



green event guide

BEST MANAGEMENT PRACTICES FOR GREENING YOUR EVENT

This guide is intended to help you reduce waste at special events, ranging from a small gathering to a public festival. The advice and tips below should help in your efforts to divert as much compostable, recyclable and reusable material as possible from going to the landfill.

Please share your success at #EarthOptimism. We ask event coordinators to collect and send waste diversion metrics to EarthOptimism@si.edu so we can estimate the collective impact of Earth Optimism events.

This guide will help you to:

- Better understand sustainability practices at special events
- Reduce landfill waste
- Find useful resources for planning low/no waste events
- Contract with various suppliers and services
- Engage with your audience about sustainability issues
- Change consumer attitudes and habits

Inspiration for this guide

This guide was inspired by the annual [Smithsonian Folklife Festival](#); a two-week outdoor event that celebrates cultural heritage and attracts up to one million visitors each year to the National Mall in Washington, D.C. The festival has successfully developed and implemented many environmentally conscious practices and its sustainability program has diverted over 90% of its waste from 2014 to 2019. In 2017, the FolkLife Festival received the [PIC Green Sustainability Excellence Award](#) from the American Alliance of Museums!

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Waste Diversion/Resource Recovery Basics

The key to successful waste diversion is correctly sorting your waste so that no recoverable materials are landfilled/incinerated. By collecting recyclable and compostable materials separately, you can keep waste to a minimum. Regardless of event size and complexity, there are three basic steps for reducing waste:

1. Provide only reusable, recyclable or compostable products and materials.
2. Collect and sort waste separately into recycling, compostable material, and landfill.
3. Deposit recycling, compost, and landfill at the appropriate location or facility.

At the very least, all events can do these two things easily:

- Avoid using hard to recycle polystyrene products like Styrofoam plates, red SOLO cups, plastic straws, and utensils that would likely end up in a landfill or incinerator.
- Provide separate, effectively labelled bins for each waste stream (recycling, landfill, and compost).

Landfill Diversion Rate:

Your diversion rate is the percent of total waste that doesn't go to landfill. So, if your diversion rate is 80%, that means only 20% of your waste went to the landfill. The higher the rate, the better! To calculate the diversion rate, just your recycling and/or compost weight by total weight of all

Getting Started

Preparation :

Your first step should be to define the parameters and needs of your event

- How many guests will attend?
- Will the event be outdoor or indoor or both?
- Will you use catering or no?
- Are the serving materials compostable or reusable?
- Do you want/need to use a dishwasher?
- What type and number of collection bins do you need (recycling, compost and landfill)?
- Where can you obtain collection bins, and do you need liners?
- What are you able to compost (plant/animal based foods, paper products, compostable plastics)?
- Will you need to recruit volunteers?
- How will you evaluate your efforts, e.g. calculate diversion rates and participant surveys?

Depending on the nature of your event and resources available, you may also need to find environmentally responsible vendors and contract a reputable hauler to transport materials to a compost yard, recycling center and/or landfill (*see below for advice on vendors and haulers*).

Audience

Understand your audience. Do the guests/staff/volunteers/contractors/vendors/exhibitors have experience with composting and low/no waste events, or will this be a new experience? Knowing your audience will help you to better prepare for challenges and opportunities for waste management, including communication and education.

Communication

Communicate your goals and expectations clearly to your audience, so that you can ensure best practices from start to finish, including; type of materials allowed and not allowed at the event, proper waste sorting, collection of diversion metrics, and ability to verify that all materials end up where they belong. Everyone involved should have a clear understanding of what is recyclable, reusable, compostable or landfill.

Pre-event Consulting and Research

Recycling

Get to know your local Materials Recycling Facility (MRF) where the recyclables will go. MRFs sort recyclables and transfer them to secondary facilities or manufacturers that will reform the material into another product. Most municipal recycling collection is single-stream, meaning they “accept” paper products, co-mingled with cans, glass, and plastic containers. However, due to lack of recycling infrastructure and capacity in most areas, some accepted materials are not recycled and end up in the landfill or the incinerator. Ask the MRF what materials type, shape, and condition will *actually* be recycled so you can try to avoid all unrecyclable materials at your event.

