



Framework for Scaling Reuse

*The Elements
Necessary
for Reusable
Packaging to
Succeed*

RESOURCE



INNOVATION

GreenBlue is an environmental nonprofit dedicated to the sustainable use of materials in society. We bring together a diversity of stakeholders to encourage innovation and best practices to promote the creation of a more sustainable materials economy.

The Sustainable Packaging Coalition (SPC) is a membership-based collaborative that believes in the power of industry to make packaging more sustainable. We are the leading voice on sustainable packaging and we are passionate about the creation of packaging that is good for people + the environment. Our mission is to bring packaging sustainability stakeholders together to catalyze actionable improvements to packaging systems and lend an authoritative voice on issues related to packaging sustainability. The Sustainable Packaging Coalition is a trademark project of GreenBlue Org.



TABLE OF CONTENTS

Introduction

1. Strategy
Best-fit Categories
Reuse as the Default

2. Design
Delivering Value to Consumers
How to Create Fewer Barriers
How to Deliver More Benefits
 Sharing and Standardizing Packaging and Infrastructure
 Growing Viable Business Models

3. Collaboration
Reuse Service Providers
Industries and Sectors
Cities and Regional Leaders

4. Advocacy
Supportive Policy
Systems Change

Conclusion

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Clickable links throughout this resource to useful external resources are highlighted in SPC blue



INTRODUCTION

How should companies approach reusable packaging in order to ensure success?

It's not enough to set goals around reusable packaging, to ban single-use packaging at a local level, or ask consumers to bring their own containers when shopping and dining. If we want reusable packaging to be adopted by companies and consumers alike, we need to think differently about all the components of the reuse system that need to be in place for long-term, widespread adoption and engagement. What are those components? **This Framework outlines how companies should think about and approach reusable**

packaging in the long-term to create successful systems. It covers reuse opportunities for packaging of food and other consumer packaged goods, including primary as well as secondary and tertiary packaging, and single-use items used in food service including cups, clamshells, plates, cutlery. Its four sections - Strategy, Design, Collaboration, and Advocacy - answer critical questions about the who, what, and how of successful reusable packaging.



1. Strategy

Which packaging should be reusable?

Best-fit Categories: Focusing on the best categories for reusable (returnable and refillable) packaging for greater adoption and lower costs.

Reuse as the Default: Using the concept of Reuse as the Default (RAD) to guide how stakeholders should approach implementation of reusable packaging.

2. Design

How should businesses establish reusable packaging?

Delivering Value to Consumers: Outlining the strategies for creating fewer barriers and delivering more benefits in order to drive consumers' positive behavior change.

Sharing and Standardizing Packaging and Infrastructure: Outlining the importance of packaging format standardization and shared infrastructure as a key mechanism for efficient and cost-effective reuse systems.

Growing Viable Business Models: Exploring what is necessary to create economically-viable business models for returnable and refillable packaging.



3. Collaboration

Who is critical for reuse?

Reuse Service Providers: Partnering with reusable packaging and reverse logistics providers who can supply the physical reusable packaging as well as service the program with technology, reverse logistics, and other capabilities.

Industries and Sectors: Exploring how stakeholder groups with common interests, such as retailers, can deploy a coordinated approach to reusable packaging.

Cities and Regional Leaders: Exploring how regional programs can be a key tool for getting reusable packaging programs to scale.

4. Advocacy

What else is needed?

Advancing Supportive Packaging Policy: Grounding scaled roll-out of reusable packaging in current and upcoming packaging policy such as extended producer responsibility (EPR) programs

Systems Change: Building on the other elements in the Framework to grow a new reuse system in place of existing single-use systems.



New to reusable packaging? Essential foundational information about reusable packaging, including definitions of refillable and returnable packaging, a discussion of common misconceptions about reuse, the goals of reusable packaging, and ways to measure success are outlined in more detail in the SPC's Guidance for Reusable Packaging:

Start Here: SPC's Guidance for Reusable Packaging





This Framework aims to clear the confusion and dislodge the standstill that many companies are currently facing when it comes to implementing reusable packaging. In the past five years, large brands and retailers have piloted reusable packaging and have often not seen compelling results. Rather than interpreting this as a sign of reuse not being viable, we need to see this instead as a limitation of time and place-constrained pilots themselves. Many past pilots were designed with a trial mindset, rather than for long-term scale, and did not deliver value or appeal to a broad range of consumers.

Simply put, though they can be valuable in the short term, pilots are inherently limited in what they can teach us about long-term consumer adoption and scale for reuse. If brands launch reuse in a limited capacity with just one product line, one mode of return, one location, or one retail partner, they are unlikely to impress consumers or reach cost-parity with single-use options. Rather, their pilot retrospective will probably determine that consumers wished the reusable option was simpler, cheaper, more accessible, and more convenient. Without scaled solutions, consumers will struggle with a pilot’s limited scope or the extra steps involved, which inherently sets the pilot up to fail.

Consumers want reuse to match the experience they currently have when shopping and dining—one of

convenience, frictionlessness, and ease—and that requires companies to move from pilots to scaled solutions. When that happens, consumers will be eager to engage with reusable systems that are widely available, well-integrated, and cost-effective. Scaled solutions will offer consumers the value they are looking for as a reward for the behavior change involved.

