

Waste Reduction and Recycling: A Guide for the Workplace




For many Wisconsin businesses, waste disposal has been a matter of “out of sight, out of mind.” Materials that aren’t needed have been simply thrown away.

This day in age there is no such place as “away” when it comes to waste disposal. Tipping fees, lost resources, energy costs, and environmental costs such as contaminated groundwater make business waste disposal costly.

By reducing your business’ waste, you can actually save money and conserve natural resources!

Waste Reduction and Recycling: It’s not only good business-it’s the law!

The state Waste Reduction and Recycling Law* along with local ordinances require all businesses and their building owners to:

-  Provide separate containers for the materials banned from landfills and incinerators. (see below)
-  Regularly educate the occupants and users about the recycling program at their facility.
-  Arrange for the collection and delivery of the recyclables to a recycling facility.

The law also places a high priority on reducing waste and reusing items even before recycling.





Responsible Units (municipality, county, Indian tribe, solid waste management system, or other unit of local government) run county or municipal recycling programs. These programs operate under ordinances passed to implement recycling requirements for all individuals, institutions and businesses within their jurisdiction. Contact your local government for details.

Materials banned from disposal in Wisconsin:






Paper

-  office paper
-  newspaper
-  magazines
-  corrugated cardboard

Containers

-  aluminum cans
-  steel (tin) cans
-  glass bottles and jars
-  plastic containers (#1 and #2)**

Other Materials

-  major appliances
-  waste tires
-  lead-acid vehicle batteries
-  yard wastes
-  used motor oil



* You can order a summary of the recycling law by calling (608) 266-6790 and asking for publication WA-422 Solid Waste Recycling and Waste Reduction in Wisconsin.

** Current law offers a variance to plastics labeled #3 - #7. Check with your Responsible Unit to find out if this variance applies to your business.

The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services, and functions under an Affirmative Action Plan. If you have any questions, please write to Equal Opportunity Office, Department of Interior, Washington, D.C. 20240.

This publication is available in alternative format (large print, Braille, audio tape, etc.) upon request. Please call 608/266-6790 for more information.

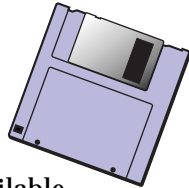
Help Your Business **\$**ave by Using the Waste Hierarchy!

Reduce

In the Office

First: Use your computers to save paper.

- ☒ Use e-mail to eliminate paper memos and correspondence.
- ☒ Use electronic files, with appropriate disks for back-up.
- ☒ Share, review, and edit documents on-screen before printing them. If available, use your computer's Fax function.
- ☒ Remove your business' name from junk mail lists.



Route to:

- ✓ Charlie
- ✓ Melvin
- ✓ Annie
- ✓ Joe
- ✓ Kirsten
- ___ Dianne
- ___ Gale
- ___ Katie
- ___ Maggie
- ___ Max
- ___ Pete
- ___ Repete

Memo

Next: When you use paper:

- ☒ Print only the amount of documents you need.
- ☒ Circulate one copy of a memo, letter, or publication to several people via a routing slip.
- ☒ Make two-sided (duplex) copies whenever possible.

- ☒ Print on both sides of paper for draft versions of documents.
- ☒ Maintain a centralized and/or electronic filing system.
- ☒ Use half-page FAX cover sheets, or "stick-on" FAX transmission stickers.

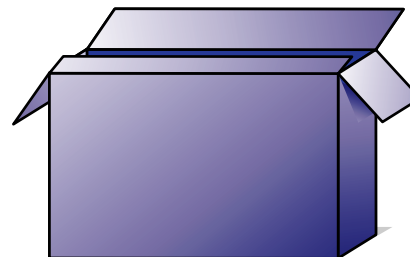
In Retail, Warehouse, Automotive, and Manufacturing Areas:

Reduce packaging:

- ☒ Ask suppliers/shippers not to send you disposable, overly packaged, or hard-to-recycle packing materials.
- ☒ Avoid single-use containers.
- ☒ Deliver your product with the minimal amount of packaging.
- ☒ Purchase high-quality pallets which last longer and are easily repaired.

Reduce the materials you use:

- ☒ Improve product design to use less materials.
- ☒ Practice good housekeeping techniques to reduce spills and leaks.
- ☒ Use drip pans to catch spills and buy multiple-use oil spill cleanup materials in place of single-use.
- ☒ Evaluate pollution prevention options to reduce your use and waste of toxic and hazardous substances.
- ☒ Use high-volume low pressure and other high-efficiency paint transfer spray guns.



Reuse

In the Office:

Give equipment and supplies a second life:

- ■ Repair old furniture and office equipment or donate it to charity.
- ■ Buy furniture from suppliers of used office furniture.



- ■ Donate old magazines to hospitals, libraries or charity.
- ■ Use re-fillable, reusable toner cartridges for laser printers and copiers.
- ■ Convert scrap paper into memo and telephone message pads.