Some recycling tips and tricks:

- **Plastic Types (#)**
Call or visit your MRF to confirm which plastics types they will actually recycle. Plastics #1-2 will be recycled at most facilities but not necessarily #3-5. Polystyrene plastic, #6 PS, is not recyclable in most locations. This includes Styrofoam and rigid #6 plastics. MRFs may accept #6 PS, but then remove it from the recyclables stream and send to the landfill or incinerator. You may be able to collect and recycle #5 plastics at local stores that participate in special collection programs, like [Gimme5](#). In North America, [Earth911.com](#) is a good educational resource for recycling practices and drop-off locations for different materials.
- **Shape of Material**
Shape matters! Just because a container is made of recyclable material, doesn't mean the sorting machinery or hand sorters at the MRF will necessarily sort it properly. For example, most MRFs can't process disposable plastic utensils, straws, bottle caps, cup lids, etc. In fact, many facilities will only accept rigid containers with a narrow neck, not even plastic cups. Contact the MRF to confirm what is recyclable and then source only appropriate materials.
- **Plastic Bags**
Plastic bags can clog MRF sorting machinery and should not be included with recyclables. Many haulers and

Plastic Resin Identification Codes

- #1 PET(E) – polyethylene terephthalate
- #2 HDPE – high-density polyethylene
- #3 PVC – poly-vinyl chloride
- #4 LDPE – low-density polyethylene
- #5 PP – polypropylene
- #6 PS – polystyrene (not recycled)
- #7 Other – includes polylactic acid (can be composted but not recycled)

PET vs PLA Utensils

You can use the “bend test” to determine whether a utensil is compostable. If it snaps in half, chances are it is made from 100% plant starch (#7-PLA). If it bends without breaking, it has petroleum based plastic content.

curbside collection programs will refuse to collect any recyclables that include plastic bags. At your event, you can just collect recyclables loose in bins or else empty recyclables from collection bags before they are sent to the MRF. Visit plasticfilmrecycling.org (U.S. only) for participating collection sites for bag and film recycling.

- [Paper Products](#)

Paper and cardboard should be clean and dry. Paper products that are soggy, dirty, or wax coated should be composted at an industrial facility or else sent to the landfill (*see “Composting” below*). If clean recyclable paper and cardboard can’t be collected separately from food waste, then all materials can be collected in the same bin for industrial composting. Be aware that many paper products for food, and especially for drinks, have a thin lining of PET plastic. These materials cannot be composted or recycled and must go to landfill. Plan ahead and source only reusable or compostable materials.

- [Liquid Waste](#)

Have guests empty liquids from their cans and bottles before placing them in recycling bins because the MRF may reject containers with liquids. Also, emptying the contents will save energy and fuel that would be required to transport the extra weight. Liquids can be poured into a drain or collected in a waste receptacle. A five-gallon bucket, emptied when half-full, is a convenient receptacle for liquids because it’s not too heavy to carry.

- [Food Contamination](#)

Plastic, glass and metal containers should be rinsed of food residue. However, they don’t need to be 100% spotless, so there’s no need to soak heavily soiled items for 3 days.

Compost

- [Composting Methods](#)

Composting is the natural process of turning biodegradable organic substances into a nutrient-rich soil supplement. People compost plant-based food scraps in their backyards, however, these set-ups do not achieve temperatures high enough to compost animal-based food products, #7 plastics, and many paper or cardboard items. Fortunately, the number of industrial composting facilities is increasing and many accept all of these items. An [Earth Cube](#) is one example of a small scale unit that allows for industrial composting almost anywhere.

- [Off-site Composting](#)

Food scraps are collected through community and municipal programs and/or businesses in many regions, but not all. If your municipality has a composting program, make sure to comply with the rules and regulations. It is critical to avoid contamination with non-compostable materials. If you’re uncertain about local capacity for composting, do some research. There may be a municipal food scrap composting program or a nearby farm, school or university that will compost at least some items. Try contacting a professional local composting service to find out where you can drop off organic materials. Alternately, you may be able to hire a composting company to pick up for a single event at a reasonable price. Another option that may be available in your community is Sharewaste.com; an innovative residential neighbor to neighbor solution.

- [Compliance](#)

Know your composting facility and familiarize yourself with the accepted materials. In principal, anything plant or animal based can be composted, but capacity varies at different facilities. Many facilities will not accept materials in plastic bags unless they are certified compostable plastic and

Compost Facility Questions:

Do you accept:

1. all food scraps, including meat, bones, and dairy?
2. material in plastic bags?
3. all paper, cardboard and wood?
4. bioplastics and what types? (*See “Materials and Supplies” below*).

even though industrial facilities can compost PLA bags, some would prefer not to receive them, e.g. knots of tied bags often survive the composting process. Some facilities, such as [Portland Oregon](#), will not accept #7 PLA items due to concerns about negative environmental impacts across the life cycle of the materials, including petrol based fertilizer inputs to grow the corn used to make some of these products. Be sure to call ahead, check the website, or visit the facility to confirm which materials are allowed or not.