The good news is that examples of these scaled solutions already exist globally in Europe, Mexico, parts of Asia, and Latin America. In these countries, consumers are already used to a system of returnable bottles for drinks, and even in the US, consumers are intimately familiar with refill systems such as soda fountains, home carbonators for drinks, home and office water dispensers, and more. **Reusable packaging is possible - it just needs to be scaled.**

With this comprehensive framework, companies can go beyond pilots, make meaningful progress on their reuse commitments, and accelerate a transition to a lasting new system that supports reuse at scale. Make the best use of this Framework by sharing it with key stakeholders and facilitating a discussion based on the Questions at the end of each section.

Reusable packaging is possible - it just needs to be scaled.



1. Strategy



Which packaging should be reusable?
Companies should prioritize implementing reuse in best-fit categories and use a “reuse as the default” approach to set their reusable packaging programs up for success.

BEST-FIT CATEGORIES

For reusable packaging to be successful, companies should start by focusing on the right product categories. This ensures that the energy on accelerating reusable packaging is prioritized for those product categories where there is likely to be high consumer adoption and lower implementation costs. What are these categories?

First, it is helpful to understand the criteria that leads certain types of packaging to be better suited for reusable packaging. Typically, reusable packaging works best for products that have some of the following variables:

High Use and Purchase Frequency
The more frequently an item is purchased, the greater the opportunity to replace single-use products. Reusable packaging for these items would be returned and recirculated frequently. For example, personal care and home care products such as shampoo and detergents, beauty products such as sunscreen, certain pantry food items, and supplies for work environments are all consumed fairly quickly and have high levels of repeat purchasing.

Frequently-refunded
Items purchased online that are returned often (e.g., clothing, footwear), can be a good fit for reusable packaging, since these products are already being sent back by consumers when they don’t fit or match expectations. Today this is done with single-use mailers or secondary packaging, but could be replaced by reusable mailers.

Inadequate Protection
For some categories, the current packaging fails to adequately protect the product and there are chronically high loss or damage rates. For example, packaging like wine that is typically in glass can have high damage rates.

Closed Loop Systems
Reusable packaging can be very successful in contexts where there is already a “closed loop system” business model in place, such as with rental items or secondary/tertiary packaging, or in “closed loop” venues such as offices, stadiums, or airports.

Subscription Models or Existing Reverse Logistics
For products that use subscription and delivery models, such as groceries, personal care, and beauty, reusable packaging can be easily collected during the delivery of the next order. In states with Deposit Return Systems, refillable versions of beverage bottles or food containers can be collected through reverse vending machines and other existing take-back programs.

Specific Quantities Desired
For certain categories, purchasing a specific quantity of product is important, such as a special type of detergent or cleaning product that is only being used for a specific application. Consumers may express a desire to purchase less or more than the standard quantity sold, and this can be more easily facilitated through refillable packaging where consumers choose their desired quantity.

Displayed at Home
For products that are often stored in the open or on display in the home (e.g. soap dispensers, room sprays), reusable packaging can have the added benefit of a more durable, “counter-worthy” design that is important to the consumer.

Existing Packaging is “Reuse-ready”
For some formats, like wine bottles and condiment jars, existing filling and washing technologies can be used if the packaging was reused. This is an attractive category for conversion to reuse because all that’s needed is to upgrade to wash-off labels.

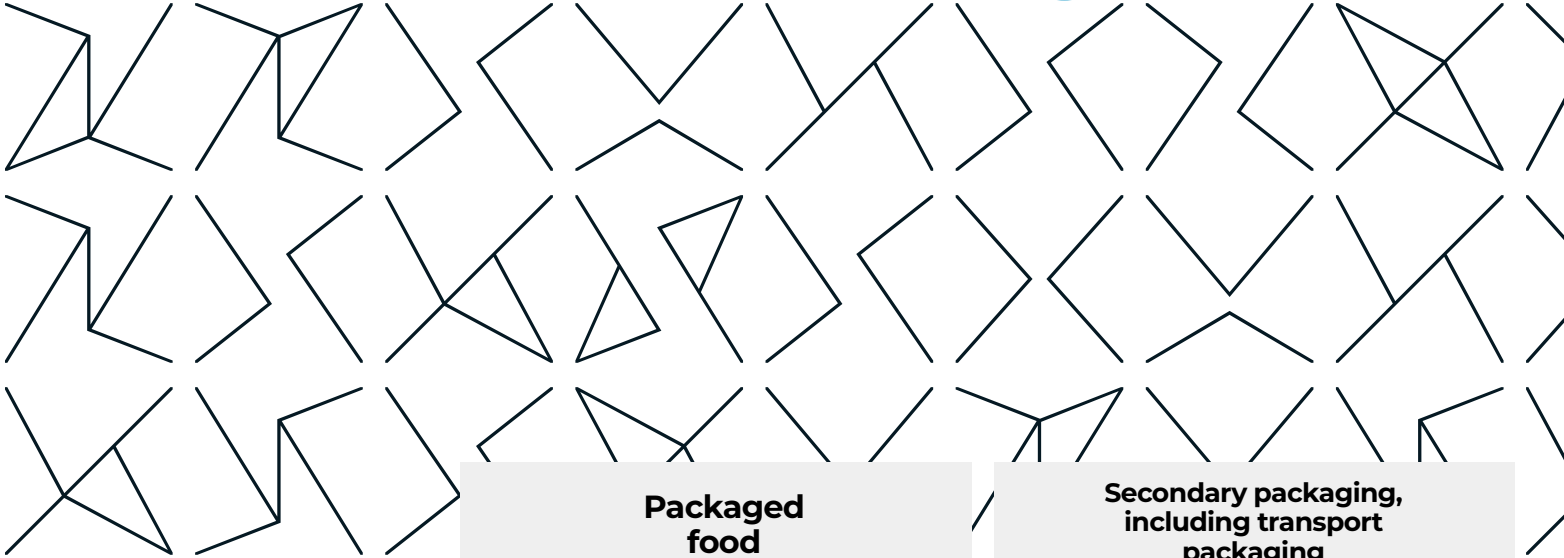
In all of these contexts, reusable packaging is much more likely to be successful because of high refill and return rates, which are a requirement for program cost effectiveness and viability. If the reusable item is purchased or sent back frequently, it will take fewer cycles for the packaging to break-even - that is, reach a point where the environmental impacts of reuse are equal to or less than the environmental impacts of single-use.

