Navigating
new rules in Colorado's

PLASTIC POLLUTION REDUCTION ACT

plus tips for reducing plastics and saving costs.

A Guide to **Sustainable Serviceware**

for Restaurants and Food Prep Businesses

TOWN OF VAIL

eco·cycle

We know you're busy...

so we've produced a guide to make it as easy as possible for you to avoid polystyrene products in compliance with Colorado's new law.

Beginning January 1, 2024, restaurants and food prep businesses in Colorado will no longer be allowed to use polystyrene foam (often mistakenly referred to as Styrofoam®) to serve food or beverages. So, what to use instead? Are some packaging choices better for the environment than others? How much will these alternatives cost?

This guide will help you navigate your choices, including for those businesses in regions where compostable products are not accepted in the compost stream. You'll also learn more ways your business can choose sustainable options for customers, some of which can **save your business money**.

PACE Partners for a Clean Environment

THANK YOU to Boulder County's Partners for a Clean Environment for their significant contributions to this guide, and to the following communities for sponsoring the production of this guide.

City of Boulder

City of Fort Collins

Lakewood Colorado

Boulder County Sustainability, Climate Action & Resilience

Town of Vail

Town of Breckenridge

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REUSABLES

Durable/Washable

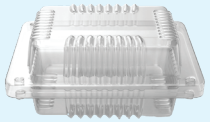
Subscription reuse services

Encourage customers to bring their own containers for leftovers

RECYCLABLES

Aluminum

Recyclable plastics



Check local recycling guidelines to determine which plastics are recyclable.

COMPOSTABLES

Compostable serviceware and uncoated papers

Compostable items must be certified compostable. For example:

BPI

COMPOST MANUFACTURING ALLIANCE COMPOSTER APPROVED

LANDFILL

Plastic-coated papers

AVOID

#6 Polystyrene

Black plastics and #3 PVC & #7 PC plastics

Containers for Wet/Moist Foods

Best choices ⟷ Worst choices

REUSABLES

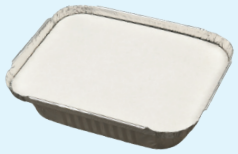
Durable/Washable

Subscription reuse services

Encourage customers to bring their own containers for leftovers

RECYCLABLES

Aluminum



Lids containing paper must be landfilled; aluminum tin or lid is recyclable

Recyclable plastics

Check local recycling guidelines to determine which plastics are recyclable.

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Containers for Beverages

Best choices ⟷ **Worst choices**

REUSABLES	RECYCLABLES	COMPOSTABLES	LANDFILL	AVOID
Durable/Washable	Aluminum	Compostable serviceware	Plastic-coated papers	#6 Polystyrene
    *Encourage customers to bring their own mug or cup*	  Glass  Plastic  Check local recycling guidelines to determine which plastics are recyclable.	  Compostable items must be certified compostable. For example: BPI COMPOSTER APPROVED	 Non-recyclable plastics 	 

Accessories

	UTENSILS	NAPKINS	STRAWS	LIDS
BEST OPTION	 Reusable utensils	 Reusable cloth napkins	 No straws—provide only upon request	 No lids—provide only upon request
BETTER OPTION	 Single-use cutlery self-selected or provided only upon request	 Paper napkins in a dispenser or provided only upon request	 Bamboo or paper straws (self-selected)	 Lid with no straw
WORST OPTION	 Wrapped, bundled, single-use utensils	 Large quantities of paper napkins	 Plastic straws	 Plastic stirrers Lid with straw

Accessories

	CONDIMENTS	STIRRERS	TOOTHPICKS	BAGS
BEST OPTION	 Customer access to bulk condiment dispensers	 Reusable stirrers	 No toothpicks	 Repurposed box or customer-provided reusable bag
BETTER OPTION	 Single-use condiment packets provided only upon request	 Uncooked noodle or wooden stirrer	 Unwrapped wood toothpick in a dispenser	 100% recycled paper bag
WORST OPTION	 Large quantities of condiment packets automatically provided to customer	Single-use plastic stirrers	 Plastic toothpick	 Plastic bags

