



# A Guide to the New Packaging Reuse Economy

How to achieve your business and waste goals with reusable packaging.



# Introduction

A startling 1 trillion single-use food service products get disposed of in the US each year.<sup>1</sup> And that statistic doesn't include other significant sources of single-use packaging waste such as retailers and at-home delivery. Continuous production of single-use products increases carbon emissions and creates waste streams that are polluting our homes, streets, and oceans and irreversibly impacting our climate.

There is an urgent need for public and private companies, organizations, and individuals to take action to limit the production and use of single-use packaging. Reusable packaging systems are the most promising solution, and Bold Reuse is trailblazing this critically important work. Together with partners like you, we're lessening the environmental and economic impact of waste within our communities and building a vibrant, collaborative new packaging economy - one that is good for business and good for humanity.

In this whitepaper, we'll take a closer look at the disposables problem and explore how a reuse system can help your organization reach zero-waste and carbon goals and improve your overall customer experience, brand, and bottom line.



## Throwaway Living

### DISPOSABLE ITEMS CUT DOWN HOUSEHOLD CHORES

The objects flying through the air in this picture would take 40 hours to clean—except that no housewife need bother. They are all meant to be thrown away after use. Many are new; others, such as paper plates and towels, have been around a long time but are now being made more attractive.

At the bottom of the picture, to the left of a New York City Department of Sanitation trash can, are some throwaway vases and flowers, popcorn that pops in its own pan. Moving clockwise around the photograph come assorted frozen food containers,

a checkered paper napkin, a disposable diaper (seriously suggested as one reason for a rise in the U.S. birth rate) and, behind it, a baby's bib. At top are throwaway water wings, foil pans, paper tablecloth, guest towels and a sectional plate. At right is an all-purpose bucket and, scattered throughout the picture, paper cups for beer and highballs. In the basket are throwaway draperies, ash trays, garbage bags, hot pads, mats and a feeding dish for dogs. At the base of the basket are two items for hunters to throw away: disposable goose and duck decoys.

CONTINUED

1955 Life Magazine article

1. [Upstreams Solutions: Reuse Wins Report](#)



# The “Take-Make-Waste” Problem with Disposables

Everyone is eager to find a solution to the waste stream problem, but current solutions are not as effective as we’ve been led to believe.

Disposable packaging has been the standard for food service and events for far too long. As a result, we have created a **“take-make-waste”** society. We *take* limited resources from the earth, *make* them into cheap products, and they become *waste* typically after just one use. This creates a disconnect between the value of the earth’s resources and the product produced. One stark example: 95% of the value of plastic packaging material - around \$90 billion annually - is thrown away after the first and only use. <sup>2</sup> Once discarded, it is easy to pretend that the packaging has disappeared, but every piece of plastic that has ever been created is still somewhere on our planet - either in a landfill, the ocean, or contributing to air pollution by way of incineration.

Today, many packaging providers market their products as sustainable to appeal to companies searching for environmentally-friendly options. Unfortunately, most “sustainable” packaging will not be recycled properly nor will the biodegradable products break down in a landfill. In the following sections, we’ll review the two established sustainability practices - **recycling** and **compostables** - and explore the overwhelming data that shows why these are not effective solutions to the climate problem or the right investment for your business.

Today’s “one-way throw away” food service model has negative impacts on our environment and on business.

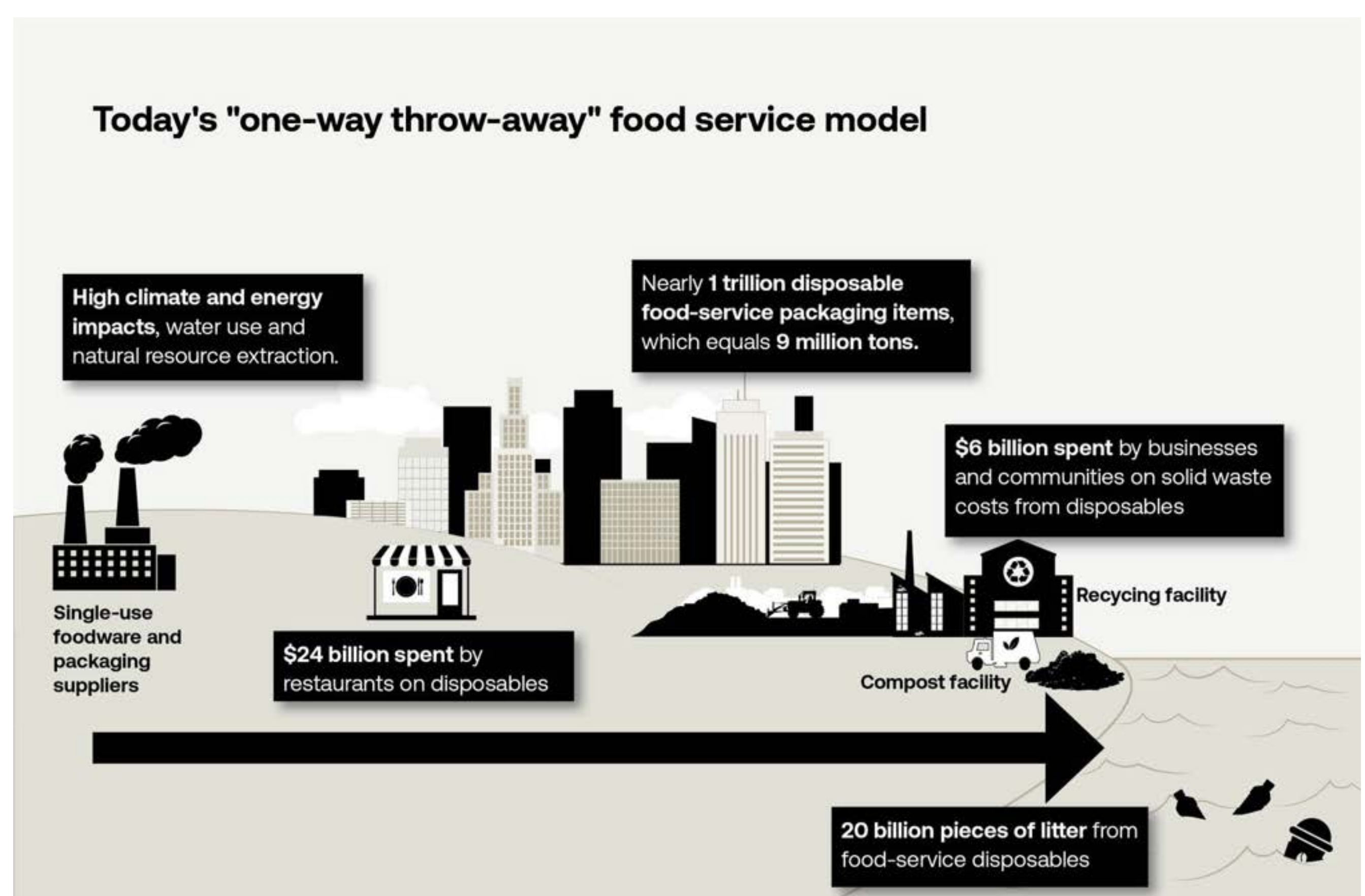


Image Source: UpstreamSolutions.org

<sup>2</sup> Ellen Macarthur Foundation: The New Plastics Economy



# Reduce, Reuse, Recycle: Why We're Focusing on the Wrong "R"

For the past 40 years, far more emphasis has been placed on *recycling* rather than *reducing* or *reusing*, but evidence shows that recycling is not effective in managing waste streams. The process itself consumes energy and resources, and most products that go into recycling bins end up landfilled or incinerated - processes that increase carbon emissions. Most significantly, recycling fails to acknowledge the root of the problem: waste creation.<sup>4</sup>