According to Zero Waste Europe’s Reuse Vanguard Project (RSVP) (see: [Making Europe transition to reusable packaging systems](#)), after using a funnel approach that evaluated a list of hundreds of consumer products, three categories were selected as the “most susceptible” to transition to reusable packaging: **beverages, take-away**

(take-out) food and beverage containers, and e-commerce packaging.

Similarly, a 2022 [McKinsey analysis](#) identified the following categories as optimal for reuse: beverages, food service, packaged food (in particular, dry bulk products such as rice, flour, and pasta that have low packaging barrier property requirements), home care, e-commerce packaging, and retail secondary/transport packaging.

Based on the SPC’s criteria and other key industry and NGO reports, the SPC recommends developing returnable and refillable packaging models for the following categories of products:



Beverage Bottles

Refill Again - How a 10 percentage point increase in reusable beverage packaging can help save the oceans by eliminating over 1 trillion single-use plastic bottles and cups - Oceana

Ellen MacArthur Foundation: Scaling Returnable Packaging - recommendations for beverage as a category

Upstream: The New Reuse Economy - recommendations for beverage bottles

OPLN / Meridien / Upstream - 2023 Reuse Refill Playbook for Retailers - Guidance for beverage

Food service, including takeout containers and to-go cups

Upstream: Reuse Wins - The environmental, economic, and business case for transitioning from single-use to reuse in food service

The Future is Returnable - A Circular Approach to Hot Drinks - City to Sea

Upstream: The New Reuse Economy - recommendations for food service

Upstream: The reuse outreach playbook - manual for conducting outreach to food businesses

Zero Waste Europe / Reuse Vanguard Project - Deciphering EUs packaging landscape for delivery and takeaway food: Quantification of environmental aspects for the disposable packaging of delivery and takeaway food for the Netherlands, Belgium, Germany, France, Spain and EU28 through iterative collaborative research

Tomra, Zero Waste Europe, and Reloop: Assessing Climate Impact: Reusable Systems vs. Single-use Takeaway Packaging

McKinsey: The potential impact of reusable packaging (cost scenarios)

Closed Loop Partners: Bringing Reusable Packaging Systems to Life (2021) - Lessons learned from testing reusable cups in the field in California

Closed Loop Partners: A Showcase of Bring-Your-Own Cup Initiatives from across the U.S. (2024)

Retail bags

Beyond the Plastic Bag: Sparking a sea change for reuse | Closed Loop Partners - Key insights and analysis gathered from collaborative reusable bag pilots conducted across select CVS Health, Target and Walmart stores throughout Northern California in 2021

Key Insights From The Consortium To Reinvent The Retail Bag’s Playbook | Closed Loop Partners - Interviews, surveys and learnings from 17 of the world’s leading retailers across four key categories on how retailers can use fewer single-use bags and encourage customers to bring their own reusable bags: communications, employee training, bag and fixture design, and customer incentives

Packaged food

OPLN / Meridien / Upstream - 2023 Reuse Refill Playbook for Retailers - Guidance for snacks, beverage, and pet food

Upstream: The New Reuse Economy - recommendations for consumer packaged goods

Home and personal care products

OPLN / Meridian / Upstream - 2023 Reuse Refill Playbook for Retailers - Guidance for skincare and household cleaners

Ellen MacArthur Foundation: Scaling Returnable Packaging - recommendations for home and personal care products as a category

Secondary packaging, including transport packaging

Reusable Transport Packaging

2023 - Reusable Transport Packaging State of the Industry Report

E-commerce packaging such as mailers

Fashion for Good: The Rise Of Reusable Packaging

McKinsey: The potential impact of reusable packaging (cost scenarios)



Companies and policymakers should focus efforts on first bringing a handful of key product categories to meaningful, widespread scale for reuse. By aligning as an industry on what the priority categories are, companies can better focus their innovation and implementation efforts on categories where reuse makes the most sense. For these seven categories, reuse is most likely to add value to consumers and drive down environmental impacts through high return rates.

Questions For Companies Taking Action:

1. What percentage of our product portfolio aligns with the seven best-fit categories for reuse?
2. Which best-fit category could we start with for reusable packaging?
3. Have we already experimented with reusable packaging for any of the best-fit categories?
Have our peers or competitors already experimented with any of the best-fit categories?



More Success Stories

The Coca-Cola Company's [Universal Bottle](#), a reusable PET bottle design introduced in Latin America in 2018, can be used across multiple brands in the beverage space.