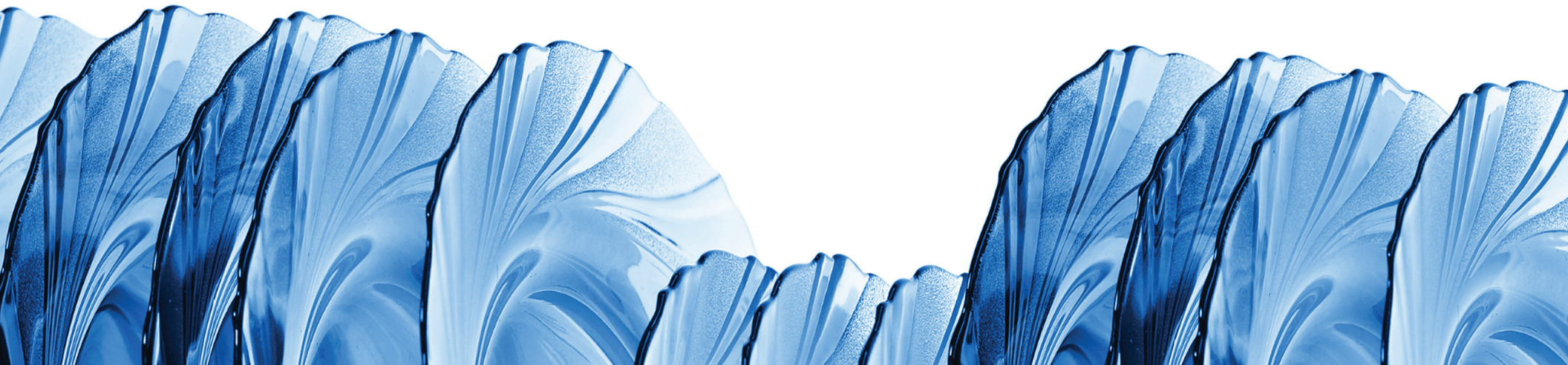
VERY BEST ⟷ WORST

How to Consider Your Options

Including Reduce, Reuse, Recycle, Compost & Landfill

What is best for the environment may also be best for your bottom line!

Here's the criteria that went into determining Best and Worst in our product guide, and what to keep in mind when deciding what's right for your business.



THE VERY BEST

Your Options for REDUCING Waste in the First Place

Before recycling and composting, reducing is best, and there are easy ways to do it.

Environmental Considerations

The best way to reduce harm to our environment caused by cutting down trees for paper, or mining or drilling for ores and fossil fuels, is to avoid the creation of packaging altogether. **No packaging means no environmental destruction, and no resulting pollution. It also means a cost savings for you!** It's worth looking at where it's possible to eliminate or significantly reduce food packaging at your business.

Customer Service and Employee Retention Considerations

Numerous polls and studies show that consumers want to support companies that reduce packaging and make it easy for them to make more environmentally friendly choices when purchasing items and food. Additionally, many employees take pride in knowing they work for a company that cares about doing the right thing.

Financial Savings Considerations

Reducing saves your business money, but exactly how much could you save? The Clean Water Action Fact Sheet provides examples of cost savings from eliminating single-use items through reuse or reduction efforts. Upstream's Chart Reuse Tool allows businesses to calculate their actual projected savings by making the shift to reducing and/or reusing. The following chart also shows a few examples of potential reductions in costs and plastic waste by providing items by request only or by allowing customers to select the items they need rather than providing items to customers automatically.

Download Break Free From Plastic's "Hold the Plastic, Please: A Restaurant's Guide to Reducing Plastic" for ideas on training staff and promoting your plastic reduction efforts, plus other great tips on waste reduction in restaurants.

Current Scenario						Reduction Scenarios	Reduce by 50%		Reduce by 75%		Reduce by 90%	
Item	**Cost per item***	**Avg. # of customers per day**	**Avg. # of units given per customer**	**Units provided per year**	**Cost per year**		**Units provided per year**	**Cost per year**	**Units provided per year**	**Cost per year**	**Units provided per year**	**Cost per year**
Straw	$0.01	150	1	54,750	**$548**		27,375	**$274**	13,688	**$137**	5,475	**$55**
Ketchup packet	$0.05	150	3	164,250	**$8,213**		82,125	**$4,106**	41,063	**$2,053**	16,425	**$821**
Utensil packet (fork, spoon, knife)	$0.04	150	1	54,750	**$2,190**		27,375	**$1,095**	13,688	**$548**	5,475	**$219**

*Cost based on prices for items on webstaurantstore.com as of July 2023.

