

Environmental Best Management Practices for Small Businesses

Introduction

An environmental best management practice (BMP) is an action or combination of actions implemented to reduce the environmental impacts of business operations. There are two types of pollution prevention: source reduction and recycling. Source reduction reduces or eliminates the generation of waste. Recycling takes used materials, modifies their form, and makes them available for future reuse. The BMPs provided in the fact sheets listed below are a combination of source reduction and recycling strategies, which provide economic as well as environmental and safety benefits.

Each BMP fact sheet focuses on a particular sector, and draws information from several sources, which are listed in the endnotes section of each fact sheet. The BMPs listed in each fact sheet may be used as a guide for your business. Depending on your business' individual needs and technical and financial capacities, the BMPs may require modification. When adapting a BMP to your business, it may be necessary to contact your local regulatory agency to determine permit requirements. It is important to note that the BMPs listed in these fact sheets are intended as a starting point for your business' environmental management plan, and are not all-inclusive. Further information is available through links at the end of each fact sheet. For additional information about regional specific BMPs, or BMPs not covered in these fact sheets, contact your local authorities and regulating agencies. It is not expected that each BMP will work in all situations; each small business must factor in their own needs, resources, and capacities to find the ones that work best for them.

The fact sheets are intended to work in conjunction with the Environmental Protection Agency's *Practical Guide to Environmental Management for Small Business* and its companion book, *Documenting Your Environmental Management Plan*. For copies of these guides, please refer to the links provided on this website.

Each fact sheet is divided into five sections:

- 1) **Sector Introduction:** Provides basic background information on environmental impacts associated with the sector.
- 2) **Best Management Practices:** Divided into two or more subsections. Each subsection consists of a paragraph describing a particular environmental impact, followed by a list of BMPs which address the problem.
- 3) **Investments in Technology:** Supplies additional information on technologies mentioned in the BMPs or provides information on new technologies to consider when making your choice of BMPs to use. Information about returns on investment is provided where possible, but the true payback period will vary greatly, dependent upon your situation. To determine if a particular technology is right for your operations contact a local vendor for more information.
- 4) **Case Study:** Demonstrates the effectiveness of a BMP used in a business.
- 5) **Other Sources:** Provides links to BMP information listed in the fact sheet. Also provides additional resources available to small businesses.



Best Management Practice

Food Service

Sector Introduction

Major environmental issues associated with food service establishments include high energy usage, generation of solid waste, and wastewater discharge. Wastewater is disposed through drains leading to a sewer, or directly into stormwater drains. Storm drains carry water, pollutants, and debris to streams, rivers, or the ocean where it enters untreated. Food service wastes which enter into stormwater drain systems are harmful to the environment. Common food service wastes, often referred to as Fats, Oils, and Greases (FOG) are of particular concern.

This fact sheet lists environmental best management practices (BMPs) for your food service business. Most of the BMPs pertain both to dine-in and carry-out types of food service operations. The BMPs listed in this fact sheet are a starting point for your business. Additional suggestions for a wider range of activities can be found using your local authorities and regulating agencies, and the links in the "Other Sources" section.

Best Management Practices

Stormwater Runoff

Pollutants which enter into stormwater catch basins are harmful to the environment. Substances such as FOG are especially of concern. Because stormwater contents are deposited into streams or the ocean untreated, they can cause harm to fish, waterfowl, and other aquatic wildlife. Oil and grease can clog fish gills and may also form a shiny layer on top of water, preventing crucial aquatic plants and seaweed from receiving sunlight.

- Locate dumpsters and storage containers away from stormwater catch basins.³
- Make sure dumpsters do not have any leaks. If there is a leak, contact your waste collection company, who will either repair the leak or replace the dumpster.¹⁴
- Use absorbent pads (not loose material such as kitty litter), to clean up FOG spills outside, and dispose of the used pads in the garbage.³
- Use absorbent pads in stormwater catch basins if grease dumpsters are located within 20 feet of the catch basin.³
- Clean exhaust hoods regularly. FOG may collect and accumulate on the roof of your building. The accumulated waste may runoff during a rainstorm. In addition, the accumulation of FOG on your roof may start a fire.⁶
- Avoid using outside cleaning products that contain harsh ingredients such as phosphates.¹⁴
- Clean stormwater catch basins at least twice a year;

once in the spring and once in late fall. They should also be cleaned after any spills.¹⁴

- Stencil a yellow fish beside stormwater catch basins and post a sign to educate clients and employees that nothing but clean water should enter the storm drain.¹⁴
- Make sure that any company you hire to clean your exhaust hoods, vents, or grills is not dumping the material down a storm drain or leaving wastes in roof gutters.¹⁴

Solid Waste

It is estimated that 20% of all food prepared commercially in the U.S. goes to waste. Not only is food wasted, but energy, labor, and materials used to prepare the food are wasted as well. Below are some BMPs for reducing different types of solid waste from your food service establishment.

