

Reduce the Amount of Waste Going to Landfills

In a Nutshell

Yard waste and some food waste can be composted by professional organizations or right in your backyard. Rubber and plastic such as tires can be recycled into usable material such as for playgrounds. Construction debris and building can be recycled and used in road pavement.

The “How To”

Paper Reduction



Employees in the workplace may be encouraged to use emails for communication on paper. Larger printed documents and paper manuals could be scanned and shared. Communications between teachers, administrators and students may choose to communicate via email, and applications online. In the case that printing is necessary, ask to print on

Single-Use Versus Multi-Use

The switch from single-use (disposable) to multi-use (reusable) items would save money and would lower waste entering landfills. Cafeterias, homes, and workplaces could provide reusable trays, plates, silverware, and cups instead of using their disposable counterparts. Workplaces can simply not provide disposable cups for coffee or water. Employees would bring their own cup.

Single-Use Plastic Bag Waste

Many cities across the world have plastic bags pollution problems. Recognizing the need to reduce the amount of bags going to landfills and the bags that pollute the environment and streams, cities have chosen to adopt bans & fees on the single-use plastic and paper bags. An alternative to single-use bags are thicker reusable bags. Cities with laws to restrict the use have enjoyed cleaner streams and less paper bag trash in streets, parks, trees, and in the landfill. This tool kit provides the implementation process and policies to enact bag laws.

Reduce Junk Mail

The [Federal Trade Commission](#) can help to reduce the amount of junk mail received. Residents may routinely receive letters for unwanted pre-approved credit and insurance. [Opt Out](#) prescreens firm offers and provides a choice to opt-out. The [Direct Marketing Association](#) allows people to opt out of receiving unsolicited commercial mail from national companies for 5 years.

Rechargeable Batteries

[Rechargeable batteries](#) may be used hundreds of times reducing the amount of batteries purchased throughout the year. Batteries sent to the landfill contain corrosive materials and heavy metals that are very harmful for the environment. Reducing the amount of batteries manufactured lowers conserves resources.

Food Management

Food conscience households can reduce how much they spend on groceries and can reduce the amount of food households throw away. Households can follow these five pointers to achieve reductions.

- [Planning Ahead](#)-Prior to shopping and routinely check your cabinets, fridge, and freezer for food. Plan to make use of this food.
- [Expiration Dates](#)-Consume foods with shorter shelf lives. Some foods may be frozen and thawed for later use.
- [Food Storage](#)-Routinely wrap food or use storage containers such as Tupperware and bags to keep food fresher longer. Refrigerate leftovers.
- [Measure Portions](#)-Using scales and measuring cups are ways to avoid cooking excessive amounts of food.
- [Eat Leftovers](#)-Plan your meal to include leftovers in a meal, possible as a side, or into a stew. Residents have three options to manage their yard waste.

Gas from Trash Reduction

Hazards such as landfill gas is another reason to reduce landfill waste. As landfill gases (carbon dioxide and methane) are natural byproduct of waste decomposition. High concentrated amounts of methane can be flammable. Most older landfills are not required to have gas monitoring wells in place, which can be dangerous for the safety of Missouri's citizens. Missouri Department of Natural Resources [Solid Waste Management Program](#) is working with the following facilities to lower and regulate their methane levels, however, Missouri can increase their efforts by reducing.

Waste Management & Removal

Waste Management offers a [Recycle by Mail](#) program. Businesses can recycle fluorescent light bulbs and lamps, dental waste, mercury waste, aerosol cans, and UV lamps by mail. Visit [Waste Management](#) to find a recycler in your area. Also, Waste Management offers [construction and demolition debris collection and recycling](#). Materials include concrete, porcelain, rigid plastic, tile, lumber, metals, and more. The recycled material is converted into mulch, biomass fuel, gravel, dry aggregate for new concrete, road base and more.

Planning & Zoning

Plastic Bag Ordinance

In Washington D.C., the [Anacostia River Clean Up and Protection Act](#) or [Bag Law](#) adds a five cents charge on each disposable paper or plastic carryout bag. The Bag Law issued [requirements for retailers](#) when distributing bags. By law, employees are required to ask customers if they would like a disposal bag and how many. Customers are charged for each bag and the total is printed on the receipt. Each disposable bag must read 100% recyclable, and must read the state “Please Recycle This Bag.” Bag fee revenue is used for the following:

- Three-cent for the clean-up and protection of the Anacostia River
- Two-cent returns to the business

Many cities have adopted ordinances to either ban or impose a fee upon the distribution of single-use plastic bags. Cities in California have been very proactive in adopted ordinances. View the [national list of cities](#) and their local ordinances.