## The U.S plastic recycling rate declined to 5-6% in 2021.<sup>3</sup>

- **Most recycled materials end up in landfills, the environment, or incinerated.** When recycling is collected, it is taken to be sorted at a materials recovery facility to then be sold to recycling companies. The price of different materials changes weekly, and if a certain material isn't profitable to recyclers that week, it is sent to the landfill. The commodity prices on recyclables have declined by an average of 41% since 2017, meaning what you throw into the recycling bin is less and less likely to be recycled.
- **Most packaging and foodware is not designed to be recycled.** Recycling programs have been difficult to maintain over recent decades as packaging has shifted to lighter and harder-to-recycle materials. Historically, only clean PET (#1) and HDPE (#2) plastics have been economically recoverable at scale in the U.S. Today, popular foodware like tetra packs (plastic-coated paper cartons) and resin-lined paper cups are difficult to separate and recycle because they are laminated with various plastics and other materials. Smaller single-use items like straws, utensils, and bottle caps are less likely to even be recovered and inevitably fall through the cracks.
- **Recyclers are receiving an influx of unclean low-quality materials.** Single-stream recycling, food-contaminated packaging, and multi-packaging all create "dirty" streams of low-value materials for recycling.
- **Many 'recyclable' products aren't actually recyclable.** Just because something has a recycling symbol on it does not mean it can be recycled. This is referred to as 'wish-cycling'. We throw things into the recycling bin and hope they will get recycled, even if there is no evidence to confirm the assumption.<sup>5</sup> For years, the plastic and paper industries have advocated for recycling only to warrant continued production of their products.

**Key Takeaway:** Recycling enables our reliance on single-use products which is the crux of our waste and pollution problem. Instead of recycling our way out, we need to place greater efforts on reducing and reusing.

<sup>3</sup> [Greenpeace: Circular Claims Fall Flat Again 2022](#)

<sup>4</sup> [Upstreams Solutions: Why We Can't Recycle Our Way Out of the Problem](#)

<sup>5</sup> [Greenbiz: What is wish-cycling?](#)

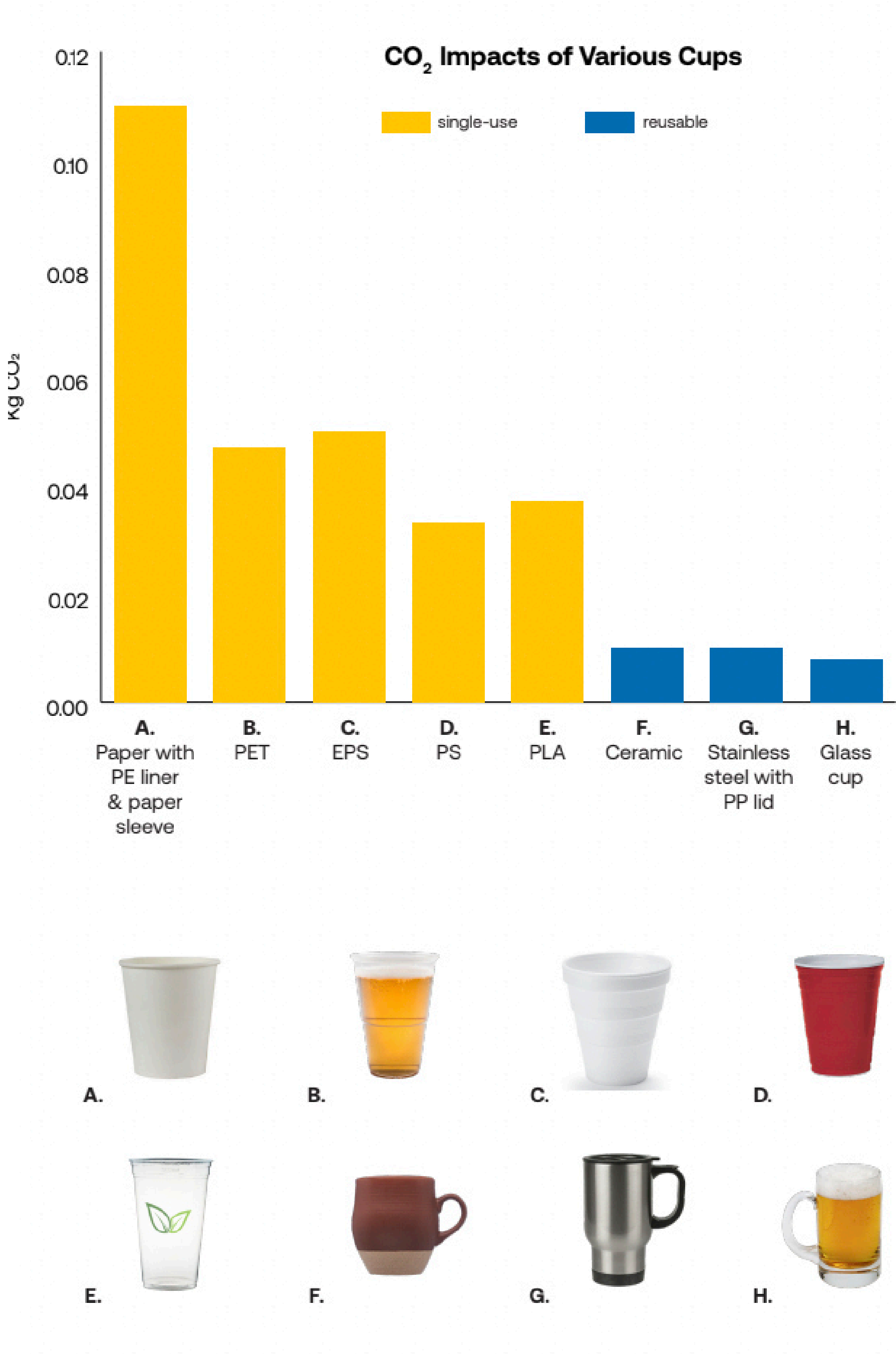


# What about compostables?

Similar to recycling, compostable and biodegradable packaging is not an ideal solution to our waste problem. Recent studies show that compostable and biodegradable packaging may be just as harmful, if not worse, than their single-use counterparts for the following reasons:

- **Compost Facilities:** Few cities compost, and of those that do, many will not process compostable foodware. These items don't degrade in landfill and will remain in the landfill forever – and that's assuming the 'compostable' material actually makes it to the compost bin in the first place.
- **Chemicals:** Most foodware products are lined with chemicals called PFAs, which help to repel water and oil. PFAs are also used in flame-retardant carpets and nonstick pans and are linked to negative health effects, including lowered fertility and cancer.<sup>7</sup> As a result, many cities don't take compostable foodware due to concerns about introducing PFAS in the soil.
- **Carbon:** The carbon footprint to create a compostable product is very high. Below is a graph that shows various cup types, with the worst offender being a basic paper cup. What's even more surprising is that the compostable option is worse from an environmental perspective than a typical Solo cup.