Implement simple business practices:

- ■ Use a dry erase board for messages and meetings.
- ■ Use reusable or two-way envelopes and mailing pouches.
- ■ Encourage staff to use reusable cups or mugs for beverages.



In Retail, Warehouse, Automotive, and Manufacturing Areas

Packaging:

- ■ Purchase or ask suppliers to provide sturdy, high-quality storage and shipping containers made of plastic, wood, or metal, which can be reused indefinitely.
- ■ Return corrugated boxes to your supplier for reuse, or reuse them yourself.
- ■ Wash out and reuse steel and plastic storage containers that carried non-hazardous materials.
- ■ Repair broken wooden pallets for reuse.
- ■ Create your own packing materials by shredding non-recyclable paper items, and reusing packing materials you received.
- ■ Enclose a note in packages asking recipients to reuse packaging materials.

Implement simple business practices

- ■ Properly maintain your equipment to reduce wear and extend its life and efficiency.
- ■ Consider re-manufacturing worn-down equipment instead of replacing it and promote the use of reconditioned parts.
- ■ Use a waste exchange to find needed merchandise or equipment and to find a home for your surplus materials.
- ■ Replace paper hand towels with reusable cloth towels and cleaning rags.

Recycle:

In the Office:

Office-generated recyclables

- Work with your hauler/recycler to determine how paper and containers should be sorted.
- Set up a system to collect and recycle all types of paper, from high-grade to cardboard.
- Set up a system to collect and recycle metal, glass and plastic (# 1 & 2) containers.



Buy recycled

- Purchase recycled copier, computer and FAX paper.
- Avoid buying glossy, colored, or hard-to-recycle paper items.
- Purchase recycled notebook paper, envelopes and mailing pouches.



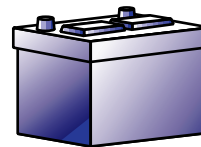
In Retail, Warehouse, Automotive, and Manufacturing Areas

Business-generated recyclables

- Work with your suppliers and haulers/recycler to determine which materials you generate can be recycled and how to manage them.
- Keep wastes separated and labeled so they can be recycled.
- Set up a system to recycle surplus cardboard or cardboard that has deteriorated after frequent re-use.
- Recycle used motor oil, tires, and lead acid batteries.
- Recycle oil filters, lubricants, cleaning solvents, and antifreeze (separately) using a licensed transporter and recycling facility.
- Collect excess materials, when applicable, for in-house post-industrial recycling.

Buying recycled

- Purchase recycled packaging materials, like shredded newspaper and cardboard, when shipping items to customers.
- Include recycled materials in manufactured products whenever possible.



Your Business Can Make a Difference

Many businesses feel the amount of waste they dispose of is too small to make a difference. Wisconsin businesses annually generate 45 percent of the state's municipal waste stream.

A large percentage of materials generated by businesses can be reused and/or recycled. More than 50 percent of the waste generated by retail stores and warehouses is recyclable corrugated cardboard. Office buildings can generate almost three pounds of trash per person per day; 75 percent of this is paper.

Waste reduction and recycling isn't difficult or expensive. In fact, your business can save money:

- \$ by reducing your disposal and/or incineration costs.*
- \$ by reducing the costs of inefficient and wasteful packaging.*
- \$ by reusing durable shipping containers.*
- \$ by implementing good purchasing and inventory management practices.*
- \$ by buying non-toxic cleaning supplies in concentrates.*

It can also:

- \$ Earn money through selling high-grade recyclable materials for profit.*
- \$ Create a positive image with customers and your local community by showing you care about the environment.*

Case Studies

It Really Works! Take a look at the following case studies to see waste reduction, reuse, and recycling in action. See how some businesses have developed unique recycling practices, beyond the recycling law mandates.

☞ Savings estimates are based on reduced disposal costs.

Aid Association For Lutherans, (Office Building), Appleton, WI
Contact: Bob Starner - (920)730-4700 x3436

Volume of waste reduced or recycled:

..... 1,000,000 pounds of office paper/year

Waste reduction investments:

..... \$ 7,700-McClain Magnum II paper/cardboard compactor

Savings: \$30,000/year

Waste reduction strategies:

- ☞ Polystyrene containers were eliminated in company cafeteria, with reusable, washable ceramic plates used instead.
- ☞ All employees were provided with reusable ceramic coffee cups.
- ☞ Yard wastes were composted and used for mulch.
- ☞ Construction materials (steel and other metals) were collected for recycling.
- ☞ Cafeteria grease and cooking oils were sent to a rendering firm.

A word to the wise: "The key to getting a program started is employee involvement and employee participation. We went on a wide, massive campaign to educate all employees. We didn't want to miss anybody."