It's Easy to Reduce Single-Use Items and Save Money

- Train employees to ask customers which single-use items they need rather than automatically providing utensils, condiment packages, straws, etc.
- Let customers choose the single-use items they need from utensil or condiment dispensers rather than automatically giving them out at checkout.
- Provide bulk condiment dispensers instead of or alongside single-use packets for customers who are dining in or dressing their food before carrying it out.
- For utensils and straws, if providing, offering them unwrapped and unbundled reduces plastic and saves money.
- Share your company's commitment to waste reduction! Educate your employees and customers about the cost and environmental benefits of reducing single-use items. Post on social media about your commitment and efforts to reduce waste.

BEST

Your Options for REUSE and Avoiding Single-Use Products

Providing reuse choices for your customers is easier than you might think—even for smaller businesses with limited dishwashing capacity.

Environmental Considerations

Investing in durable serving ware to meet the needs of "for here" customers saves water and reduces environmental impacts after only a few washes. For example, according to Upstream's report, "Reuse Wins":

- After only two washes, stainless steel cutlery breaks even with disposable cutlery when comparing the environmental impacts of producing these items. After that, every usage increases the environmental benefits of the reusable cutlery.
- Using and washing one ceramic cup 500 times consumes only 53 gallons of water compared to 500 paper cups, which consume nearly 370 gallons of water to produce.

Financial Savings Considerations

The average savings for small businesses switching to reusables is between $3,000 and $22,000 annually! For takeout, encourage your customers to bring their own to-go boxes or cups with the help of signage or by offering a discount for "BYO box or cup." Some municipalities offer financial incentives to businesses that switch to reusables and/or are working with businesses that provide reusable to-go systems for restaurants.

Reusable products are less susceptible to supply chain disruptions. Once your business owns the items you use (or is partnered with businesses that provide reuse systems, like Ozzi, DeliverZero, or r.Cup, which are active in Colorado), challenges in sourcing food serviceware are greatly reduced or eliminated.

$

SAVINGS TIP: Some companies that provide reuse systems for restaurants and other food service businesses will collect dirty containers! You don't have to own the containers OR wash them! Learn more about the City of Boulder's reuse program and incentives for businesses.

REUSABLE Product Options

What to do when reusables break?

When reusable/durable items break, they don't necessarily have to be landfilled; some can be recycled through special collection programs. For example, Eco-Cycle's Center for Hard-to-Recycle Materials (CHaRM) collects ceramics, glassware, #2 and #5 durable plastics, and scrap metal for recycling.

REUSABLE Product Options

Ceramic, glass, stainless steel, or durable plastic are all good options for reusables. These materials can transfer heat, so if used for serving hot food you may want to consider designs with handles, insulated walls, or other heat-mitigating elements. There are three common ways to use durable, reusable serviceware:

- Purchase reusable items and clean them in-house.
- Contract with a business that specializes in providing reusable serviceware. That company will provide the needed items and a drop-off collection system where your customers return them. The company will then sanitize the items and return cleaned inventory to you. Some companies will sell the inventory to you, while some will retain ownership of the inventory and there is no cost to your business; customers pay only a nominal fee.
- Encourage your customers to bring their own mugs or take-out containers (that they fill themselves from a reusable "for here" plate) by offering discounts or reminding them to Bring Your Own (BYO) via social media, text message, and/or signs at your business.

USEFUL RESOURCES

- PlasticFreeRestaurants.org provides funds for restaurants and schools looking to switch away from single-use: plasticfreerestaurants.org/subsidy
- Upstream's report "Reuse Wins" shows how a restaurant's choice to reuse beats single-use every time: upstreamsolutions.org/reuse-wins-report

GOOD

Your Options for RECYCLABLE Alternatives to Disposable Products

After looking at ways to reduce and reuse, you may prefer one of the many recyclable alternatives to polystyrene and other disposables.

Environmental Considerations

While reducing and reusing are best, choosing products and packaging that are recyclable is the next best thing. We say "next best," because even if something can be recycled and kept out of the landfill, there is an environmental impact when the natural resource was extracted from the earth and the product was produced—paper comes from clear-cut forests, metals must be mined, and plastics are made from fossil fuels. But once these natural resources have been extracted, it's critical to keep them in circulation through recycling to prevent further resource extraction.

Some materials are more recyclable than others. **Aluminum, steel, and glass are all infinitely recyclable.** As long as customers put them in the recycling bin, they can go through the recycling process over and over again. Products made from these materials are very likely to contain recycled content. **Most single-use plastics must be landfilled**, but for the relatively few plastics that are recyclable, they can go through the recycling process only once or twice. When choosing plastic to-go containers, choose those that are #1 PETE, #2 HDPE, or #5 PP bottles, tubs, jars, or clamshells and avoid all #3 PVC, #6 PS, or #7 PC items, as well as those made from black plastics. **Most paper products used in the food industry will be plastic-coated and therefore not recyclable.** If purchasing plastic or paper, choose products that include post-consumer recycled content and avoid paper products coated with plastic.