A reusable cup creates 83% less CO2 than a compostable cup after 25 uses.<sup>6</sup>



<sup>6</sup> Upstreams Solution: Reuse Wins at Events

<sup>7</sup> BCPP: PFAs Forever Chemicals



# A Promising Solution in Reuse

Reuse gets to the core of the problem, aiming to eliminate waste in the first place versus band-aid solutions aimed at fixing waste after its created.

Reuse offers a straightforward solution to eliminating packaging waste across various industries by using reusable materials. This allows for packaging to be reused rather than discarded after one use. Adopting reuse systems allows organizations to conserve resources and prevent further environmental degradation, while also offering economic growth. In comparison to recycling and compostable packaging, reusable packaging proves to be the most environmentally-sustainable option, beating single-use across the board in relation to water, land, energy use, and carbon emissions. It also has greater economic and social potential, from cutting down on packaging costs to delighting customers who increasingly care about sustainability.

## re·use

*noun*  
/rē'yōoz/  
the action of using something again.

"Reuse prevents pollution by reducing the need to harvest new raw materials"

"Reuse saves energy and reduces greenhouse gas emissions that contribute to global climate change."

**BOLD**  
REUSE

**Key takeaway:** The intent behind a packaging reuse system is to reuse the product over again until it reaches its end of life. Unlike disposables which deplete scarce resources only to be thrown into landfill, once a reusable reaches the end of use, it is then recycled and created into another product creating an endless, closed-loop cycle.