Reusable food service cups and containers are well-suited to replace single-use across a variety of venues, as outlined in a number of [success stories from businesses using r.World reusable serveware](#).





REUSE AS THE DEFAULT

As companies pursue reuse for best-fit categories, they should also explore a new mindset: **reuse as the default, or RAD**. RAD is a reusables-first approach to packaging and services. It means defaulting to offering returnable and refillable options first and offering disposable alternatives second.

For reusable packaging to succeed, companies, policymakers, and innovators need to adopt a mindset of RAD. Instead of trying to launch reusable options as optional add-ons to food service, e-commerce, and retail models where most products are in single-use packaging, RAD redefines the norm. It asks, what if we started with reusables?

Examples of large companies implementing reuse as the default can be found across continents. One leading example is IKEA's Restaurants, which can be found in 460 stores across 61 countries. These locations feed over 680 million people each year with hot and cold food, beverages, and desserts, and they do this while defaulting to reusable plates, cups, and silverware.

Reuse as the default is not an entirely new concept. The dentist's office, a hotel room, the hair salon, the sit-down restaurant - more often than not, these places are using both durable products - dental tools, hairbrushes, sheets - and durable packaging - trays, plates, soap dispensers - that get cleaned and sanitized between uses.

In these settings, durable products are often equated with quality, and consumers are accustomed to being offered the durable, non-disposable option. To maximize adoption of reuse, lower costs, and provide a superior consumer experience, the RAD mindset can be applied to all other product contexts where reuse makes sense (see [Best-fit categories](#)).

The value of approaching reuse as the default is that it **simplifies the switch to reuse, for both companies and consumers**. With pilots or an opt-in approach, companies are essentially doubling their work - offering the reusable option, the collection infrastructure, and the washing alongside the current single-use packaging. This often means training employees to deal with two streams - the reusable and the single-use - as well as sourcing two kinds of packaging and using twice as much shelf space. To achieve the best consumer engagement, brands have to teach customers how to participate in the reusable option as opposed to the single-use option, and convince them why they should do so.

By switching what's offered as the default, a company can focus on just one thing. Except now, instead of single-use, it's reuse. The goal becomes building a reusable offering that's scalable, cost-effective, lower impact, and valuable to consumers.

Reusable items and packaging are already the default in a variety of situations - consider ice packs, crates, propane tanks. However, as more and more companies branch out into new categories, **reusable packaging solutions won't be effective if companies offer them on a limited scale**.

The “reuse as a default” approach asks companies to reframe how they approach reuse, applying a “default” to reusable packaging so that the benefits of other important elements - for example, standardization and consumer value - can have a chance to be realized.

Questions For Companies Taking Action

1. How might we use a default approach in our reusable packaging strategy?
2. Where can we make reusable packaging the first option for consumers, instead of single-use?
3. Where can we make reuse the first option in business-to-business settings?
4. What public policies can we support to make conditions more favorable for reuse as the default?
5. Where can we strategically invest, alone or with public or private partners, to help put reuse infrastructure in place?





Here is what reuse as the default might look like in a variety of other scenarios:

ACROSS AN AISLE

Imagine - a consumer steps into the home cleaning aisle and all the products are available in dispensers and refill pouches. These are all interchangeable with empty containers the customer has at home, because brands have come together to align on the optimal shape and nozzle size for these types of product.



Already available today:

The shape of many detergent bottles and cleaning bottles are already largely standardized and can be further coordinated across product lines. **På(fill)** is a circular service from Nordic conglomerate Orkla Home and Personal Care that makes home refills for soap, laundry, and other cleaning products. Using standardized shapes and sizes while giving space to product labels and brand marketing creates efficiencies across filling, collection, and washing.

AS THE DEFAULT WAY TO SEND AND RECEIVE ONLINE PURCHASES

Imagine - a customer orders from any major online retailer and receives their item in a standardized reusable mailer. This mailer is managed and serviced by a third-party solutions provider that can then be picked up by FedEx or UPS, picked up by USPS or taken to the post office, or dropped off a participating retailer.



An alternative to cardboard boxes used to ship online purchases, **Boox** offers turnkey services to replace single-use boxes with reusable alternatives. Participating online retailers and brands can pack and ship using the custom-branded reusable boxes, while Boox recovers the boxes from customers and extends their life in a closed loop system.

ACROSS A PRODUCT CATEGORY

Imagine - a customer receives the product in reusable or refillable packaging, regardless of where they purchase it. The packaging is reused for the same purpose by another brand, with support from a reverse logistics provider who enables the collection and filling of a product.



ecoSPIRITS is a circular economy technology company that has developed the world's first low carbon, low waste packaging system for premium spirits and wine. This category is well-suited towards further reuse and standardization because the products already use standardized formats and sell products in large volumes directly to businesses.

More Success Stories



Aarhus Denmark: in 2024 the Danish city of Aarhus (home to 330,000 people) **launched a three-year trial program** to offer a deposit system for reusable takeaway packages. Over 44 cafés and bars in the center of the city are interested in participating in the project, which uses **TOMRA's robotic collection systems** to collect reusable cups from a variety of locations across the city. The system is designed as an open system, meaning packaging from different packaging providers can be returned 24/7 to a shared infrastructure of automated collection points throughout a city.