Trash Service Pickup

The frequency of trash pickup positively correlates to the amount being hauled away to landfills. Change the pickup policy to one-per-week pick up instead of twice a week may reduce the amount of trash. Encouraging a recycling pick up may reduce the amount of waste heading toward the landfill even further. To change the frequency of pick up, in accordance with [Missouri Solid Waste Management Law](#), each city and county has the authority to develop and implement solid waste management plans.

Other Waste Hazards Laws

The Missouri Solid Waste Management Law requires landfills to regulate methane gases on site to ensure their neighbors are not adversely affected. View the [Methane Gas Policy](#).

The State of Missouri bans tires to be sent to the landfill. Scrap tires are either held on to or sent to the scrap tire collection center. Find out more about Missouri’s [Solid Waste Management Scrap Tires Ordinance](#).

The EPA regulates the removal of old appliances such as window air conditioners, motor vehicle air conditioners, vending machines, icemakers, and refrigerators that rely on [ozone-depleting refrigerants](#) such as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), or Freon. These metals must have a verification of refrigerant removal before arriving at its place for disposal.

Dollars & Cents

Batteries

Using rechargeable batters saves consumers dollars spent on buying new batteries. Although many rechargeable batteries and their chargers have higher upfront costs, about double to triple that of three packs of batteries, the yearly savings outweighs those costs.

Plastic Bags

Some advocates against plastic bag laws have stated the fee would disrupt economic revenue for retailers due to consumers spending more per bag. Proper incentives and alternatives to plastic bags should reduce the demand and supply for single-use bags. Many retailers sell reusable bags that consumers only purchase once. Consumers would bring their bag to shop with, avoiding any bag fees.

Plastic bag fees imposed by ordinances can fund waste reduction educational opportunities and clean-up funds. Retailers that collect fees actually keep a portion of the fee and can help alleviate reusable bag costs for customers.

Tires

The [Scrap Tire Fee](#), a \$0.50 cent-per-tire fee charged on new tires purchased in Missouri funds education tools for environmental welfare, cleanup, and enforcement activities. No more than 45% of the scrap tire fee is used for playground material. Missouri's [Department of Natural Resources](#) also provides grants for waste management. [Grants](#) are available for playgrounds that wish to use recycled tire material.

Measuring Success

The EPA's [WasteWise Update: The Measure of Success-Calculating Waste Reduction](#) provides steps to suggest, implement, measure, and evaluate waste reduction policies and programs. In order of measuring success, the policies and programs must be known with tangible results. WasteWise suggest following these guidelines to lower the amount of waste entering the landfill.

- Determine what the organization needs to measure, whether is may be waste prevention, recycling collection, and buying or manufacturing products with recycled content.
- Evaluating the sources available to find the measurement data. Sources may be discussions with employees, the amount of recyclables at the end of each workday or week, and purchasing records to track items purchased.
- Establish a baseline to know the status quo when the program first began.
- Identify changes, track program success, and motivate people.
- Calculate waste prevention results and total waste results.

WasteWise also provides formulas to calculate the reduction of paper used or how many containers were saved yearly and costs for them as well.

Household Measurements

From a household's perspective, less money may be spent out on groceries and batteries a week. Households may notice a reduction in their trash produced. Love Food Hate Waste provides a [food diary](#) to help better manage food expenditures.

Plastic Bags

There are various cities who report the decreases in paper bag litter, fee and ban success. One site, the [Chicobag](#), provides worldwide information about plastic bag ban and fee efforts.

Discover More



[Illinois Solid Waste Management Association](#) (ILCSWMA) provides solid waste education and waste enforcement, recycling and waste prevention, and refuse collection and disposal. It works with state agencies and organizations, colleges, community groups, Keep Illinois Beautiful, and other groups, firms, counties, municipalities, and townships. Learn more about how to keep Illinois

The [Illinois Department of Health](#) provides [household hazardous waste removal](#).

[St. Louis Teacher Recycle Center](#) is a non-profit that collects clean and easily reusable trash from business and gives them to children to reuse for educational purposes. View a Living St. Louis video on [St. Louis Teacher Recycle Center](#).

Case Studies

Cincinnati Zoo & Botanical Garden Zero Landfill Challenge

Contact

Cory Christopher
Manager, School & Graduate Programs
513-475-6171
cory.christopher@cincinnati-zoo.org

Address

3400 Vine St - Cincinnati, OH 45220

Description

The Zero Landfill Challenge is a program sponsored by the Cincinnati Zoo & Botanical Garden to educate and involve children in making their schools and communities less wasteful. The challenge is designed to be an educational experience for students, as well as a real way to implement more sustainable practices throughout the Cincinnati Public Schools (CPS). Participating classes are challenged to create and carry out a real-life plan to reduce waste at their school, such as setting up on-site composting or finding new uses for recyclable materials on campus. Both CPS and the Cincinnati Zoo & Botanical Garden have already committed to reducing waste, water use, and energy consumption at their facilities - making the challenge an ideal collaboration.