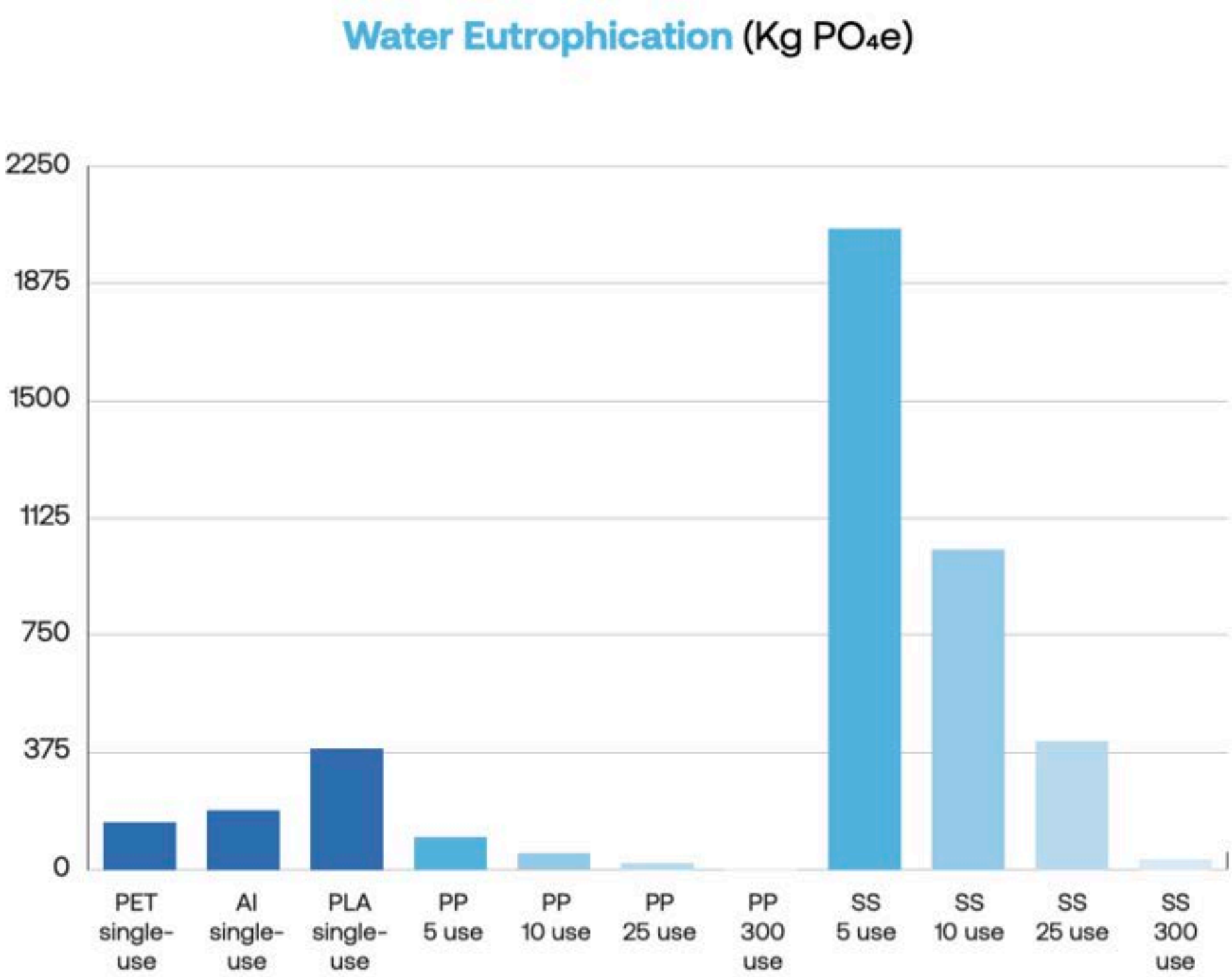


Figure 4: Water eutrophication (Kg PO<sub>4</sub>e) for 18,000 venue, 300 events

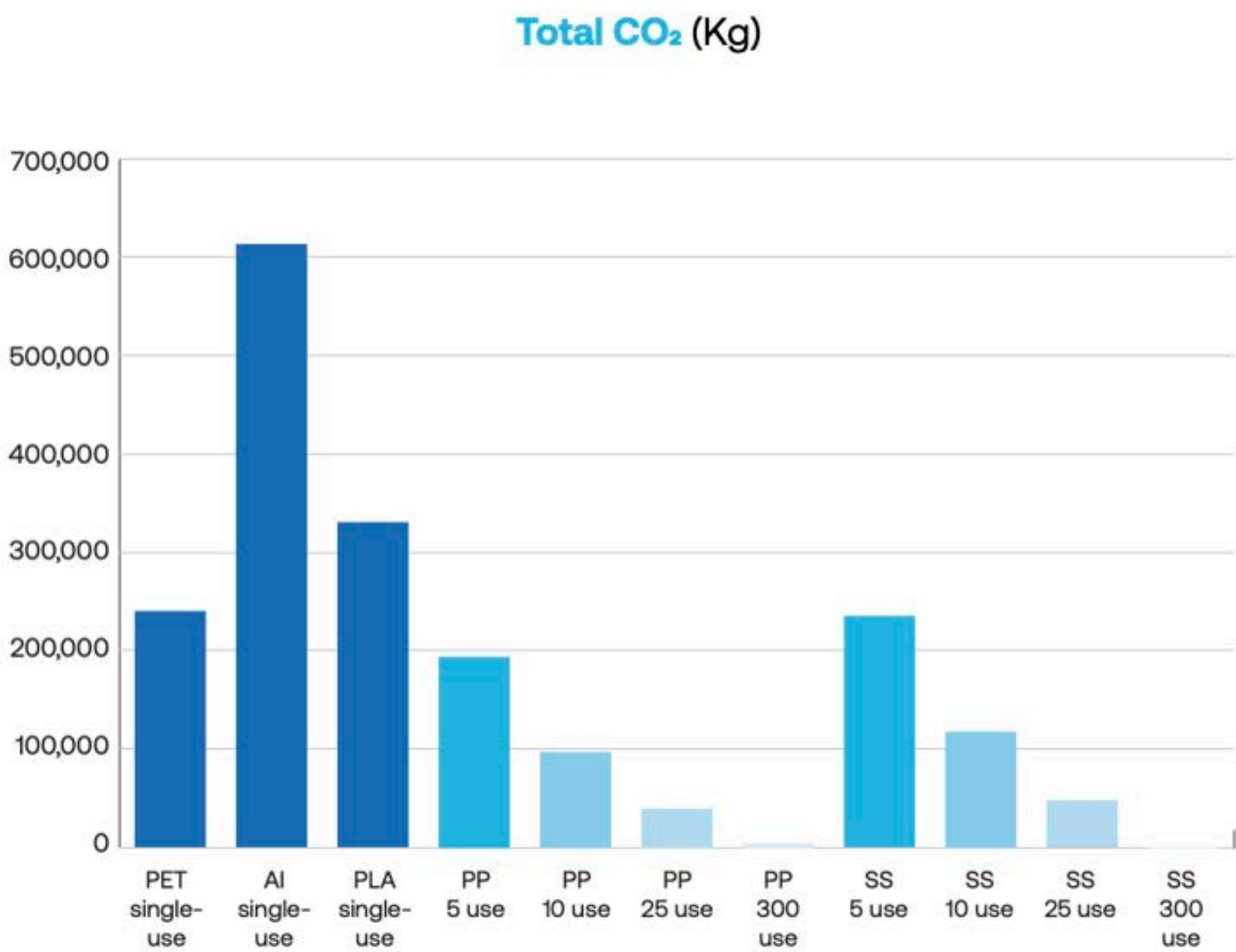


Figure 2: Total energy (MJ) for 18,000 venue, 300 events

The above images show data from Water Utilization and CO<sub>2</sub> for different materials. Water Utilization shows that, over time, reuse is more water efficient than continued production of disposables.

Image Source: Upstreams Solutions: Reuse Wins Report 2022



# The Modern Reuse Economy

**Businesses, institutions, and event spaces all over the world are ditching disposables and replacing them with reusable products.**



The reuse concept isn't new. Starting in the 1880s and for nearly 100 years, the majority of Americans had milk delivered in glass bottles, and customers would leave used, empty bottles for collection to be reused again. It was a system that made sense. Customers didn't have to worry about the burden of keeping or disposing of the bottles, and the same shared asset could be reused time and time again without extracting scarce resources.

Since the 1970s, this model has increasingly been replaced with the throwaway economy. This leaves today's consumer burdened with endless packaging waste, especially from food service products like disposable utensils and takeout containers that end up in landfills. Excitingly, we're starting to see the rebirth of novel reuse systems and new applications by businesses all over the world. When we take the same concept of reusing packaging in the milk delivery model and create a more refined, premium experience, we get the modern reuse system. Combined with innovative technology and supply chain advancements, reuse systems offer more efficient and resilient business operations.

Modern reuse models also help create value for businesses and consumers, from elevated product, branding, and customer experiences to optimized operations and reduced costs. Leading brands all over the world such as Starbucks, Walmart, and Imperfect Foods are on the path to ditching disposables and creating reuse systems that are convenient, sustainable, and profitable. In partnership with reuse service providers like Bold Reuse, who manage the logistics, sanitization, and

## With modern reuse we can...

- ✓ Reduce environmental impacts while benefiting multiple stakeholders
- ✓ Significantly reduce climate pollution, energy use, water consumption, resource extraction, waste generation and litter generation, and plastic pollution
- ✓ Make the switch to reusables convenient, clean, simple, and cost-effective



# Today's Consumer Wants Companies to do Better

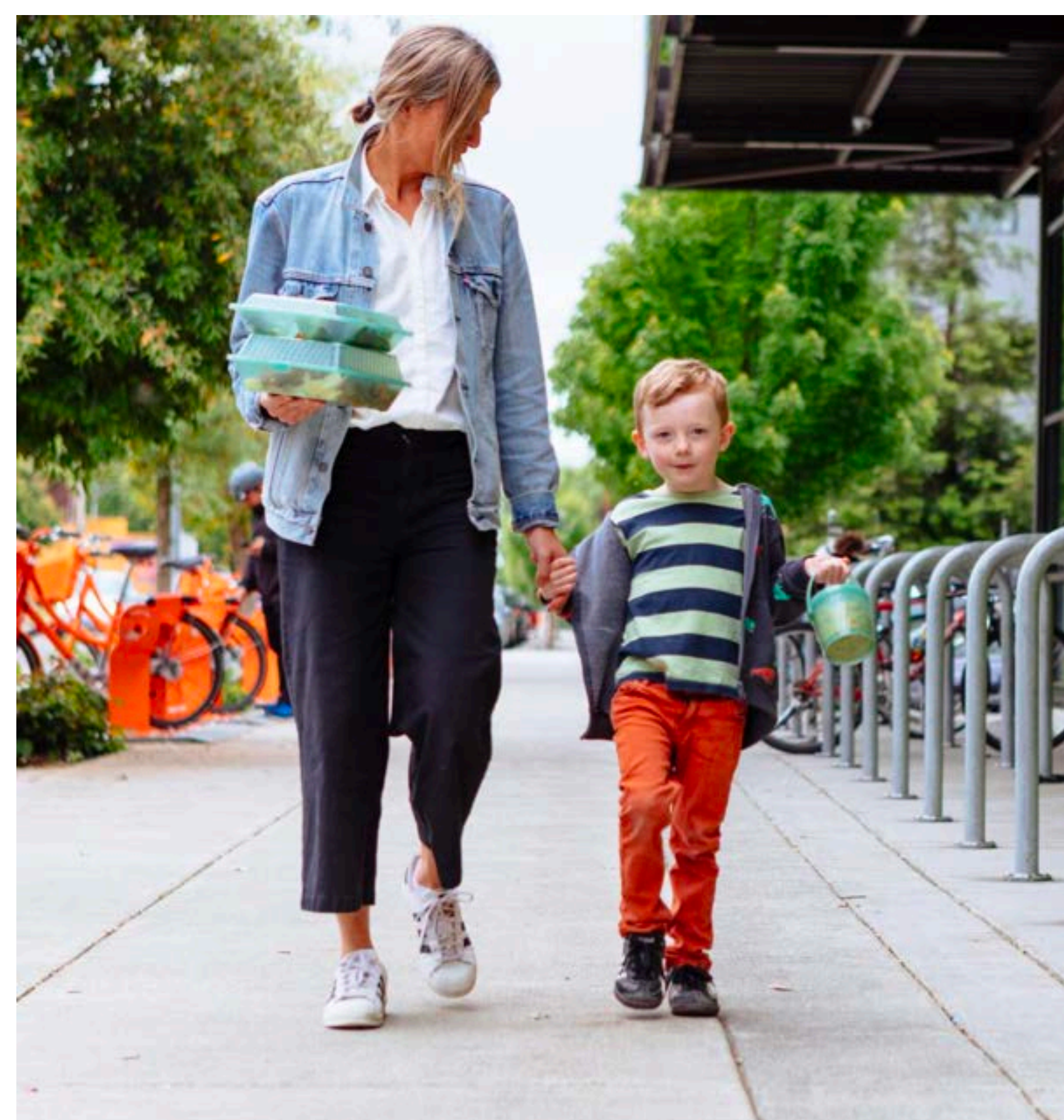
The beauty of reuse is that you can source more durable and higher-quality alternatives to single-use products. These reusable replacements improve the customer experience while creating a meaningful impact on your sustainability, zero-waste, and carbon goals.