In the city of Petaluma, CA, Closed Loop Partners has led an initiative that includes a variety of restaurants, from Starbucks to local cafes, all piloting a **shared default reusable approach to cups**.



2. Design

How should businesses establish reusable packaging?

Companies should establish reusable packaging programs that first and foremost aim to deliver new value to consumers, using shared packaging and logistics that help build reuse business models with long-term viability.

DELIVERING VALUE TO CONSUMERS

In order for reusable packaging to succeed, companies will need to deliver new value to consumers. They will need to do this while simultaneously tackling the barriers related to the behavior change involved in adoption, sign-up, use, and refill or return. The value to consumers is naturally enhanced - and traditional barriers for adoption such as convenience or cost are lowered - when other elements of the Framework, particularly [Reuse as the default](#) and [Sharing and standardizing packaging and infrastructure](#), have shaped a company's or region's approach to reusable packaging.

The challenges of consumer behavior change are not unique to reuse - consumers are asked every day to engage in unfamiliar and often-times inconvenient purchasing or use behaviors. For example, using QR codes, learning how to use detergent pods instead of liquid detergents, all required a period of consumer education and adaptation. Rather than attempting to “fly solo”, stakeholders implementing reusable packaging offerings should lean on the learnings from other sectors, particularly related to other sustainable lifestyle behaviors. Consumers are incredibly adaptable, having already learned how to charge electric vehicles, hire solar power contractors, drink plant-based milk and eat cultivated meat, and a myriad of other new, strange, or difficult sustainability behaviors. With time and the right approach, they can also be trusted to engage successfully with reusable packaging.

Consumer Reuse Journey: Awareness, Adoption & Sign-Up, Use/Reuse, and Return

fewer barriers to sustainable behaviors

Including a lack of skills, motivation, infrastructure, beliefs, etc.



more benefits from sustainable behaviors
(Functional, Emotional, or Social)



Adapted from BIG BRANDS, BIG IMPACT and Beyond the Plastic Bag

A useful guide to understanding behavior change has been developed by the social consultancies BSR and Futerra ([Big Brands, Big Impact](#)), which outlines a basic “Consumer Value Formula” that involves “thinking through the barriers and benefits a consumer evaluates when considering to engage in a certain behavior”. The formula is outlined below, and aims to “remove the barriers and shine a light on the benefits” in order to “deliver better consumer value from sustainability.”

One way to understand the consumer experience, offered in the Beyond the Plastic Bag report, is to break down the various steps along the “reuse journey” into the steps of Awareness, Adoption & Signup, Use & Reuse, and Return. For success, companies should identify barriers and add benefits to ultimately deliver greater value to consumers along the entire reuse journey.





HOW TO CREATE FEWER BARRIERS

The first part of delivering more value to consumers through reuse is to **reduce barriers to participation and engagement**. This is critical to ensuring adoption, equity, environmental impact, and efficiency.

There are ten common barriers to reusable packaging behaviors that apply across product categories. These barriers, along with topline solutions, are listed below.

	1	2	3	4	5	6	7	8	9	10
Barrier For Consumers	Lack of knowledge of the reusable offering	Confusion around how to participate	Difficulty remembering to participate / getting into the habit	Difficulty carrying items around or bringing them back	Additional costs	Too much technology required for sign-up or participation	Unsupportive situations <i>(e.g. "the reuse offering / behavior is not really a thing in the place where I shop/eat")</i>	Lack of availability or variety (e.g. being "locked in" to one product option)	Concerns about product quality, safety, and/or hygiene	Skepticism about environmental benefits
Solution	<ul style="list-style-type: none">• Reuse as the default approach• Diligent, multi-channel communication• Integration with existing processes and systems• Consumer-centric design			<ul style="list-style-type: none">• Integration with existing processes and systems• Delivering additional value	<ul style="list-style-type: none">• Viable business models• Delivering additional value	<ul style="list-style-type: none">• Integration with existing processes and system	<ul style="list-style-type: none">• Reuse as the default	<ul style="list-style-type: none">• Reuse as the default• Sharing and standardization	<ul style="list-style-type: none">• Diligent, multi-channel communication• Consumer-centric design	<ul style="list-style-type: none">• Diligent, multi-channel communication

To address one of the biggest barriers - difficulty remembering to participate in the reusable packaging offering - brands and retailers will need to be **diligent about communication**. Remind consumers to engage with reuse across multiple platforms - for example, include messaging at self-checkout, use geofenced digital reminders to send push notifications to customers' phones when they are near a participating store, and inform consumers with simple signage in key moments along the purchasing journey such as in the parking lot, at the front of the store, or checkout ([CLP Playbook](#)).

Indeed, Closed Loop Partners in partnership with the U.S. Plastics Pact led a consumer surveying initiative across a range of reuse systems identifying a need for persistent, multi-channel education and communication: "Messaging should saturate the customer journey through in-store prompts such as physical signage and outside of the

store through emails and in-app reminders. A diversity of approaches is needed."

Diligent communication will also help to tackle the confusion around how to participate. It is important to distill reuse into simple, memorable steps - to present reusable packaging as an easy way to reduce single-use plastic. [Recent surveying](#) shows that the explanation of the reuse offering should break the process into simple steps like "Buy", "Use" and "Return". For consumers who have concerns about product quality and hygiene in reuse systems, or are skeptical about the environmental benefits, clear, simple messaging can describe how the cleaning process works or the value of certain material choices. It may not be necessary to lead with these talking points; rather, the information should be easily-accessible for consumers who have these concerns.

