

# Food Industry Pollution Prevention and Waste Reduction



## Fact Sheet

Each day, food-related businesses throughout Michigan toss valuable materials into the trash for delivery to a sanitary landfill. Many materials commonly generated in the food industry, such as cardboard, plastics, metal cans, and discarded food, could be easily recovered for reuse or recycled.



Many commonly generated materials such as cardboard, plastics, metal cans, and discarded food could be easily reused or recycled. Commercial and institutional food-related facilities can save money and protect the environment by reducing this and other waste. Restaurants, supermarkets, produce and concession stands, school cafeterias, hospitals, food processors, farmers, hotels, persons, employee lunch rooms, parks and recreational facilities, and community events can practice waste reduction through source reduction, reuse and recycle. Practice pollution prevention (p2) and become a "green friendly" business. The result can lead to an improved public image and being more environmentally sustainable.

As you implement pollution prevention ideas, you and your employees will identify more ideas. Your success is only limited by your willingness to try something different and the payoff could be immense. Discretion should be used in determining the use of the contents of this document and compliance with local ordinances.

### GENERAL WASTE REDUCTION TIP AND POLLUTION PREVENTION ACTIVITIES

#### The Plan

-Establish a company-wide commitment to practice pollution prevention as part of doing business. Employee education and participation are the keys to success; make p2 a way of life. Ensure that all employees understand the program.

-Hang eye-catching posters and other promotional material to stimulate interest in the program. Institute an incentive program, giving awards or recognition to employees for their waste reduction/p2 efforts.

-Establish a task force headed by an enthusiastic p2 advocate.

-Develop a budget, making sure that needed resources will be available.

-Establish a p2 hierarchy for your company. Typically, source reduction is the highest priority followed by reuse and recycling.

-Design a management strategy to reduce waste, prioritize waste reduction options, and then develop an implementation schedule.

-Develop goals with measurable objectives.

-Identify when and where waste is generated.

#### Energy and Water Use

Commercial kitchens are one of the highest energy consumers commercially. These types of facilities use approximately 2.5 times more energy per square foot than other commercial buildings.

-To reduce your energy costs, conduct an energy audit to determine ways to conserve energy and cut expenditures. Don't have the

MICHIGAN DEPARTMENT OF  
ENVIRONMENTAL QUALITY  
ENVIRONMENTAL SCIENCE AND SERVICES  
DIVISION

PO BOX 30457

LANSING MI 48909-7957

[www.michigan.gov/deq](http://www.michigan.gov/deq)

Environmental Assistance Center

1-800-662-9278

April 2008 • #9814



expertise? Contact the Michigan Department of Environmental Quality's RETAP program at 1-800-662-9278 for free confidential assistance. The following may reduce energy consumption: install energy-efficient fluorescent light bulbs, turn off lights at the end of the work day, turn off machines



not in use, and install programmable mercury-free thermostats. Install motion or timer lights in restrooms, pantries, and freezers. Use low-wattage bulbs in exit signs.

-Replace outdated equipment and appliances with more energy-efficient and water conserving models or Energy star labeled equipment. Commercial food service products in six categories have the Energy Star designation: fryers, hot food holding cabinets, solid door refrigerators and freezers, steam cookers, dishwashers, and ice machines. Energy Star qualified equipment may save up to 50+% over conventional products.

-Clean reefer coils and change air conditioning filters regularly to help these appliances run more efficiently.

-Conduct a water audit to determine if water use may be reduced and leaks minimized. Regularly check water faucets and other outlets to reduce the amount of water used at your facility. The following may reduce water consumption: repair or replace leaky water faucets, turn off water faucets and hoses when not in use, install low-volume toilets and waterless urinals, and install low-flow motion sensitive faucets.

-Reduce costs for lawn care by going "greenscape". Greenscaping encompasses a set of landscaping practices that can improve the health and appearance of your lawn while protecting and preserving natural resources. Greenscaping can save money by eliminating unnecessary water and chemical use and utilizes plants requiring less care. Michigan grasses require only 0.5 to 1.5 inches of water per week; water deeply wetting the roots to a depth of 6". The most ideal time to water is 4:00 A.M. to 8:00 A.M. when evaporation is reduced and conditions are less ideal for promotion of molds and plant diseases.

-Clean spills with a squeegee, broom or vacuum. Never hose materials down the drain.