Up to 72% of consumers want to adopt circular practices, but organizations are not providing the convenience, access, information, and affordability to enable them to do so.<sup>7</sup> Circular practices cannot be adopted by customers unless the opportunity to participate is made easy and accessible.

The opportunity is for brands, businesses, and organizations to offer information and resources to make changes in consumer behavior easy - and customers will love you for it. In fact, 44% of consumers spend more with circular businesses. By implementing reuse programs, companies and customers can reach zero-waste goals together.



**Consumers are increasingly becoming more environmentally conscious and demanding the same of the brands they patronize.**



## Reuse by the Numbers

**72%**

Of Consumers Want To Reduce Waste

**44%**

Of Consumers Spend More With Circular Businesses

**83%**

Less CO2 Than Compostables After 25 Uses

<sup>7</sup> [Cap Gemini: A Circular Economy for Plastics](#)

<sup>8</sup> [Upstream Solutions: Reuse Wins](#)



# The Cost of Disposables

Single-use products aren't just bad for the environment, they're also bad for business. Reuse offers a smarter way forward.



**Below are costs incurred from using disposables:**

✓ **Labor Costs.**

On-site waste management costs time, energy, and labor. This includes time spent cleaning, collecting, sorting, and removing waste from your facilities.

✓ **Lost Revenue.**

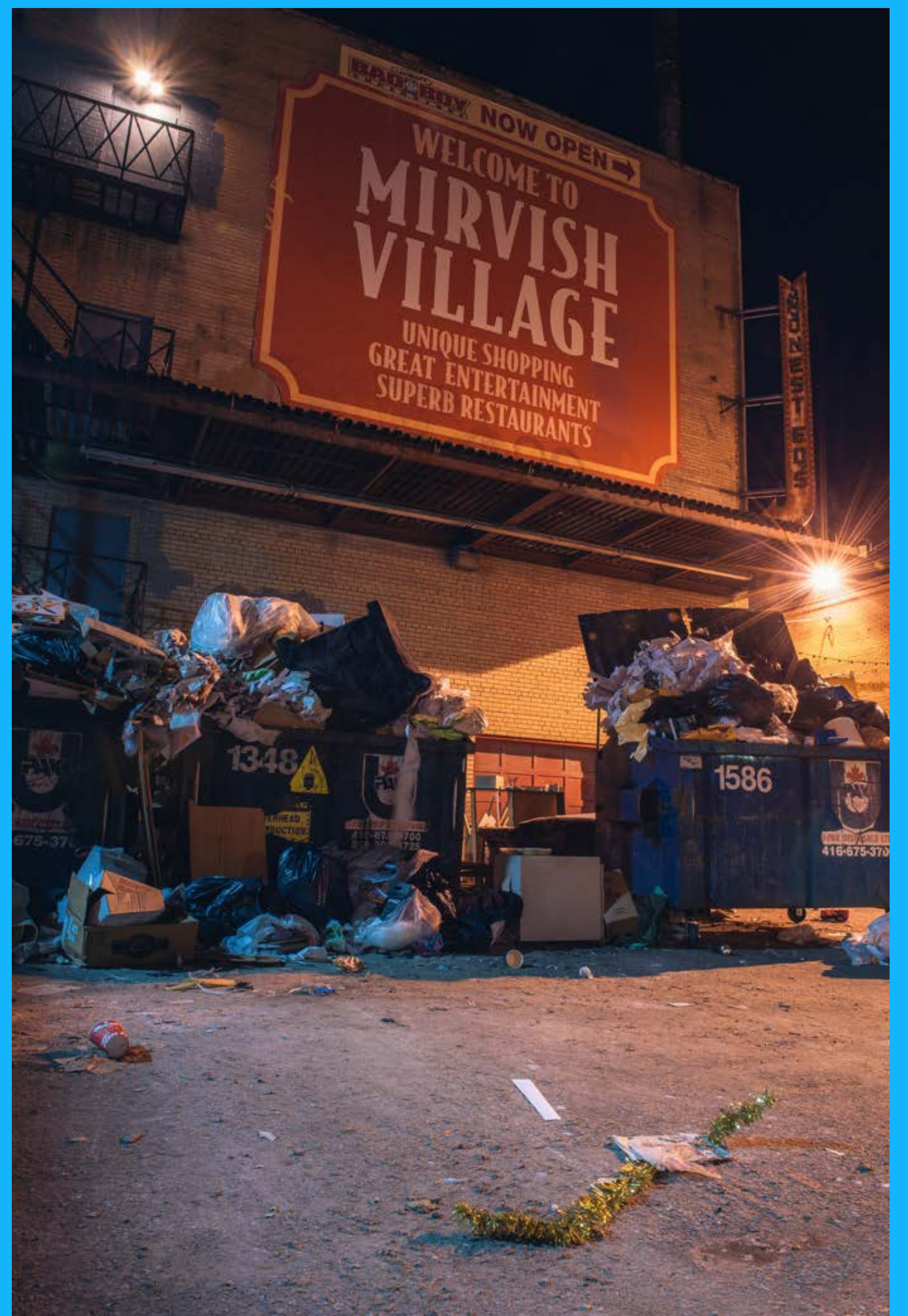
Packaging waste is a huge customer churn in food service, as explored in the prior section. Consumers often buy less or opt-out of buying altogether because they don't want to add to the waste problem or deal with the trash at home.

✓ **Disposal Costs.**

Disposing of waste becomes increasingly expensive the more you throw away. Additional fees are incurred if trash is contaminated and not properly sorted.

✓ **Legislative Costs.**

Governments in many countries are taking action against plastics and waste. This means sustainability is no longer a nice to have for businesses, it is a necessity. By implementing reuse systems, you can get ahead of regulations and add value to your business.





# The Core Benefits of a Reuse System

Reuse is better for the environment and great for your business too.