Other Recoverable Materials

- [Cooking Oil and Grease](#)
Used cooking oil and grease from fryers can be turned into biofuel. Some companies will provide metal barrels for oil that they will collect after the event. This is a lot of weight that can contribute significantly to your diversion rate.
- [Construction Materials](#)
Construction materials can be recycled, but not within most standard recycling programs. Do some research to understand how and what to recycle in your area. Your municipal waste program may recycle everything from wire to carpet to lumber and/or you may be able to donate reusable structural materials to a local hardware charity or architectural salvage vendor. For example, [Community Forklift](#), a non-profit in Maryland, sells salvaged materials.
- [Food Donation](#)
Donate leftover food to a food bank. Contact a local food recovery center before the event to ask what foods and in what condition are acceptable for donation and when. Composting is an important solution but donating leftovers for human or livestock consumption is even better. Donating food to livestock is not permitted everywhere, so check with a local authority like an agriculture extension office or farm bureau for rules and guidance.

Waste Station Design

Map out the venue and identify strategic locations for waste stations. Place bins next to each other in a row and in a location where they cannot be missed; near eating/seating areas, in the middle of events, and high-traffic flow points. Placing them at the edges of activity can be less effective and require more effort. The best bin signs are large, located at eye level, have simple text and/or include graphics or examples of the most common items that go into the different bins. People may be busy and distracted so make your signs obvious and easy to understand. Event organizers should estimate how many waste stations will be needed for the event in order to determine the amount of staff and materials needed. It is preferable to limit the number of waste stations in order to minimize staffing, workload, and the number of bins, liners and other resources used. Also, you can usually control waste more carefully when there are fewer stations to monitor.

Stations may be attended by staff or unattended. Attended stations are recommended if possible, especially for high volume events. Attended stations are ideal because a dedicated person is present and responsible for preventing and removing contamination. This also provides an important opportunity to engage and educate guests about sustainability. Unattended stations are less effective and will typically have cross-contamination; be prepared to sift through the collected material to properly sort contents. Even if you can't attend to the bins full time, try to check them regularly to sort contents and replace bags when full.



Example of clear signage, waxed boxes, ClearStream bins with excluder tops, and a passionate attendant.

Many different types of bins can be used. Some examples are waxed cardboard boxes (can be folded for easy storage and be reused), plastic or metal office receptacles, totes (durable receptacles with wheels and usually a hinged lid), and the [ClearStream](#) system, which uses a foldable metal frame with clear hanging bags for an easy view of contents. Another effective example is using excluder lids, which have round holes for cans and bottles, or narrow slot that allows paper only. These lids help prevent people from depositing materials in the wrong bins.

Materials and Supplies

What ends up in the waste stream is typically a result of the materials you provide at your event. To achieve a high diversion rate, provide only compostable or recyclable products and discourage people from bringing single use materials that would end up in a landfill.

Reusable Materials

- Reusable items, including plates, cups and cutlery, are usually the most sustainable option. A few uses of reusables will often be less expensive than the cost of buying many single use disposables. If you don't have dishwasher access, consider setting up washing stations with a soapy water bin, rinse water bin(s) and a drying station. Designated volunteers can assist in cleaning reusables and monitoring and replenishing the stations as needed. Alternately, have people clear their food scraps into a compost bin and stack reusables in a receptacle or preferably on a wheeled cart for easy transport to a nearby dishwasher. If guests are serving themselves, e.g. buffet style, consider using small or medium sized plates so people don't take more food than they can eat. Hungry guests can always return for a second serving.