### Solid Waste

Identify and prioritize problem wastes; evaluate reduction potentials. Identify your target materials. Identify waste characteristics, including quantities of each material and how they are handled and disposed.

-Procure recycled, recyclable and compost friendly products.

-Work with suppliers to reduce packaging, thereby reducing disposal costs. Ask suppliers to provide you with products that are packaged in materials such as recyclable or reusable paper, glass, steel, aluminum, or plastic. Work with suppliers to take back and reuse corrugated cardboard boxes, five-gallon buckets and other packaging.

-Use cloth rags instead of paper towels.

-Separate newspaper, office paper, tin and bimetal cans, aluminum, glass, plastics (high density polyethylene-HDPE, polyethylene terephthalate-PET), corrugated cardboard, wooden pallets, kitchen grease, used cooking oil, food waste, and other recyclables from solid waste and implement a recycling program. Check with container suppliers to determine if they participate in a recycle program for polystyrene. Use color-coded collection bins for easy identification.



-Check with your waste hauler and ask what types of recycling services are available. Look for haulers who are flexible and willing to work with you to design a recycling program based on your needs. Ask your waste hauler for advice about keeping recyclables and wet waste separate.

-Research the feasibility of investing in a mini-cardboard baler, can crusher, and glass pulverizer. This equipment will allow for efficient management of space and may increase the likelihood of favorable recycling service contracts.

-Be sure that your grounds crew knows to keep yard waste separate from other waste so that the yard waste may be recycled as compost.

### Food Waste

The National Restaurant Association estimates that twenty percent of all food prepared commercially in the United States go to waste.

-Donate non-perishable and unspoiled perishable nutritious foods to a food bank, soup kitchens, food pantries, charities, and shelters. Local and national programs frequently offer free pick-up and provide reusable containers to donors. Local charities, the Michigan Family Independence Agency, and local chapters of national charities can provide information on food donation. The Forgotten Harvest, which rescues over 8 million pounds of food annually is available at [www.forgottenharvest.org](http://www.forgottenharvest.org)

-Recover food discards as animal feed for operations such as hog farms. Farmers may provide storage containers and free or low-cost pick-up service. Coffee grounds and foods with high salt content are not usually accepted as they can be harmful to livestock. State veterinarians can provide information on diversion to animal feed.

-Donate waste food to a local composting facility to reduce hauling and tipping costs. Look for a composting facility in your area that will take your food discards. Composting is the controlled, natural breakdown or degradation of organic material by microorganisms. Most organic materials are acceptable for composting, including egg shells, coffee grounds, paper, shredded brush, nonpesticide-treated grass clippings, fruit and vegetable scraps, garden waste, fireplace ashes, and leaves. Food scraps provide most of the nitrogen for composting. Organic materials that should not be composted include meat or bones; fatty foods such as cheese, oil and grease, diseased plants, plants treated with weed killer, and pet waste.

-Fats, oils, and greases (FOG) coat, congeal and accumulate on pipes, pumps, and equipment and sometimes obstruct lines. Use dry clean-up to remove FOG and reduce water consumption and sewer use. By avoiding disposal of grease down the drain, you will minimize sewer backups, use of toxic chemicals used to clear drains, and unnecessary discharge to your sewer system resulting in wastewater treatment upsets. Collect and send used grease to a licensed liquid industrial waste hauler for rendering or conversion to biofuels. Find a licensed hauler that will provide storage barrels and free pick-up service. Local chambers of commerce, county agricultural extension agencies, commercial food suppliers or the telephone book can provide information on area businesses. Look for renderers under tallow or rendering company. If the material cannot be reused; contain, seal and put in the dumpster.

-Ensure that grease traps and interceptors are properly inspected, maintained and cleaned often enough to prevent clogs, spills, and overflows. Never pour grease, oil, or large quantities of oil liquids such as sauces or salad dressings down a sink, floor drain, storm drain, or into a dumpster. Never hot flush oily liquids through a grease trap.

-Use a first-in first-out inventory policy for raw materials to prevent them from exceeding their shelf life. Rotate perishable stock at every delivery to minimize waste. Strict inventory control is the most effective and cost efficient way to prevent usable materials from needlessly becoming waste. Improperly stored, labeled, or outdated food becomes waste.

-Buy in bulk to reduce container waste but avoid buying too much of a product that might spoil. Buy locally to minimize transportation costs and to increase local economy.