## Business Benefits

### ✓ Reduced Costs

The transition to reusable foodware has a positive ROI. While initial costs are higher, reusables break even after a few uses and can save businesses a significant amount of money over the long term. Further, reuse turns packaging into an asset instead of an expense, keeping the economic benefit within your community instead of the landfill.<sup>9</sup> Today, \$24 billion is lost annually due to the disposal of single-use products.<sup>10</sup>

### ✓ Improved Brand Loyalty

Consumers are increasingly looking to support sustainable brands and expect the businesses they purchase from to adopt more circular practices. Companies with reuse systems have seen improvements in customer loyalty and retention.

### ✓ Elevated Brand Equity

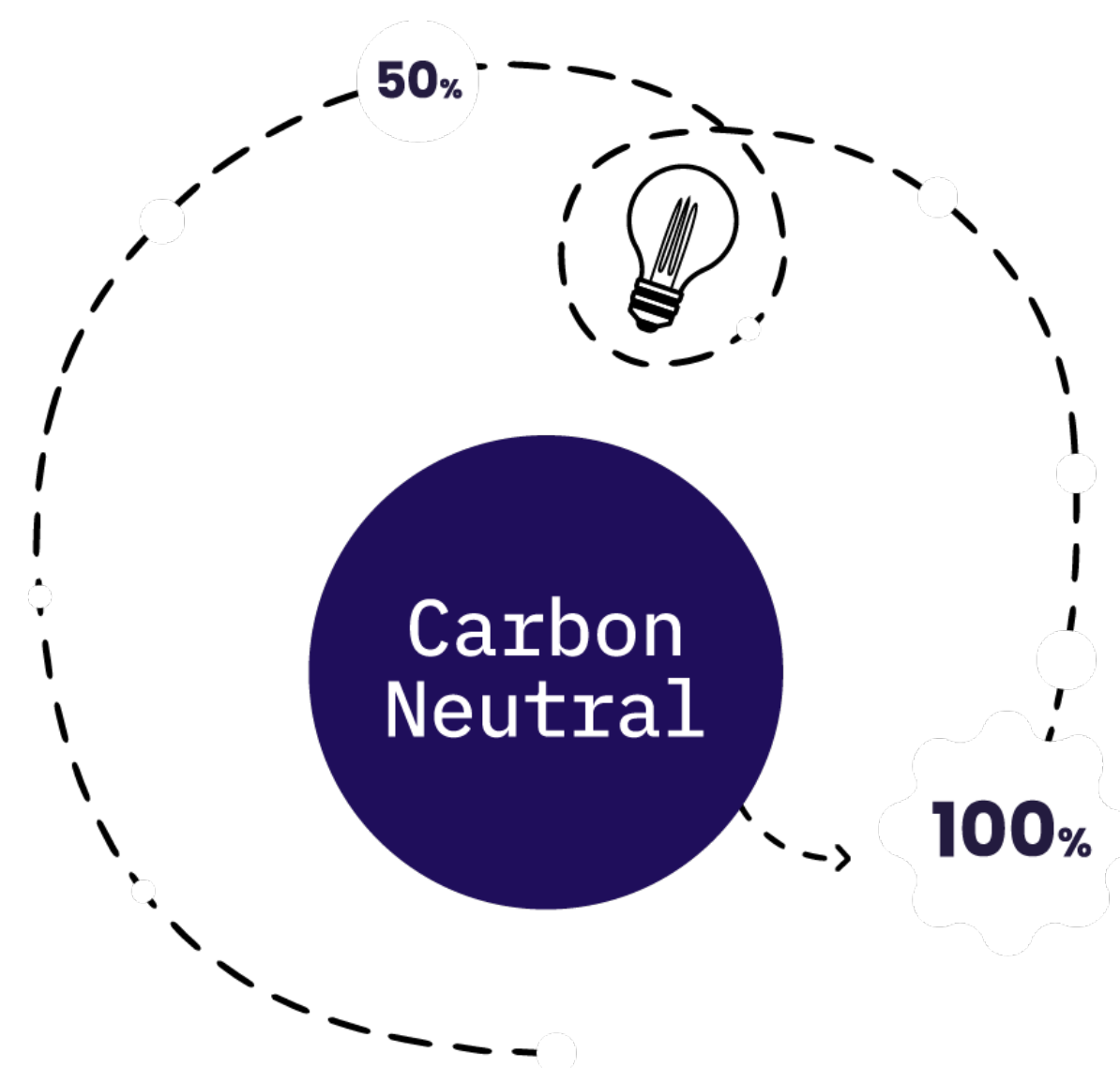
Custom-branded reusable packaging helps elevate brand awareness and look. When reuse systems are implemented, organizations position themselves as leaders in their industries and ahead of the competition.

### ✓ Increased Lifetime Value and Revenue

Consumers come back more frequently and spend more money with circular businesses. Some companies have experienced increased spending and frequency due to their reuse program, especially with deposit-return models. Deposit-return models encourage repeat customer behavior because customers want to redeem their deposits.

### ✓ Sponsorship Opportunities

Sponsorships are a great way to partner with other brands to offset or even make revenue off of a reuse program. Instead of your packaging being a cost center, it can be a revenue generator.



**Key Takeaway:** With reuse you can reduce costs, improve brand loyalty, increase lifetime value & revenue, elevate your brand and make a truly sustainable change!

<sup>9</sup> [Upstream Solutions: Reuse Wins](#)

<sup>10</sup> [Upstream Solutions: Reuse Wins](#)



# Environmental Benefits

However you slice it, reusable packaging is the most environmentally-sustainable option, allowing businesses to:

- ✓ **Eliminate Landfill and Litter**

Reuse reduces landfill waste prevents litter pollution on land and in marine environments.

- ✓ **Save Resources**

By reusing sources we've already extracted like oil, or timber, we can avoid additional extraction of scarce resources.

- ✓ **Prevent and Reduce Carbon Emissions**

The carbon impact of a single compostable clamshell is 68 times greater than a reusable polypropylene clamshell. Switching to reusables prevents and reduces carbon emissions.





# The Technology Driving Reuse Systems

Bold Reuse and other reuse service providers are delivering innovative technology to businesses to help them implement, manage, measure, and scale their reuse programs.

## Individual Asset Tracking

Reusable assets can be tagged with unique tracking codes to collect and maintain data. This enables you to understand more about your specific packaging assets including utilization, durability, customer adoption, and sustainability.

## 360 Analytics

With a 360 Program Dashboard, companies can track all aspects of their reuse operations including pick-up, quality assurance, packing times, and delivery.

Your organization's data is presented in an easy-to-use format to provide a complete picture of how your program is running and offer insights into the actions you can take to improve.

## Sustainability Reporting Outputs

ESG reporting is becoming increasingly important. Advanced sustainability reporting keeps operations well documented and assets stored and tracked within the same system. Together, with the 360 dashboard, this makes



## Cutting-edge technology makes your reuse program and reporting even more effective and valuable.

it easier to compute a full lifecycle analysis of your program versus comparable single-use products to better measure and quantify your results.

## Consumer Loyalty Application

Technology has proven to drive engagement and loyalty with customers. Implementing reuse education and incentives into your tech stack is an exciting new frontier. By leveraging your own loyalty app, or implementing a custom reuse tech solution, you can enable customers to easily check in and out reusable inventory, incentivize returns and customer engagement, and report on program utilization.