- Install hand dryers in restrooms to reduce paper waste.⁴
- Use reusable, washable food service dish/silver ware.⁴
- Place health department approved rubber mats around bus/dish washing areas to reduce glass/dish breakage.⁵
- Rotate perishable stocks to minimize spoilage of food.⁷
- Work with suppliers to take back and reuse cardboard boxes, buckets, and other packaging. Consider



- donating these items to customers, churches, or schools.⁵
- Make sure items are unspoiled and undamaged before signing a produce delivery tag.¹³
- Recycle plastic, glass, and cardboard.⁵
- Use refillable condiment bottles instead of single-use packets.⁷
- Buy cleaning supplies in concentrate and add the water yourself.¹³
- Consider using trashcan liners that contain fewer raw materials, such as recycled High Density Polyethylene (HDPE) instead of liners made of Low Density Polyethylene (LDPE) or Linear Low Density Polyethylene (LLDPE).¹³
- Consider reducing the portion size of menu items which are consistently being returned unfinished.¹³
- Consider purchasing bulk condiments, such as salad dressings and mayonnaise, in foil pouch containers rather than in plastic pails.¹³

Municipal Sewer System

FOG substances can cause damage to your local sanitary sewer. The materials build up causing blockages and sewer overflows. The following BMPs are designed to minimize FOG pollutants and other materials which may be deposited into sewer systems.

- Keep FOG out of plumbing systems by collecting frying oil into an oil rendering tank for disposal, or transport to a bulk rendering tank.¹
- Filter fryer grease daily, and use a test kit provided by your grocery distributor to inform you of when to change the oil. Less frequent oil changes mean more money saved and less waste.¹
- Try designating particular fryers for products that are particularly high in deposits.¹
- Make sure that rendering barrels are properly covered.¹
- Consider using a grease collector. Some rendering companies will offer rebates on materials collected and others may offer free-of-charge services. Please make sure these companies are properly permitted by the state.¹

- Wash dishes/silver/pot ware using a three-compartment sink. Begin the process by thoroughly scraping dishes into proper waste receptacles, continue with a hot pre-wash, follow with a scouring sink with detergent, and then finish with a rinse sink.¹
- Make sure that all drain screens are installed and properly working.¹
- Donate edible food to local food banks (determine liability). Donate inedible food to a local garbage feeder that will use the food wastes for feeding livestock.²
- Provide employees with the proper tools (ladles, ample containers, etc.) to transport materials without spilling.¹
- Try to minimize the use of a garbage disposal. Instead, try clean-up methods which involve less water use. For example, place food scraps into garbage bins.²
- Be prepared to block off all sinks and drains in the area in the event of a FOG spill inside the facility. If the spill has the possibility of entering a drain, cover it with absorbent material such as absorbent pads, kitty litter, sawdust, or paper towels. Throw the material into the trash and follow up with cleaning fluid to remove remnants.²
- Install a fine meshed screen in the drain of each kitchen, mop and hand sink. Clean drains frequently.²

Energy Usage

Food service businesses rely heavily on electricity and natural gas to run operations. Heating and air conditioning units, commonly referred to as HVAC systems, consumed 35% of energy use in restaurants in 2002. Food preparation equipment comes in second, consuming 28% of the energy used in your restaurant.¹⁰ Reducing energy costs can save money, and that means more profits for your business.

- Buy an energy efficient thermostat and other appliances, preferably those with the Energy Star[®] label.⁹
- Use shades or other window treatments to reduce the amount of heat entering or leaving through windows.⁸
- Disconnect lights or remove bulbs in dessert and salad refrigerators.⁸



- Install plastic air curtains and air blowers inside walk-in refrigerator doors.⁸
- Install timers on exhaust systems/hood fans/hood lights.⁸
- Set thermostat to 68° F for heating, 78° F for cooling, 55° F for nighttime, and turn off all fans when building is unoccupied.⁹
- Use a “start-up/shut down” schedule for cooking appliances as well as a similar schedule for “plug-in” equipment such as coffee makers, plate and food warmers, conveyor toasters, etc.⁹
- Maintain refrigerator doors; replace worn parts to maximize efficiency.⁹
- Install compact fluorescent lamps, preferably mercury free, instead of incandescent bulbs.⁹
- Run dishwasher only when fully loaded.¹⁰
- Replace old, high-volume kitchen sprayers with high-velocity, low-flow models.¹⁰
- Keep refrigerator condenser coils clean and free of dust and other debris.¹¹
- Wrap water-heater pipes in insulation.¹¹