[Zero Landfill Challenge Informational Flyer](#)

[Cincinnati Zoo & Botanical Garden's Go Green Initiative](#)

Cost

Cincinnati's Zero Landfill Challenge has virtually zero costs. The challenge utilizes free prizes, such as school field trips to the Zoo, to encourage participation and make the program engaging for students. One winning team was even awarded a painting done by a gorilla at the zoo - and painted on recycled canvas! For the schools participating in the challenge, there may be costs associated with the projects they complete for the challenge, such as composting bins or rain barrels. In the future, the Cincinnati Zoo & Botanical Garden may develop a sponsorship program to be able to reward the top schools with these types of items.

Lessons Learned

Spring 2013 was the pilot season for the Zero Landfill Challenge, so there is definitely room for the program to grow, evolve, and become even more successful. Building relationships with local schools by establishing a physical presence there and spreading information on the Zero Landfill Challenge were cited as potential areas for improvement. Program leaders are optimistic that over the next year or two, they will be able to build a strong relationship with CPS and other community partners to build-up the program and reach as many students as possible.

Zero Landfill Challenge Community Partners:

[Polar Bears International](#)

[Alliance for Climate Education](#)

Vermicomposting Center SIU

Contact

Brian Klubek PHD
618-453-2496

Address

3373 W. Pleasant Hill Road - Carbondale , IL 62901

Description

Southern Illinois University Carbondale's College of Agricultural Sciences and Plant and Service Operations maintain the Vermicomposting Center. Setup as a food waste-processing center for the on-campus dining halls, now the Center is used for research, teaching, and education. Vermicomposting treatments have been used in turf grass across the campus.

The worms used are the red wiggler or its scientific name, Eisenia Fetida. They save 12,800 pounds of vegetable waste from entering the landfill each year.

Cost

Funded by the Illinois Department of Commerce and Economic Opportunity grant worth \$150,000

Lessons Learned

Food waste composting reduces the amount of waste entering the landfill.

Zero Waste - San Francisco**Address**

1455 Market Street - Suite 1200 - San Francisco, CA 94103

Description

San Francisco's Mandatory Recycling & Composting Ordinance was passed in 2009, requiring all households and businesses to participate in a recycling and composting program, with the goal of reaching Zero Waste by 2020. Every household and business is legally required to sort their waste into three separate rollcarts – blue for recyclables, green for compostable materials, and black for landfill waste – to keep all unnecessary waste out of landfills. Waste receptacles are monitored by Recology staff and fines can be imposed on those that consistently fail to recycle and compost properly. Alternately, discounts can be awarded to businesses with high diversion rates and smaller black landfill waste bins can also save money for those who do more recycling and composting. Currently, San Francisco is diverting about 80% of its waste away from landfills. This is one of the highest waste reduction and diversion rates in the United States and has already surpassed the city's original goal of a 75% diversion rate by 2010. The next goal is to reach a 100% landfill diversion rate (Zero Waste) by 2020.

[SF Environment – Zero Waste](#)

Cost

San Francisco's Zero Waste program is funded entirely by revenues from refuse rates charged to customers, which supports collection, processing, disposal, outreach & marketing, as well as some other SF Environment/Public Works programs. The residential rate for a 32-gallon landfill bin is \$27.55 per month, and includes composting and recycling bins as well as weekly collection. Costs to SF Environment are not increased by processing three separate streams of materials because this process only requires a rearrangement of existing waste management resources and infrastructure, nothing new. Recyclables and compostables help to financially sustain their own collection and processing by being sold to re-manufacturers and local farms, while landfill waste costs the city to be dumped into a landfill. Fees to dump in a landfill are based on weight, which is why the city's refuse rates are lower for those who choose the smaller 20-gallon black landfill bin.

Lessons Learned

Enforcement and education seem to be potentially problematic areas, but also pose fresh opportunities for the city. The higher the rate of community participation, the higher the city's diversion rate will be. Realizing this, the city's Department of Environment has established teams to monitor trash bins and reach out to the public to help them understand the importance of diverting waste from landfills and the proper way to sort. While there has been some resistance to the mandatory recycling requirements, the teams report that a majority of residents have been cooperative and that many are open to learning better waste management practices. Although citations and fines can be issued to those who consistently fail to compost and recycle, this approach to enforcement has yet to be used.

An article from [The Atlantic Cities](#) on San Francisco's Zero Waste Program and enforcement