy to do. What we are interested in is change in the restaurant business. We don't sell anything to the restaurants. We've been pretty successful in

developing comprehensive strategies and we've found that the steps definitely save money for a business when they are done in an integrated way."

Oshman notes the trend toward consumers seeking to do business with environmentally conscious establishments, but says that, "They want (the commitment

of the establishment) to be real, and that's where the certification

program comes in." The organization is now shifting to a national focus, and currently has members in six states. As part of the National Recycling Challenge, the association is committing to triple its membership. This would divert an additional 3.75 million pounds of trash each year with an average diversion rate of 65 percent.

For more information, contact GRA at 619-233-4663, or on-line at www.dinegreen.com, and be green in New York City. ■



green restaurant
association

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 the *NYC WasteLeSS* seminar for restaurants. 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 learning about fixtures that can maintain the desired atmosphere in a restaurant. Several fluorescent bias 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 restaurant setting, from intimate dining rooms to busy kitchens.

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 can 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.

For example, 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 in similar departments in other stores.

The Main Post Office in Reno, Nevada, became the most productive of all sorting facilities in the west-

ern 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:

- 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.



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

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\$19,530 for site preparation and supplies, but this was subsidized through grants from the Empire State Economic Development Corporation. Supplies included the Earth Tubs, as well as storage containers for bulking agent and food waste, carting bins, and assorted tools.

Ongoing costs are about \$120 per month and include labor, energy, bulking agent, and lab testing for the finished compost. The finished compost is used in landscaping projects at the Market, in the Market's community gardens, and by employees in their own gardens.

Pizzeria UNO, a chain of casual family restaurants specializing in pizza and a wide range of Italian dishes, and a *NYC WasteLeSS* partner, has several restaurants in New York City. At one restaurant in the

East Village, the manager investigated switching to reusable coasters at the bar and at tables instead of cocktail napkins. Reusable coasters reduce purchasing costs (promotional coasters are distributed free of cost by many beer distributors) and disposal costs. Since elimination of all cocktail napkins is unlikely, Pizzeria UNO estimates that it has saved approximately \$1,100 annually in reduced purchasing and disposal costs at each restaurant by eliminating 60 percent of its cocktail napkins.

The Sheraton New York Hotel and Towers, in midtown Manhattan, a *NYC WasteLeSS* partner, has been donating food to City Harvest for several years. During the past two years, the Sheraton donated more than one ton of food each year to the food donation organization. City Harvest picks up edible food from more than 600 donors weekly and has a total donor base of almost 7,000 restaurants, grocery stores, hotels, schools, food processors, and other businesses that have edible leftover food. The Sheraton donates baked goods, prepared foods left over from events and from the hotel restaurant's buffet.

The Sheraton also has replaced disposable cocktail napkins in its sports bar and lobby lounge with reusable drink coasters. The estimated annual savings is approximately \$6,000 in purchasing costs and an additional \$1,200 in disposal costs. ■



Jamaica Market staff add fruit and vegetable scraps to one of the Market's composters. Composting equipment is installed in a protected area behind the Market.

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 WasteLeSS* 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 WasteLeSS*, 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 WasteLeSS*). Thank you for your input.

Donate Your Way

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

Restaurants donate thousands of tons of nutritious, edible food every year to food collection programs in the City. Still, despite the fact that hundreds of restaurants participate in the various donation programs, there are many more restaurants not taking advantage of this cost-effective method of reducing the quantity of edible food destined for disposal and the opportunity to join forces to help hungry New Yorkers.

According to Julia Erickson, Executive Director at City Harvest, "In 1998, City Harvest picked

up 10 million pounds of food. This is estimated at only 20 percent of all the food that is wasted in our City."

In addition to removing edible food from the waste stream, restaurant owners buying new furniture, dishes, appliances, pots or pans can reduce the quantity of waste carted for disposal. Usable items may find a new life at a local non-profit, school or other organization in need. Restaurants across the City benefit in several ways: 1) eliminating the cost of disposing of unwanted items, 2) obtaining tax deductions, and 3) spreading goodwill and enhancing their positive public image.