### Hazardous Waste

-Institute a hazardous waste collection program. Many commercial cleaning products contain hazardous materials such as caustics or strong acids. Never pour hazardous wastes down the drain. Never mix different wastes. If possible, consider using alternative materials. Look for “non-toxic”, “non-petroleum based”, “free of ammonia, phosphates, dye or perfume”, or “readily biodegradable” on the label. Avoid chlorinated compounds petroleum distillates, phenols, and formaldehyde.



-Choose environmentally friendly cleaning products, and purchase cleaning agents in concentrate.

-Phosphate is an aquatic plant nutrient that can cause excessive growth of aquatic algae and water quality problems after the detergent is washed down the drain. Ask your supplier about the many phosphate-free-biodegradable detergents on the market. Refer to Part 39 of Public Act 451 of 1994, as amended, for additional information regarding cleaning chemicals.

-Integrated Pest Management (IPM) programs combine chemical, cultural, and biological practices to manage pest populations. IPM principles incorporate preventive practices, remedial practices and economic thresholds, thus reducing the amount of chemicals used by applying pesticides only when necessary and at the minimum effective rates. Use less soluble, less leachable, less persistent, and less toxic pesticides whenever possible.

-Practice good housekeeping to reduce pest populations and the need for chemical controls. Keep doors shut when not in use; place weather stripping on doors; caulk and seal openings in walls; install or repair screens; install air curtains; keep vegetation, shrubs and the wood mulch at least one foot away from structures. Store food and waste in tightly sealed containers that are inaccessible to pests.

-Use compost and/or mulching as an alternative to lawn fertilizers or use phosphate-free fertilizers sparingly. Over fertilizing can actually encourage certain insects and diseases.

-Store all fertilizer and pesticides containers safely to prevent spills and dispose of the empty containers properly. Never store these products with food products.

### Storm Water

-Develop a stormwater pollution prevention policy that is readily available for use by management, employees, and contractors. Make sure that all concerned are aware of your “Don’t pollute, drains to surface water” policy.

-You may be polluting the storm water if you rinse wash water down a storm drain, spill materials or wastes in your parking lot without cleaning them up or allow materials or waste stored outside to leak. Prevent these activities from occurring and stencil storm drains “Dump no waste-drains to river” (lake, stream, etc).

-Clean equipment such as floor mats, exhaust filters, garbage cans, carts, or tray racks in a designated indoor area such as a janitor/utility/ mop sink or floor area with a drain connected to the sanitary sewer. Never pour wash water down a storm drain or gutter. Use the mop sink for proper disposal.

-Dumpsters used for garbage should be protected from rainwater, and loading docks should be kept clean to avoid unwanted substances from entering storm drains. Some helpful hints for dumpster maintenance include keeping the dumpster lid closed to keep out rain water, replacing damaged or missing lids as soon as possible, never placing liquid waste or leaky garbage bags into a dumpster, keeping dumpsters or the dumpster enclosure locked to prevent illegal dumping, not hosing out the dumpster interior, applying absorbent over any fluids spilled in the dumpster, sweeping up litter, and replacing leaking dumpsters.

-Some helpful hints for loading dock maintenance include keeping litter from accumulating around the dock by providing trash receptacles, sweeping up litter, and not hosing down the area.

-Never pour washwater down a storm drain or gutter; use the mop sink for proper disposal.



### Resources

-Contact your local health department for additional information.

-Contact the [Michigan Department of Agriculture](#) for information on pesticide control, pesticide use, pesticide applicators, integrated pest management, and composting.

-[America’s Second Harvest Network](#) secures and distributes more than 2 billion pounds of donated food and grocery products annually.

-[Forgotten Harvest](#) rescues nearly 8 million pounds of food per year by collecting surplus prepared and perishable food from a variety of sources such as grocery stores, restaurants, caterers, dairies, farmers, wholesale food distributors, and other Health Department-approved sources.

-[Food Gatherers](#) is a nonprofit organization that distributes donated food to shelters, soup kitchens, senior citizens, etc.

-[Michigan Recycling Coalition](#) fosters environmental conservation by promoting sustainable resource use and recovery.

-[DEQ - Restaurant P2](#).

The Michigan Department of Environmental Quality (MDEQ) will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability, or political beliefs. Questions or concerns should be directed to the MDEQ Office of Human Resources, PO Box 30473, Lansing, MI 48909.