Compostable Products

- If your event requires disposable serving products, seek 100% compostable materials. Anything made from paper, wood, or another organic compound is compostable, including 100% compostable bioplastics. There are low-cost compostable alternatives for all disposable serving products.
 - Paper plates and cups can be composted if they do not have a PET plastic lining. Compostable materials often have a #7 PLA or wax lining, not PET. Wet/dirty paper products, including napkins, are not recyclable but they may be composted.
 - For sturdier plates or to-go style clamshell containers, bamboo or bagasse, are good materials.
 - Polylactic acid (#7-PLA) is another popular option for compostable cups, utensils and containers. Although the containers are transparent and look like petroleum-based plastic, PLA is in fact a corn-based resin that is 100% compostable and comes in all shapes and sizes. PLA cups are available in stock at certain stores or online. Below is a short list of some recommended brands:
 - Greenware (Fabri-Kal)
 - World Centric (Asean Corporation)
 - ECO-products
 - Stalk Market
 - BioShell Tableware
 - Vegware
 - Be aware of misleading language like “made with plants,” “produced with plant starch,” or “biodegradable,” which is not the same as compostable. These may be made from a mix of plant starch and petroleum-based plastic



- and are not 100% compostable or accepted at composting or recycling facilities.
- All compostable plastics should be labeled ASTM D6400-certified, which is the standard of approval for industrial composting facilities.
- Avoid purchasing anything in a wrapper, if you can. Ways to minimize waste:
 - Use large volume dispensers such as a pump and bulk condiment container instead of individual use ketchup/mustard/sauce packs.
 - Have utensils out loose or use a utensil dispenser so that people will only take what they need. Avoid utensil/napkin combo packs; often, people will use just one fork or one napkin out of the pack and the rest is thrown away.
 - Use a dispenser for napkins. Encourage people to take only one instead of a stack. This approach also prevents napkins from blowing away in the wind at outdoor events.
 - Plastic straws and lids are almost always unnecessary, however if you want these items, there are many compostable and reusable options for purchase.
- Receptacles and liners
 - Bins come in many types (*see waste station design*). Your bin choice may depend on the location, size of event, distance you need to carry or roll them, and what is available. Durable plastic office or dormitory bins are often a great, no-cost option. Simple household receptacles may also suffice. Some people prefer square or rectangular bins because they fit next to each other better than round receptacles. If you want to use totes, these can often be rented from waste hauling companies.
 - If you choose to use bin liners, try to use transparent bags. It is easier to spot contamination of compost and recycling, or recoverable materials in trash, if the bags are transparent. The eco-friendliest option for landfill bins is recycled plastic bags made from post-consumer plastic, like EPA compliant [Revolution Bag](#).
 - Compostable bags, ASTM-D6400 certified, are preferred by most composting facilities but be aware that they tear easily and disintegrate quickly. Consider purchasing thicker bags if you need to store or to transfer the collected compost.
You may want to collect and dispose of liquids separately, as these tend to accelerate the breakdown of compostable bags. Pre-planning will help avoid messes and assure an easy clean up.
 - Depending on the volume of waste produced, you can choose from a few collection/stash options, ranging from bags to small totes to large roll-off dumpsters.
 - In some situations, you may not want to use liners. For example, if you're having a small event where on-site composting is available, you can dump the bin in the compost pile or tumbler and simply rinse the bin after. If you contract a hauler, ask if they provide totes for use without liners. Medium sized events are more likely to involve use of a contracting service to collect and transport the materials to a compost site. Contractors can advise on preferred strategy, which may involve totes without bags, and/or collection on the same or next day before bags begin to breakdown.
 - Dumpsters work well for large events and often can be rented from the hauler, just make sure they are well labelled and not accessible to the general audience. However, many haulers will use only totes and will not use dumpsters for compost. Make sure to communicate clearly with your hauler to determine the best available option.
Explore the possibility of larger roll-off dumpsters for landfill and recycling if you have enough space for them.

Kitchen Operations

“Back of house” is a common term that refers to the kitchen and other areas where materials and food are stored and prepared. Here are some tips for ‘back of house’ sorting:

- Break apart cardboard boxes and stack in a pile/bundle.
- Collect plastic containers, metal cans, and glass jars loosely in a bin – preferably a toter that can be collected by your hauler directly or emptied into a recycling dumpster.
- Keep all plastic gloves and wrappers out of the recycling or compost.
- Separate food scraps from everything else (*see “Compost” section above*)
- Labeling is key. Make legible and illustrated signs to label bins and collection areas.
- Education is essential to success. Make sure everyone in the kitchen knows that organic waste is being collected separately for composting and that it is important to prevent contamination. Demonstrating the correct way to sort waste is more effective than just verbally explaining the process. Explain the benefits of these best practices so staff and volunteers will know that their efforts are valuable and worth celebrating. You may even create new sustainability champions!