Investments in Technology

- Consider using occupancy sensors and motion sensors to control air conditioning, lighting, and heating. These sensors turn lights, air conditioning, and heating settings on and off depending on if a room is occupied.⁸
- Replace T12 lamps and magnetic ballasts with more efficient T8 electronic ballasts. Contact your local electric company to see if they provide a rebate or financial assistance for retrofitting your store. Switching to T8 fixtures benefits both you and the electric company.⁹
- Retrofit “Exit” signs with screw-in light emitting diode (LED) lamps. LED lamps use less energy and can last up to 10 times longer than traditional incandescent bulbs.¹⁵

CASE STUDY Eat Your Vegetables

When Eat Your Vegetables, a restaurant in Sacramento, opened for business in 1989, the owner, Ted Jones, began practicing waste minimization. He began with simple glass recycling and cardboard reuse. His program has now greatly expanded and utilizes many BMPs. For example, the restaurant:

- Offers condiments in bulk dispensers
- Donates unused food, old uniforms, and food containers to kitchens and shelters
- Donates produce trimmings to people who raise exotic birds
- Composts leftover food/landscape clippings/paper towels
- Uses washable plates/silverware and glasses
- Covers refrigerated foods with reusable plastic covers instead of plastic wrap
- Has produce delivery vendors reclaim cardboard boxes.

Waste reduction – from 16 yards weekly to 1.5 yards weekly (a 90% reduction)

Savings – \$4,805 annually

- Savings from avoided disposal costs – \$3,800
- Savings from bulk purchases – \$1,005

Source: California Integrated Waste Management Board, “Restaurant Profile: Eat Your Vegetables”, <http://www.ciwmb.ca.gov/BizWaste/FactSheets/EatVeg.htm>



Other Sources

- ¹ P2Pays.org, *A Fact Sheet for Best Management Practices for Fats, Oils, and Grease*, <http://www.p2pays.org/ref/05/04281.pdf>
- ² Colorado Springs Utilities, *Food Service Establishment BMPs*, <http://www.csu.org/business/services/pretreatment/fog/page2742.html>
- ³ Oregon Association of Clean Water Agencies, *Best Management Practices (BMPs)*, <http://www.oracwa.org/Pages/bmp.htm>
- ⁴ Hospitals for a Healthy Environment, *Solid Waste Materials Best Management Practices*, <http://www.h2e-online.org/pubs/bmp/solidbmp.pdf>
- ⁵ Georgia Department of Natural Resources' Pollution Prevention Assistance Division, *A Fact Sheet for Food Service Waste Reduction*, http://www.dnr.state.ga.us/dnr/p2ad/dl/food_serv_wreduct.pdf
- ⁶ Kent County Levy Court Department of Public Works, *Fats, Oil and Grease (FOG) Best Management Practices (BMP) Manual*, <http://www.kentcountypw.com/FOG%20BMP%20Manual.pdf>
- ⁷ P2Pays.org., *A Fact Sheet for Restaurant Waste Reduction*, <http://www.p2pays.org/ref/03/02790.pdf>
- ⁸ P2Pays.org., Full Circle Resources; A Business Waste Reduction Project, *Restaurant Waste Reduction Manual; A Step-by-Step Approach to Developing a Waste Reduction Campaign*, <http://www.p2pays.org/ref/03/02368.pdf>
- ⁹ Pacific Gas and Electric, *Energy Reduction Action Plan for Restaurants*, http://www.pge.com/rebates/123_reduction_plans/restaurants/
- ¹⁰ Flex Your Power, *Restaurants*, <http://www.fypower.com/com/sbs/rest.html>
- ¹¹ Sustainable Energy Authority Victoria, *Energy Saving for Restaurants and Catering*, http://www.seav.vic.gov.au/ftp/advice/business/info_sheets/EnrgSavRestauranInfo_0_a.pdf
- ¹² State of Maine, Department of Environmental Protection, *Small Business Assistance Waste Reduction in the Restaurant Industry*, <http://www.maine.gov/dep/oia/p2/restaurant.htm>
- ¹³ California Integrated Waste Management Board, *Restaurant Guide to Waste Reduction and Recycling, Food for Thought*, <http://www.ciwmb.ca.gov/Publications/BizWaste/44198016.pdf>
- ¹⁴ City of Victoria, British Columbia, *Best Management Practices; Restaurants*, http://www.city.victoria.bc.ca/cityhall/pdfs/rockbay_rstrnt.pdf
- ¹⁵ EC&M, *LED Bulbs Provide Illumination with Less Energy and Lower Maintenance Costs*, http://www.ecmweb.com/month/electric_led_bulbs_provide/