One way to reduce several of the barriers is to **integrate reuse as much as possible into existing operational processes and technologies**. Closed Loop Partners' [2021 research into reusable cup systems](#) based on their in-market pilots argues that, particularly when it comes to adoption and returns of reusable cups, companies need to "identify integration opportunities – consider which components within current operating systems (especially POS and mobile apps/payments) are capable of, and ready for, integration." This also helps to tackle one of the top 7 barriers - the burden of too much technology required for sign-up or participation. [Surveying](#) identified that consumers strongly prefer "a streamlined, straightforward enrollment flow, with minimal technological hurdles to cross. Introducing more than two extra steps into the sign-up process quickly becomes burdensome for customers, revealing a clear preference for "tech minimalism." For

example, reusable service provider DeliverZero has [integrated with Toast](#) to offer reuse as an option in the ordering platform, instead of having to use a separate DeliverZero app.

Other barriers are addressed through other foundational elements of this Framework. For example, the problem of more limited options or choices (when it comes to both products as well as participating retail or restaurant locations) is addressed by "providing ample convenience through retailer partnerships, geographic reach and abundant pickup/dropoff points" and "having reusable packaging embedded across diverse shops, restaurants and brands" ([CLP](#)) - **by having reuse be the mostly widely available option for how products are packaged and where they are available**.



HOW TO DELIVER MORE BENEFITS

The second part of delivering more value to consumers through reuse is **to create more benefits from participation**. For consumers, being able to associate reuse with new or enhanced benefits can help outweigh any new, difficult behaviors or extra costs. What might these new benefits look like?

Companies can use the switch to reuse as an opportunity to explore and offer more of what consumers want from both their product and their packaging, such as:

- Financial benefits (e.g. lower cost-per-use or only buying what you need)
- Easier-to-use product or packaging
- More beautiful, “counter-worthy” packaging
- More effective, well-designed packaging
- Social signaling
- Emotional connection to a product
- Positive emotions
- Loyalty points or programs

There are many behavior economics principles that can be applied to reusable packaging offerings - key resources in this space include Bridgeable’s [Designing for Behaviour Change Toolkit](#) for designer’s and the Behavioral Insights Team’s [EAST \(Easy, Attractive, Timely, Social\) Guide](#).

When selecting strategies to nudge or influence consumer behavior, consider that some may be more effective than others. Strategies with a greater level of intervention - such as eliminating or restricting choice or guiding choice through

Consider how nudges and behavioral interventions can help to deliver these benefits. For example, environmental non-profit WRAP and the Swedish Environmental Protection Agency’s [Green Nudges Playbook](#) highlights the following behavioral nudges to encourage consumers to switch to or stay with a reusable offering (specifically, reusable cups). Note that some of these are aimed at reducing barriers, accelerating other elements outlined in this Framework.

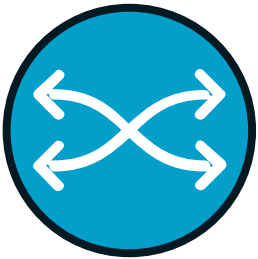
- Use credible and relatable messengers
- Reward or incentivise behavior
- Stimulate helpful social norms by illustrating other people’s reuse behavior
- Switch all defaults in favor of reuse
- Boost the visibility of reuse
- Frame the nudge messaging to highlight social norms
- Encourage strategic commitments to reuse
- Encourage the formation of new habits that facilitate reuse
- Provide awareness on single-use consumption
- Provide services that make reuse easier
- Personalize any offers
- Prompt about reuse at relevant time points

incentives and disincentives - are generally more effective than low-intervention strategies like providing information. Below, the Consumer Goods Forum has outlined how companies can launch more successful initiatives:

Key Findings to Launch More Successful Initiatives in the Future

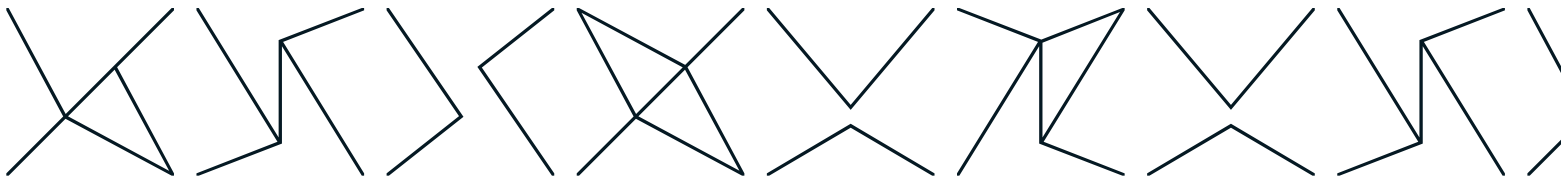
Tactics involving a higher degree of intervention seem to be more effective and their impact is enhanced when several of them are combined

To maximize impact, **mix and match financial incentives with tactics from other categories**