Cost Considerations

This toolkit does not measure single-use materials by cost, since cost for items varies by brand and as markets shift. The up-front cost of reusable products is higher than recyclable containers, but multiple studies have shown that replacing single-use items with reusables and/or reducing the number of single-use items provided per transaction can save cafes, food trucks, and restaurants thousands of dollars per year!

RECYCLABLE Product Options

Aluminum

Soda cans, food tins, foil, and other aluminum items are infinitely recyclable. Cans should not be crushed. Aluminum foil or food tins should be empty and rolled into balls 2" or larger in diameter before placing in the recycling bin. Automatic sorting equipment at recycling facilities separates flat, two-dimensional items (such as paper) from three-dimensional items (such as containers). Flattened aluminum can be missorted into the paper!

Recycle It Right!

If choosing recyclable materials for your business, it helps to make recycling as easy as possible for your customers! Recyclable single-use products that are landfilled waste valuable resources, and those that are recycled with large amounts of food contamination cause problems in recycling systems. It is critical to provide well-marked recycling collection bins with signage to capture recyclable materials.

Glass

Glass bottles and jars (like pickle or salsa jars) are also infinitely recyclable and can be recycled in most (but not all) places in Colorado. Be sure to put metal lids that are larger than 2" in diameter in recycling SEPARATE from the glass jar so each material goes to the correct market. Drinking glasses and canning jars cannot be recycled in curbside bins because they do not melt at the same temperature as single-use bottles and jars.

Recyclable plastic (#1 PETE, #2 HDPE, #5 PP)

Look for products that include post-consumer recycled content. Small plastics like condiment cups are too small to be recycled. Attach plastic lids to empty plastic containers or jars before recycling. Recycling facilities around the state vary in their ability to accept some plastics.

Check local guidelines to see what is recyclable in your area.

USEFUL RESOURCES

- Recycling Guidelines for Eagle County
- Eco-Cycle's Quick Guide to Plastics helps you know which plastics are better and which should be avoided.

GOOD

Your Options for COMPOSTABLE Alternatives to Disposable Products

Note: This option only qualifies as "good" if your business is in a community that is able to compost certified compostable products. If you are in a community that cannot accept these materials (which currently includes most communities along the Front Range, the Eastern Plains and Western Slope, and many in the Mountains), please consider recyclable or reusable alternatives.

Environmental Considerations

Like with recyclable options, all single-use materials have environmental impacts when they are produced. Even if they can be composted and kept out of the landfill, we still have to consider these impacts. In the case of certified compostables, paper comes from clear-cut forests, and plant-based plastics are often made from plants grown specifically to produce compostable products, requiring pesticides, petrochemical fertilizers, fuel for farming equipment, and lots of water. Some compostable products, however, are made from repurposed byproducts of other industrial processes, such as bagasse made from sugarcane processing.

One example of these environmental impacts for a compostable item can be found in chopsticks. The equivalent of 3.8 million trees go into the manufacture of about 57 billion disposable pairs of chopsticks annually in China alone. About 45% of disposable chopsticks are made from trees like cottonwood, birch, and spruce, while the remainder are made from bamboo, which is technically a grass.

Cost Considerations

This toolkit does not measure single-use materials by cost, since cost for items varies by brand and as markets shift. The up-front cost of reusable products is higher than single-use, but multiple studies have shown replacing single-use items with reusables (like reusable chopsticks) and/or reducing the number of single-use items provided per transaction can save cafes, food trucks, and restaurants thousands of dollars per year!

COMPOSTABLE Product Options

Check Your Local Compost Guidelines

In an effort to reduce plastic contamination in compost streams due to products mislabeled as compostable, compostable products (even those that are certified compostable) are currently not accepted by the primary Front Range compost facility, nor in many other parts of the state, and must be landfilled. Check with your local compost haulers/facility to learn what types of compostable products they accept (if any) or if these products must be landfilled in your area.

Compostable Product Options

If your community accepts compostable products for industrial composting, select only certified compostable products that are accepted by your local compost facility. Look for a trusted certification logo such as BPI (Biodegradable Products Institute) or CMA (Compost Manufacturing Alliance). Avoid products labeled “biodegradable,” “oxo-degradable,” “degradable,” “decomposable,” “bio-plastic,” or “plant-based” and those that make vague marketing claims that are not certified by a third party. These badly marketed products are NOT compostable.