# Starbucks utilizes technology solutions in reuse trial

Every day, millions of paper and plastic coffee cups are thrown into landfill from Starbucks locations. In 2020, Starbucks set out on a multi-decade commitment to reduce its carbon, water, and waste footprint by half by 2030 as part of its commitment to be a resource-positive company.

To reach its goal, Starbucks partnered with Bold Reuse to manage the professional washing and sanitization of reusable cups in the company's new “Borrow a Cup” program. Starbucks tested this program in select West Seattle stores for a limited time in Spring 2021 and eliminated nearly 10,000 single-use cups during the pilot.

**“We understand the interdependency of human and planetary health, and we believe it is our responsibility to reduce single-use cup waste. We will lead the transition to a circular economy.”**

Michael Kobori, Chief Sustainability Officer, Starbucks

## How It Worked

### **Get a drink in a reusable cup for a \$1 deposit.**

When customers placed their order at a participating location, they had the option to borrow a reusable cup. Customers could also order ahead on the Starbucks App by selecting the program from the “Merchandise” section of the menu tab in the app.

### **Return the reusable cup for your \$1 credit back.**

Each participating Starbucks location had a contactless kiosk where customers returned cups and received a \$1 credit toward their next purchase. Customers could also return cups through Ridwell. In the future, Starbucks hopes to use its loyalty app to incentivize program utilization and returns with points and rewards.

**Sanitized and ready to go!** This is where Bold Reuse stepped in. Each day, we collected the returned cups and professionally cleaned and sanitized them in our commercial kitchen before restocking the cups to the participating stores so they could be reused again (and again, and again)!





# Return Models

Understanding the different logistics and benefits of various returns models is an important step in selecting the right reuse solution for your business.

## Consume and Return On-Site

Packaging is used and returned on-site and is not intended to be removed from the location. This model is ideal for sporting and entertainment events where food and beverages are typically served in single-use containers and cups.

**Benefits:** Return-on-site models offer the most closed-looped system with little to no disruption to current processes.

**Bold Reuse Partner Spotlight:** The Portland Trail Blazers have adopted this reuse model at the Moda Center. With fans consuming drinks and food onsite, the Moda Center saw a unique opportunity to serve and collect reusable food and drinkware for future reuse at concession stands, creating a closed-loop system and reducing unnecessary waste. This [report](#) from Ayo Elise at FOX12 Oregon takes a look at the program launch and early success.



## Reuse and Return from Home

Packaging is picked up from home by a pickup service to be professionally cleaned and returned to your business for reuse.

**Benefits:** This model makes returning reusables convenient and simple for customers. Customers are more likely to return reusables when they can do it from the comfort of their homes.

**Bold Reuse Partner Spotlight:** Imperfect Foods adopted a return-from-home reuse model for their National Packaging Return Program when customers, tired of the excess packaging waste from plastic gel packs and insulators, demanded a greener solution. Now, Imperfect Foods customers can leave their used packaging materials outside their homes to be picked up weekly for reuse. Since the implementation of the program, Imperfect Foods has helped customers divert **6.5 million pounds** of packaging out of landfills. The program proves that customers are willing to adopt circular practices when provided with reusable options.





## Reuse and Return on the Go

Reusable packaging is returned by users at drop-sites offered in stores or other public locations. Private drop-sites can be made available upon request. Customers subscribe to checkout on-demand reusables from participating restaurants and retailers and return reusables at their convenience to an approved drop site.



**Benefits:** Reuse and Return on the Go programs create a circular economy within communities, are accessible, convenient, and allow access to more individuals.

**Bold Reuse Partner Spotlight:** New Seasons Market, a neighborhood grocery chain that offers healthy and organic food options from any of their 19 Portland, Oregon area locations, launched a Reuse and Return on the Go model to meet customer demand for options to reduce waste footprint.

### How reuse services for take-out and delivery work

Reuse service provider washes and sanitizes containers and delivers them to the food service business



Restaurant serves customers in reusable containers for take-out/delivery



Customer gets meal to-go or delivered in reusable containers



Customer drops off containers or has them picked up

**Business benefits:** build brand loyalty; increase customer and employee satisfaction; generate customer behavior data; and create many new opportunities for entrepreneurs and investors to create and scale new reuse businesses

**Environmental Benefits:** less climate pollution, energy use, water consumption, resource extraction, waste generation, litter generation and plastic pollution

**Community benefits:** less waste (and associated costs), less litter (and cleanup costs), new jobs created in the reuse service economy

*Image Source: Upstreams Solutions: Reuse Wins Report 2022*



# Funding Models

Below we break down the more common funding models so you can determine the right approach for your business.

## Deposit/Return Models

This model requires a deposit from the customer that is refunded once their reusable container is returned.

**Benefits.** This system pays for itself and is the prime example of a circular practice that you can easily implement at a low cost for yourself and the customer. A deposit/return model also incentivizes returns and leads to increased customer lifetime value.