Greater level of intervention	Eliminate/Restrict Choice	Regulation-based Interventions		Most effective tactic*
<div></div>	Guide choice through incentives/disincentives	Rewards <ul style="list-style-type: none">• Habit formation• Financial incentives	<ul style="list-style-type: none">• Gamification• Clawback incentives	<div></div>
	Change the Default	Self-Identification <ul style="list-style-type: none">• Identity priming Choice Architecture <ul style="list-style-type: none">• Active choice• Smart defaults• Increase of salience	<ul style="list-style-type: none">• Personalization• Environmental restructuring• Behavior substitution	
	Enable Choice	Facilitation <ul style="list-style-type: none">• Check-list• Rules of thumb	<ul style="list-style-type: none">• Reduction of cognitive load• Reminders, cues, or prompts	
	Provide Information	Rewards <ul style="list-style-type: none">• Goal-setting• Behavioral activation• Feedback	<ul style="list-style-type: none">• Self-monitoring or tracking• Increase self-efficacy• Education or information	
Lower level of intervention				Least effective tactic*

Credit: Consumer Goods Forum’s Collaboration For Healthier Lives
*Notes: Based on interviews



More Success Stories



Reverse logistics provider [Dispatch Goods](#) reports that customers love to return their packaging, which translates to higher lifetime value, a reduction in customer churn, and a stronger affinity for their partner brands.

Reusable bag provider [goodbag](#) equips their reusable bags with NFC (near field communication) chips, so that every time customers bring their [Goodbag](#) to a store they can choose to plant a tree against climate change, clean plastic waste out of the ocean or receive a discount as a reward.



In making reusable cups available when ordering in store, at the drive-thru, or via their mobile app, [Starbucks](#) has worked to eliminate barriers and deliver more benefits to consumers. Customers wanting to participate in reuse are no longer restricted to ordering only in-store, and receive discounts on their order and/or 25 Bonus Stars in the Starbucks Rewards program.

Companies can deliver greater value to consumers along the entire reuse journey, reducing the ten most common barriers with strategies like diligent, multi-channel communication and integration with existing processes and systems. At the same time, companies must also ensure that consumers participating in the reusable packaging get more product-related, financial, and social benefits, such as positive emotion, social signaling, or loyalty points. Keeping consumers happy along their reuse journey may not always be easy, but it is ultimately no different than other brand engagement exercises, and companies who see reuse as a way to deliver new value can succeed in the challenge while differentiating themselves.

Questions For Companies Taking Action

1. How can our reusable packaging offering reduce the ten most common barriers facing consumers?
2. How can our reusable packaging offering create new value for consumers through product-related, financial, or social benefits?
3. Which of our unique brand benefits can we deliver through the use of reusable packaging?





SHARING AND STANDARDIZING PACKAGING AND INFRASTRUCTURE

To deliver more consumer value and drive down cost, companies should move towards standardized packaging design and formats, as well as shared packaging and reverse logistics infrastructure. Sharing and standardizing both the reusable packaging and reuse infrastructure as much as possible is essential for driving down cost (see [Growing viable business models](#)) and creating opportunities for repeatable behaviors across categories (see [Best-fit categories](#) and [Delivering value to consumers](#)).

First, it is helpful to understand the meaning of “standardization”. For reusable packaging, standardization can include:

- A shared structural format for packaging that can be used by many brands
- Shared infrastructure for collection, washing, and/or filling reusable packaging
- A shared approach to labeling reusable packaging and/or instructing consumers how to reuse it (e.g. wording, iconography)
- A set protocol for various reverse logistics activities (e.g. collection, washing, transport, etc.) that ensures health, safety, and efficiency



Standardization for packaging formats is not new. Shared designs are already used across many product categories to achieve efficiency without sacrificing opportunities for branding. The table below highlights some examples of shared packaging designs and formats across the best-fit categories outlined in the [Strategy section of this Framework](#):

BEST-FIT CATEGORY:

EXAMPLES OF EXISTING STANDARDIZATION:

Beverage Bottles



- Milk bottle shape, and in some cases, shared bottles
- Water bottle
- Beer bottle, and in some cases, shared bottles
- Wine bottle

Food service, including takeout containers and to-go cups



- Takeout clamshell shape
- Coffee cup shape

Retail bags



- Shopping bag shape and size

Packaged food



- Yogurt tub
- Glass condiment jar (e.g. pickles, sauces, jams)
- Aseptic carton

Home and personal care products



- Spray bottle
- Laundry detergent jug

Secondary packaging, including transport packaging



- Box
- Crate
- Overwrap

E-commerce packaging such as mailers



- Mailer envelope
- Box



The biggest concern companies have about standardization is **losing brand identity or opportunities for differentiation**. Especially for consumer-packaged goods companies, brands often employ unique shapes, materials, or colors that consumers use to readily identify products on shelf - take, for example, the iconic shapes and structures of Pringles, Coca-Cola, and Toblerone.