Event Management

If you plan to organize and manage the event yourself, follow these guidelines to get you started:

- Depending on the size of the event and capacity, you may need to hire a reliable hauler who will collect your waste. Some haulers will handle all three streams of waste, but you should verify that each stream gets collected separately and deposited at the appropriate facility - not combined all together and taken to a landfill.
 - You will need to agree on a collection schedule and a quote. Be aware that haulers may charge extra for weekend and holiday collection.
 - Do a walk-through with the drivers and supervisors before the event starts to clarify their pick-up points and route.
 - Make sure you exchange contact information with the hauler (if possible with drivers and supervisors).
- Plan a collection process that makes sense for your event. Questions to ask yourself and contractor:
 - How often do you need a compost, recycling, and landfill pickup?
 - Will full bags or toters accumulate at each sorting station or in the back of the kitchens, or will it need to be moved and when? Who is responsible? Does that person(s) know what goes where?
 - If you have dumpster(s), where will they be located? Are they hidden from the public, but accessible by the hauler’s truck?
 - How are you estimating the weights of landfill, recycling and compost to calculate your diversion rate? A luggage or household bathroom scale may work for smaller volumes. For large events or if you are contracting a hauler, you may be able to use scales at the dump, recycling center and/or compost yard. In any case, verify that the system and weights are reliable.
- Volunteers and staff should be properly trained.
 - Do an orientation before the event or before each shift to teach the volunteers how to sort all materials and educate them on details of waste management, such as what items can or cannot be recycled and composted locally and why. With this knowledge, they can engage and explain the specifics of composting and recycling to guests.
 - Create an informative webpage, binder or booklet for training and education purposes.
 - Advertise volunteer opportunities using social media, listservs and by posting flyers. You may

want to target university students or members of environmental organizations. Incentivize with things like free t-shirts, reusable water bottles or a free lunch voucher as a thank-you for volunteering. The best volunteers are attentive, passionate, and willing to put their phone aside when guests are present.

Alternatively, you can hire a waste management company that specializes in events. These crews will provide bins, bags, staff, and may even organize the rental of dumpsters and manage the hauler contract for you. One example is [Green Mary](#), which operates in the San Francisco Bay area.

Working with Food Vendors

If you are not preparing food yourself, try to identify vendors with a reputation for sustainability best practices such as experience with zero waste events and use of energy efficient coolers and warmers. Talk with your caterer/food vendors about using compostable and recyclable products and provide training on how to sort the waste they will generate in the kitchen. You may want to include a clause in the food vendor contracts requiring proper back of house waste sorting and use of only compostable serving products. To reduce costs, you may be able to buy compostable products in bulk to share among vendors and arrange for the supplier to buy back unopened boxes of product after the event.

Post-event Evaluation

During or after the event, try to weigh all landfill waste, recycling and compost and record this data. Your diversion rate can be used as an indicator of your success in reports and press releases and in recruiting future volunteers to assist in waste diversion stations. These data are also helpful for making improvements for future events. For Earth Optimism, we ask all sister events to collect and share weight data of compost, recycling, and trash by emailing to earthoptimism@si.edu. This data will be used to calculate the impact of our collective action. You can download the [Waste Data Collection Form](#) to collect weights from the Earth Optimism website.

Creating a brief survey or questionnaire for waste stations staff/volunteers will help improve future events. Make sure to record actions that went well and things that didn't to help you in future execution of events.

Publicity

- Highlight sustainability goals in marketing materials for the event, e.g. zero waste. Advise attendees to bring reusable water bottles and to avoid bringing any materials that will need to go to the landfill.
- Print signage on durable, reusable, or recyclable materials
 - Use back of old signs to make new signs
 - Repurpose old foamcore or coroplast signs
 - If using paper, use post-consumer recycled material (FSI or FSC certified)
- Use an App or a QR code instead of printed materials for maps, programs, etc.

Education

- Offer tips on how to minimize waste at home and in the office.
- Collect data on event diversion rates to share after the event. When people see evidence of the positive impacts of good behavior, they are more likely to adopt a more sustainable lifestyle.

- Share other examples of solutions and success stories that can inspire and be replicated.
- Highlight resources to find more information about waste concerns and solutions to help people understand why it's important to change behavior. Some good resources are:
 - [US Environmental Protection Agency – sustainable management of food](#)
 - [World Wildlife Fund Food Waste Warriors](#)
 - [World Resources Institute: Creating a Sustainable Food Future](#)
 - [UN Food and Agriculture Organization - Key facts on food loss and waste you should know!](#)
 - [SaveTheFood.com - Tips for reducing food waste at home and events](#)