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

nizations. According to Timothy Doyle, Assistant Director of Materials for the Arts (MFA), restaurants have diverted more than 49,000 pounds of material — nearly 25 tons — from the City's waste stream during the last four years. MFA, a program sponsored by the New York City Department of Cultural Affairs in part-

A sample list of items donated by local restaurants to MFA since 1993 includes:

- chairs
- cases of bar glasses
- pallets of glassware
- ice cream maker
- tables
- pallets of dishes
- refrigerators

Source: Timothy Doyle, Materials for the Arts

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.

Today, there are a wide variety of high-quality, cost competitive products made from recycled materials. For example, if you are replacing the floor covering in your restaurant, consider installing Dodge-Regupol ECOsurfaces rubber flooring made from recycled rubber. 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 the customer seating area, diners can be seated on benches and at tables made with recycled

plastic. Energy- and material-efficient lighting fixtures made from post-consumer recycled glass and a composite of soy flour and recycled paper add a soft light to the dining room. For the kitchen, several new Rubbermaid recycled plastic trash and recycling receptacles are made with post-consumer recycled-content

material. Anti-skid fatigue mats and flooring for walk-in coolers are available with recycled-content materials. Even the clothing your kitchen and waitstaff wear can be made with recycled materials. You may want to consider shirts made from recycled PET soda bottles, when purchasing new uniforms. ■

Additional products that restaurant owners and managers may consider specifying with recycled content include:

Restaurant Operations Products

- Trash bags
- Menu board frames
- Carpeting
- Restaurant furniture
- Marble floor tiles
- Rubber mats
- Computer supplies
- Ceiling tiles
- Insulation

Landscaping Products

- Planters
- Garden & soaker hoses



FOR MORE INFORMATION:

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

- Buy Recycled Alliance of New York (212) 803-2313
- Association of New Jersey Recyclers www.anjr.com/resources/buyrecycled (908) 722-7575
View the New Jersey Business Guide to Recycled Products.
- U.S. EPA's Comprehensive Procurement Guidelines www.epa.gov/epaoswer/non-hw/procure/index.htm RCRA Hotline (800) 424-9346
- U.S. General Services Administration www.pub.fss.gsa.gov/environ/ (817) 334-5215
- California Integrated Waste Management Board www.ciwmb.ca.gov/rcp/rcpdbint.htm California's Recycled-Content Product Database. (916) 255-2708

Cafe Flora, located in Seattle, Washington, was created from a recycling project of an existing neighborhood building. The remodel included recycled paint and the use of recycled concrete as a retaining wall and as a base course. At the Puget Consumers Co-op, also in Washington State, the renovation of the teaching kitchen involved extensive use of recycled materials. Kitchen walls are made with recycled-content gypsum wallboard that has a paper facing made of recycled newspaper. The stairs, doors and trim all are made of reclaimed Douglas fir. Acoustical ceiling tiles incorporate recycled aspen wood fibers. For more information about either of these projects, call the King County Commission for Marketing Recycled Materials at 206-296-4439.

- Commonwealth of Massachusetts Environmentally Preferable Products Procurement Program www.state.ma.us/osd/enviro/enviro.htm (617) 720-3351
- King County Dept. of Natural Resources, Solid Waste Division www.metrokc.gov/procure/green — King County's Environmental Purchasing Program. www.metrokc.gov/greenworks/products.pdf — a recycled-content building materials resource. (206) 296-6542
- Green Building Resource Guide — a database for purchase of more than 600 building materials and products with recycled-content material. www.greenguide.com
Fax request for guide to (850) 364-5116
- U.S. Green Buildings Council — a non-profit coalition providing green building information. www.usgbc.org



The New York State Aquarium installed EConights™ recycled rubber flooring.

Photo courtesy of Dodge-Regupol, Inc.

to Cost Savings

nership 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 edible food or usable material goods, consider contacting one of the City's many charitable organizations. Many offer guidelines, donation packaging and tax advantages. Save money while helping others. ■

Fear of Liability Not Necessary

New York City restaurants that donate food in good faith are protected, under Federal law, by The Bill Emerson Good Samaritan Food Donation Act. In 1981, New York State enacted Article 4-D, Section 71-Z, "Liability for Canned, Perishable Food or Farm Products Distributed Free of Charge."