BPI

COMPOST MANUFACTURING ALLIANCE
COMPOSTER APPROVED

USEFUL RESOURCES:

- Eco-Cycle’s Clean Compost Campaign toolkit provides everything you need to generate clean compost for communities where compostable serviceware is not accepted.
- Eco-Cycle’s Compost Guidelines Poster for Restaurants for areas that do NOT accept compostable products can be downloaded, printed, and posted above your compost bins.

WORST

What Must Be Landfilled & What to Avoid

Disposables bound for the landfill aren't a necessary evil—they can largely be avoided.

Environmental Considerations

Unfortunately, most of the disposable products that make their way into American trash bins have a dark history and a sad future: They're mostly made from finite, nonrenewable natural resources such as natural gas and petroleum. Even "renewable" resources like trees often come from clear-cut forests that were part of a whole ecosystem that provided habitat and helped reverse climate change by sequestering carbon. The production and disposal of disposable products, especially plastics, are clogging up our waterways and oceans, killing wildlife, adversely impacting our climate, impacting the health of humans, and taking tremendous tolls on ecosystems. Containers and packaging alone contribute over 23% of the material reaching landfills in the US.

A recent study found that 18% of ocean plastics are plastic food containers, cutlery, straws, and wrappers. An estimated 40 BILLION non-recyclable, petroleum-based plastic forks, spoons, and knives are used every year in the United States alone! So much of this material will wind up in our environment, where it will remain indefinitely, likely breaking up into microplastics that can make their way into our soil, water, and bodies.

Cost Considerations

This toolkit does not measure products by cost, since cost for items varies by brand and as markets shift. The up-front cost of reusable products is higher than disposable items, but multiple studies have shown replacing disposable items with reusables and/or reducing the number of single-use items provided per transaction can save cafes, food trucks, and restaurants thousands of dollars per year!

USEFUL RESOURCES

Eco-Cycle's Landfill Guidelines can be downloaded, printed, and posted above your landfill (trash) containers.

THE WORST OF THE WORST:
The Most Important Products to Avoid

#6 Polystyrene

Both #6 PS (polystyrene) plastic and polystyrene foam (sometimes incorrectly called by the brand name Styrofoam®) is a plastic made up of multiple styrene molecules, and is one of the worst plastics for the environment and human health. Over fifty chemical byproducts are released during the manufacturing of polystyrene, contaminating the air, water, and communities of people who work in and live near these facilities. The US Department of Health and Human Services identifies styrene as "reasonably anticipated to be a human carcinogen," and reports that styrene exposure is linked to "increased risks for leukemia, lymphoma, or all lymphohematopoietic cancer." Because it is lightweight, it is commonly blown or washed into the environment and small pieces of it can easily be mistaken for food, particularly by aquatic animals.

Black Plastics

Black plastics are very hard, if not impossible, to recycle, as markets do not want to buy black plastic; the dark pigment makes it so that it cannot be recycled into anything other than more black plastic.

Cling wrap is an example of a #3 PVC plastic

#3 PVC and #7 PC Plastics

Along with #6 PS (polystyrene) and black plastic, #3 PVC (polyvinyl chloride) and #7 PC (polycarbonate) plastics are considered among the most toxic plastics to produce, and the most difficult to recycle. Their toxic components pose multiple health risks to humans and other organisms. The components of #3 PVC have been evidenced to be a carcinogen that can cause rare liver cancer, disrupt male endocrine systems, cause short-term lung irritation and dizziness, induce reproductive and birth defects, impair child development, and suppress one's immune system. Often #7 PC contains highly dangerous BPA (Bisphenol A). Lab tests show that BPA appears to copy or disturb the hormone estrogen and affect the reproductive system, which could raise the risk for cancer.

Recycling and Compost Guidelines

Recycling and compost guidelines will vary across the state. Your local community, recycling operator, or recycling/compost/trash hauler can provide information on what materials are recyclable or compostable where you live. They should also be able to provide signage to place above collection bins to educate your customers and employees on how to properly sort their materials. Guidelines can also be printed from ecocycle.org, but note that these are guidelines for Boulder County and may not correctly reflect the list of materials accepted in your area.

Not sure whether the polystyrene foam ban applies to your business, or have more questions about the new Colorado law?

Visit ecocycle.org to find our **PPRA toolkit** with all the information and tools you need to navigate and benefit from Colorado's new law.

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