Zimbrick, Inc. (Auto Dealer), Madison, WI
Contact: Mike Fitzgerald - (608)273-2060

Volume of waste reduced or recycled:

..... 2,080 cubic yards/year

Waste reduction investments:

5 Kent-Moore ACR3 freon recycling units @ \$2,100 each \$10,500
3 Vac-U-Flush antifreeze rejuvenators @ \$4,000 each \$12,000
plastic recycling bins for collecting office paper and cans \$800
1 cardboard compactor (rented) 1@ \$300 per month \$3,600
TOTAL \$26,900

Savings: \$3,600 per year

Waste reduction strategies:

- ☞ Individual plastic bottles of windshield washer fluid/antifreeze were replaced with reusable 55-gallon drums.
- ☞ Individual spray cans of cleaning solvent were replaced with bulk solvents in returnable, reusable 55-gallon drums.
- ☞ Freon™ was recharged and reused.

A word to the wise: "...what should be stressed in car dealerships is how to minimize what you're doing, and what wastes you're creating. That is so important...it just amazes me what we were able to do in a short amount of time."

Placon Corporation (Plastics Packaging and Merchandising)
Madison, WI, Contact: Stephen Cheney - (608)278-4927

Volume of waste reduced or recycled:

..... 4,000 tons of plastics/year

Waste reduction investments:

3 Rapid grinders \$51,000
2 Cumberland grinders \$55,000
2 - 1,000-pound scales \$6,000
1 fork truck \$22,500
TOTAL \$ 124,500

Savings: \$120,000.00 per year

Waste reduction strategies:

- ☞ The absolute minimum amount of plastic needed to meet a product's requirements were used.
- ☞ Innovative product design used less materials.
- ☞ Wider assortment of sizes of rolls of plastic cut down on trim loss.
- ☞ Products made with non-recyclable plastic resins were minimized.
- ☞ Excess plastics ground and sent to Placon's base supplier, to be recycled back into their products or made into other products.
- ☞ Metal floor sweepings & pallet strapping bands were collected by a metals recycler.
- ☞ 30% - 100% recycled plastics used in many of their products

A word to the wise: "Recycling doesn't happen overnight, because it's about changing your lifestyle. When you recycle at home, your buying and using habits change. The same happens in manufacturing."

Designing a Waste Reduction and Recycling Program

Now that you've seen what other businesses have done to reduce waste and recycle, here's how you can get started:

1. Get top management support.

Top-level support will help stimulate employee involvement in the program, and ensure that you get the needed time, materials, and equipment to make the program work.

2. Select an individual or team to study, design and implement the program.

Small businesses can accomplish this with a dedicated individual, larger businesses will need a small team with members from management, operations, purchasing, sales, maintenance, etc.

3. Analyze Your Waste Stream.

Take a closer look at what your business throws out every day. Identify the waste that is generated and quantities of each. Determine disposal costs (dollars and hours dedicated) for solid and hazardous waste.

4. Identify ways waste can be reduced.

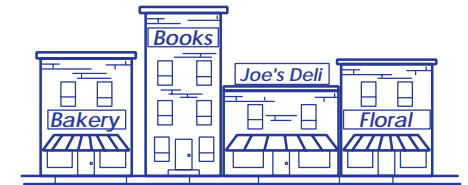
- Consider one or more reduction alternatives at each place waste is generated.
- Focus on materials that appear in large quantities.
- Evaluate the raw materials you use for ways to reduce their toxicity and volume of disposal. This might mean using different raw materials that may be easier to reuse or recycle.
- Reduce the materials in your waste that are likely to have a negative impact on the environment.
- Consider durable products and equipment which can be easily repaired and/or recycled.
- Locate possible waste exchanges for materials you may use.

5. For waste that can't be reduced, determine what should and can be recycled and how to do it.

- Start with items banned from disposal by the recycling law.
- Focus on materials that appear in large quantities.
- Work with your trash hauler.
- Locate potential markets for recyclables.*
- Locate waste exchanges for materials that you want to get rid of.
- Complete the recycling loop by identifying and buying products made from recyclables.

6. Develop a plan that specifies waste reduction and recycling objectives and sets targeted completion times for their accomplishment. The plan should include:

- process development
- timeline for phasing in reduction and recycling practices
- staff involvement
- costs/savings
- budget
- contract adjustments needed
- monitoring system
- employee training/education



7. Establish a company-wide commitment to making waste reduction and recycling a part of doing business.

8. Implement plan and monitor its progress.

Make use of waste haulers, Yellow Pages, suppliers, WI Recycling Markets Directory, and DNR Recycling Specialists. Look for "Waste Reduction and Recycling Information: State Agency Employees to Call In Wisconsin" on our website at <http://www.dnr.state.wi.us/org/aw/wm/contacts/recycle.htm>, or obtain a hard copy by calling (608) 266-6790 and asking for publication number CE-166.

Managing Wastes Cooperatively

Small businesses may want to join together and cooperatively negotiate a contract for trash and recycling services. As a group, you can generate sufficient volumes of materials to market your compiled recyclables.

Cooperative businesses are able to save money by sharing expenses on collection fees, storage bins, compactors, balers, transportation, and labor.

* For the most current information about where to get banned and additional materials recycled, look up our markets directory website at <http://www.dnr.state.wi.us/org/aw/wm/recycle/md/introduction.htm>, or search our home page by typing in "markets directory" and click on the material of interest!



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