Many collection organizations also have implemented safe food handling procedures to further protect donors and recipients.

Fear of liability is no longer an issue for those who wish to make good faith food



FOR MORE INFORMATION:

Food Donations:

- City Harvest, Inc. - (212) 463-0456, accepts fresh, prepared, and packaged foods.
- Food for Survival Food Bank - (718) 991-4300, accepts canned and packaged foods.
- Island Harvest (Long Island) - (516) 294-8528, accepts fresh, prepared, and packaged foods.

Materials Donations:

- Good Will 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's notice and will pick up.
- New York WaSteMatch - (212) 240-6920, helps identify potential users and providers 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, and 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!*

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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 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.

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 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.

TRADE WASTE COMMISSION MAXIMUM RATES

Rate	Service
\$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. ■

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.

Waste Prevention Beyond Food Service

Once you have considered waste prevention opportunities in your restaurant's food service activities, 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 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 restaurant operations.

- **Lease furniture, equipment, and appliances.** Leasing furniture for your dining room and offices, rather than purchasing and discarding it every few years, reduces the significant cost of disposing of bulk items. Leasing also reduces the cost of acquiring updated equipment or appliances on a regular basis. Ever-changing technologies make it more efficient to lease equipment, such as photocopiers, printers, and fax machines, as well as kitchen appliances, 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 restaurant is part of the plan, consider refurbishing and recovering existing furniture and equipment or donating used furniture and equipment to a non-profit organization as an alternative to discarding it. Several companies in New York City can help you to keep your restaurant'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.
- **Buy products in the largest quantity for the job.** This applies to office supplies as well as restaurant supplies and food items. Purchasing supplies 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.

- **Make your restaurant 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 equipment maintenance schedules updated using computers rather than paper printouts. Linking terminals using a network system allows everyone to view the same documents. Service staff can take orders and submit them to the kitchen staff using computer terminals instead of written orders. Consider these and other paperless strategies in your restaurant 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.) ■

Inventory Tracking Systems: The Future of Waste Prevention

Several national chains, as well as some independent restaurants, have realized the benefits of keeping track of inventory with the help of computer systems. Pizzeria UNO, an NYC WasteLess partner, uses a computerized tracking system to determine how many pizzas and other entrees are served each day. The computer system has been programmed with how much of each ingredient is necessary for each item prepared and can calculate how much of each ingredient should still be in stock. The system helps to determine where product waste is occurring, which may result from spoilage, overuse, or pilferage, and exactly what needs to be ordered each day.

The Boston Market restaurant chain also uses a computer program to monitor food inventories. Each day, food stock is weighed and recorded on the com-

puter. A program then calculates the difference between used and remaining food inventories, providing a daily estimate of preparation and storage losses. The chain estimates that food losses have decreased from five percent to one percent since the inventory tracking program began.

At the Thunderbird Hotel and Convention Center's Totem Pole Restaurant in Bloomington, Minnesota, the head chef reduced food waste by 20 percent using visual checks and a computerized inventory system. By tracking the quantities and types of food waste generated during food preparation, he was able to make modifications to the food preparation procedures to reduce waste. The reduction saved about \$185 per year in disposal costs. ■

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 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 to a group of restaurateurs.



FOR MORE INFORMATION:

These are just a sample of the software systems available to help streamline your restaurant's operations.

- Culinary Software Services, Inc.
(303) 447-3334
www.culinarysoftware.com
- Radiant Systems
(800) 676-1059
www.rapidfire.com/RFdj99its.htm
- Synergy International
(301) 840-6500
www.synergy-intl.com
- VIP Software - Advanced Hospitality Systems
(888) 715-7415
www.vipsoftware.com

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. Paints and paint thinners also can contain harmful substances. When compared to traditional products that serve the same purpose, environmentally preferable cleaning, degreasing, and painting products have a reduced impact on human health and the environment.

Take a close look at the products used in your operations to identify opportunities to consider testing and switching to alternative products. Look on your shelves, review 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 counter surfaces and you may find that these products contain ammonia.