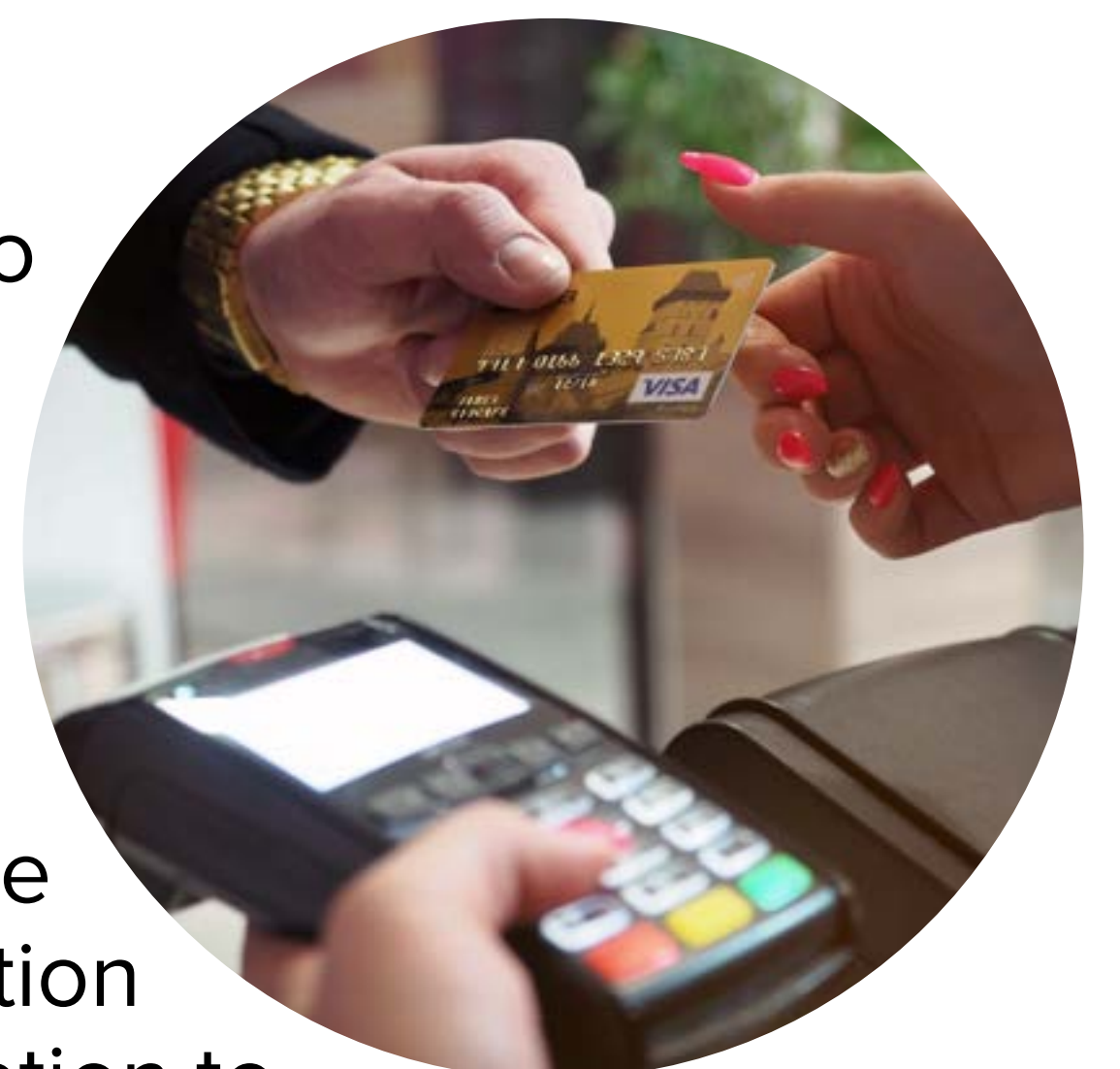


**Bold Reuse Partner Spotlight:** Fermenter is a local vegan restaurant located in Portland, Oregon, that adopted a deposit/return model for all take-out orders. The process is simple: a \$1.50 charge is applied to all take-out orders; customers receive their meal in a reusable container. When the reusable container is returned, the deposit is either given back to them or credited to their next order.

## Flat Fees or Subscription Models

In a flat fee model, the customer pays a one-time fixed fee to cover the cost of a single reusable food or drink container, or via a subscription offering, they can pay a fixed monthly or annual fee to have reusable packaging on any future purchase.

**Benefits:** The flat fee model is ideal for a business where customers are not purchasing often. Both flat fee and subscription models are easy to implement and give your customers the option to opt into reusable packaging for a small cost.



**Bold Reuse Partner Spotlight:** Grocery delivery company, Minnow, added a reuse fee to all of their weekly food delivery clients to implement reusable foodware, ice packs, and totes.



# Ready to take action?

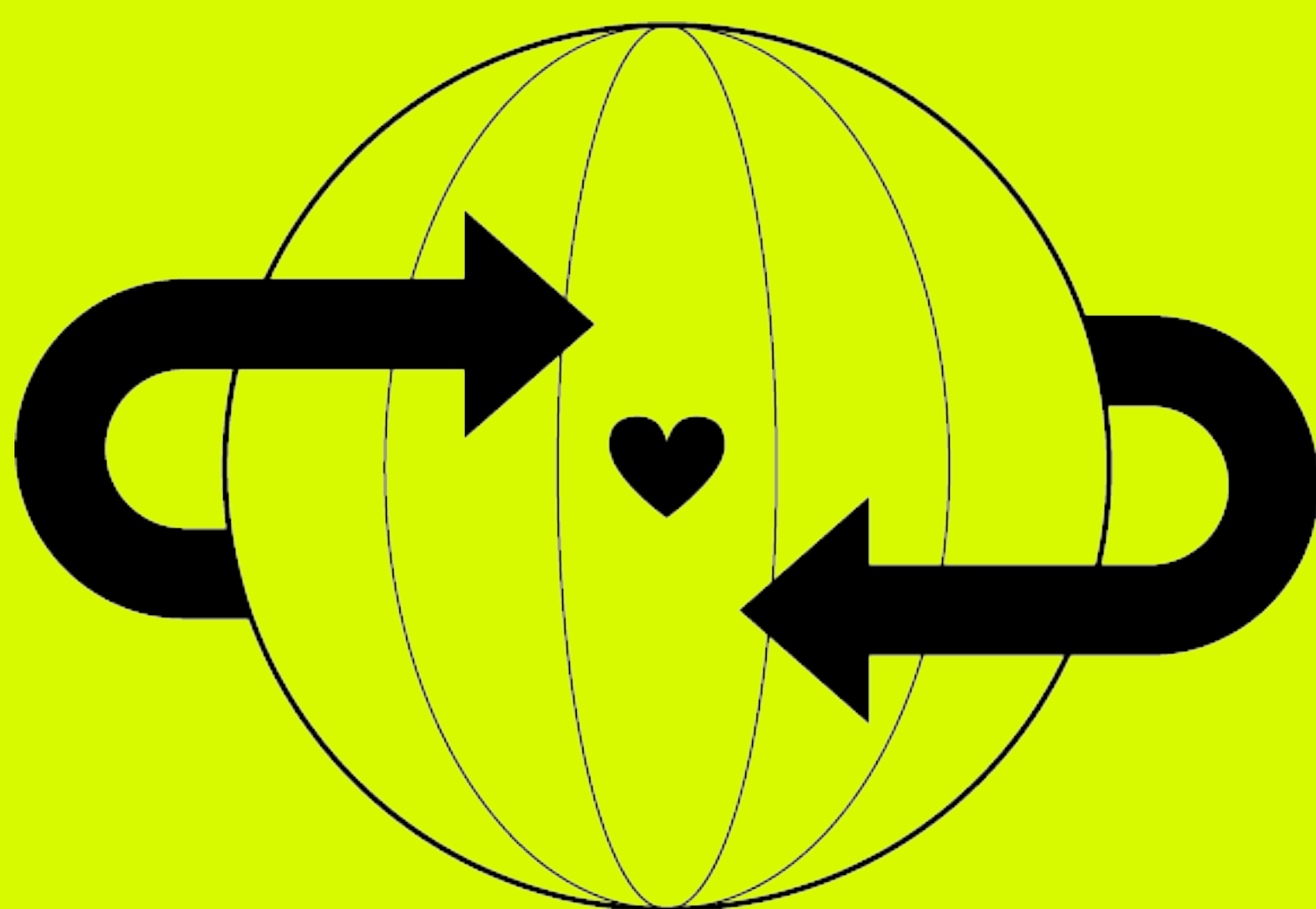
By now you've learned the benefits of reuse systems and explored which reuse return and funding model might work best for your organization. *So what now?*

The first step is to begin a conversation with Bold Reuse to help you start your journey to a more sustainable future. The possibilities for partnerships, collaborations and mitigating waste stream solutions with reuse are abundantly promising and exciting!

To learn more about how Bold Reuse can help, reach out [here](#).

## About Bold Reuse

Bold Reuse is on a mission to make reusable packaging easy for companies and people. We provide reuse solutions like sanitation, logistics, technology and strategy so businesses can scale reuse programs and hit their waste and business goals.



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