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 a food service disinfectant cleaner that is essentially non-toxic according to Workplace Hazardous Materials Information System regulations. Don't stop after you look at the primary cleaners used in the food preparation areas; look also at the products used to clean the dining areas, bars, and restrooms.

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

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 and maintenance supplies are available. Every day, new products are introduced to the market that have eliminated constituents of concern such as 1,1,1-trichloroethane, toluene, and methyl ethyl ketone.

CLEANING GREEN

Environmental Attributes To Consider When Selecting Cleaning & 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

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 reduce customer exposure to certain chemicals, thus reducing the potential for adverse reactions and associated liability.

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

TARGETING TOXICS

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

- | | | |
|-------------------------|------------------------|--------------------------|
| ● Acetone | ● Aluminum oxide | ● Ammonia |
| ● Benzene | ● Carbon Tetrachloride | ● Chloroform |
| ● 1,2-Dichloroethane | ● Ethyl benzene | ● 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 | |



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



FOR MORE INFORMATION:

- Defense Logistics Agency
www.dscr.dla.mil/products/epa/eppcat.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.nfesc.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
This guide offers a straightforward summary of regulations for air, water, and hazardous waste. Call (800) 462-6553 or visit www.dec.state.ny.us.
- U.S. General Services Administration
Commercial Cleaning Supplies
This catalog lists hundreds of commercially available, environmentally preferable cleaning supplies. Call (800) 241-7246. ■

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, or call (202) 872-6400.

What is Waste Prevention? continued from page 1

practices that result in wasted food, wasted supplies, discarded service ware, and packaging. It means implementing initiatives that eliminate waste cardboard, spoiled food, and waste cooking oil, as well as wasted energy and water. In many cases, food waste is the primary target.

"We knew we were sending a significant amount of food preparation wastes and plate wastes to the garbage, but had never thought about developing an alternative system," says Mary Reda, Director, Real Property Operations, Greater Jamaica Development Corporation, in Queens, who led the restaurants of the Jamaica Market in their participation in the *NYC WasteLe\$\$* project.

"Once we began working with the *NYC WasteLe\$\$* team," says Reda, "we realized that we could lower our hauling costs and integrate our operations more fully with the community by establishing a composting program feeding into the community garden project. We provided for food waste collection and created an on-site composting operation and, after a bit of training, we had it working beautifully — and just in time for spring planting. This project has worked very smoothly and now all of our restaurants participate enthusiastically. We hope others can learn from our experience. Not only has our composting program provided good community outreach, it also enabled us to save about \$3,000 over the past three years."

Ed Doyle, Head Chef of Aura Restaurant also recognized — and seized — a prime waste prevention opportunity as he considered the amount of food waste from the kitchen. "An enormous amount of fresh organic scrap was going needlessly into our dumpster. We knew we could come up with a practical alterna-

tive. Now our kitchen staff wheels what amounts to about 150 pounds of compostable vegetable and fruit scraps in 20-gallon plastic tubs to our composter, located next to our corrugated baler on the loading dock each day. We mix the scraps with shredded confidential documents and partially composted leaves and save \$500 monthly. We then use the finished compost on our on-site culinary herb garden and give it to our local growers when they make their deliveries. Everyone wins."



In many cases, wastes can be eliminated simply by using durable, or reusable products rather than disposable ones, such as using and reusing coasters under drinks rather than using multiple disposable cocktail napkins. Purchasing food items in bulk, instead of in single-serve packaging can reduce

packaging waste tremendously, while also reducing the unit cost of the items.

In other cases, restaurants can minimize plate waste by offering menu selections that enable customers to select smaller portions, or alternative side dishes. A plate waste inventory may help you identify promising opportunities to minimize waste food. Waste also can be prevented by changing ordering schedules to minimize spoilage, or teaming up with a food bank for daily pick up of edible unused perishables.

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 material could have been prevented. You also can review the type and amount of packaging waste that you pay to dispose each month, and ask yourself if you



Purchasing some commonly used food items in bulk, instead of in single-serve packages, reduces packaging waste and the net cost of the item.

could specify alternative packaging that would help you to reduce waste and therefore lower your trash bill.

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

Bulk Rate
U.S. Postage
PAID
Brooklyn, NY
Permit # 2189

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