However, moving towards a shared structural design **does not eliminate opportunities for differentiation**. Pooled packaging can include unique parts or elements, such as lids and closures, as well as printable surfaces or removable labels that provide sufficient space for branding. A rounded top or lid can be added onto a standardized base, for example, to differentiate a product from its competitor, by essentially choosing from a catalog of interoperable packaging parts:



Credit: Jarbot Reusable Packaging System

Furthermore, brands are already frequently redesigning their packaging. In recent years, there have been several notable instances where companies moved away from their “iconic” shapes and colors for a variety of reasons, including sustainability:

- *Sprite moved away from their classic light green bottle color to improve recycling* ([Waste Dive](#))
- *Coca-Cola Beverages Africa uses a shared returnable glass bottle shape, including for brands that typically have different types of bottles like Coca Cola, Sprite, and Fanta* ([Food Business Africa](#))
- *Herbal Essences redesigned their unique shampoo and conditioner bottle shape to ones that use less plastic overall* ([Plastics Technology](#))

What about the need for custom solutions, such as custom sizes? Well-designed reusable packaging formats will consider the need for different configurations of reusable offerings that come in a variety of sizes or are able to meet the unique challenges of brands. In the example above, the Jarbot system offers larger volume containers that are still compatible with the system’s closures and filling equipment. Similarly, reusable secondary packaging provider [Returnity](#) manufactures solutions to meet a brand's exact size,

content protection, and branding requirements, but makes these newly-designed specifications available to all customers across their shared reverse logistics services. In Germany, the [German Wells Cooperative \(GDB\)](#) offers refillable beverage bottles for carbonated beverages and mineral water products as part of a managed pool system. Their iconic “Pearl bottle” design is available in 12 different formats, including different sizes and colors.



Opportunities and benefits unlocked with standardised or pooled packaging

✓ Some benefits unlocked ✓ Full benefits unlocked

Opportunities		With standardised packaging ONLY	With standardised AND pooled packaging
Reaching high scale to unlock economies of scale	Lower procurements costs	✓	✓
	Lower sorting and cleaning costs	✓	✓
	Ability to co-pack (share filling lines)		✓
Creating logistic efficiencies	Better transport utilisation (stackability, nestability, etc.)	✓	✓
	More efficient/easier filling	✓	✓
	More efficient/easier collection	✓	✓
	More efficient/easier cleaning	✓	✓
	More efficient/easier sorting		✓
	Smaller pool of packaging needed in the system		✓
	Consumption variation (seasonality) more efficiently managed		✓
	Reduce storage space/time (at any step of the value chain)	✓	✓
	Shorter reverse logistics time		✓
	Shorter transport distances		✓
Offering compelling customer experience	Recognisability of reusable packaging	✓	✓
	Ability for customers to reuse dispensing mechanisms like triggers/pumps at home	✓	✓
	Ease of return (e.g nestability, use of crates)	✓	✓
Other	Shared R&D	✓	✓
	Value chain standardisation for equipment	✓	✓
	Recycling (better quality recycling at end of life)	✓	✓
	‘Off the shelf’ returnable packaging that can be utilised by smaller players, lowering R&D and procurement costs barriers.	✓	✓

Why is standardization so critical for reusable packaging to scale? In short, it is a key enabling factor of systems change because it allows similar brands to use pooled packaging and shared infrastructure to save on costs, achieve high return rates, and develop more efficient—and low impact—programs. In fact, “packaging standardization and pooling are commonly recognised as the most important enablers of efficiencies within return systems” ([Unlocking a reuse revolution](#)). Standardization has a significant impact on cleaning, storage, and sorting efficiencies, and is critical to reducing transportation distances and - by extension - cost and environmental impacts. For example, there is an estimated 67% reduction in average transport distance between sorting/cleaning and filling for beverage bottles when packaging is standardized and pooled, and 83% for personal care bottles ([Unlocking a reuse revolution](#)).

Without standardization, deployment and success for reusable packaging will continue to be limited. The Ellen MacArthur Foundation modeled both bespoke and **pooled packaging, and found that pooled packaging was necessary to move beyond a “fragmented” effort** in which reuse has a market share of less than 2%.

Successful pooled packaging systems depend on standards and protocols for outlining the packaging design and appropriate labels, as well as the operating procedures for the reverse logistics. Oftentimes, these standards are created and managed by industry groups or non-profits. For example, the French producer responsibility organization CITEO has reviewed [design, specification, and testing standards for fifteen categories](#) of packaged and fresh food to inform the future of standardized reusable food packaging in France, with the goal of meeting a 10% reusables target by 2027.

Credit: “Unlocking a reuse revolution”, Ellen MacArthur Foundation



More Success Stories



Replenish's reusable spray bottles attach to pods with liquid concentrates ranging from cleaning to personal care, meaning consumers can use one bottle for a variety of purposes. The Replenish bottling platform can be adapted to all different product offerings, allowing companies to white label under their own brand without any development costs and get to market faster with a complete reusable, concentrate-based solution.

The **Milch-Mehrweg-Pool (MMP)** is an actively-managed reusable glass container pool in Germany, composed of 21 member companies sharing milk and cream bottles, yogurt and cream jars as well as their transport crates.

The **Swedish Return System** is a shared system of reusable crates and pallets used by the country's food and drinks industry. The system has over 1,500 participating businesses, resulting in over 50% of all fresh produce in Sweden delivered in reusable packaging.

Circolution is a smart reusable packaging provider that rents out reusable containers for packaged foods, takes care of reverse logistics and tracks containers throughout the journey

In North America, the group **PR3**, the Global Alliance to Advance Reuse, is working on the core requirements for aligning reuse systems between companies and brands. They are developing reusable system **design standards** to guide creation of large-scale, interoperable reuse systems, and are also collaborating with the Canadian Standards Association to develop bi-national standards.

Reuse standardization will also affect packaging policy, municipal collection programs, health and safety protocols, and reporting, and a number of groups have worked to outline what best practices would look like for each of these. General policy considerations and "essential criteria" for pooling packaging are included in Zero Waste Europe's **guide to pooled systems**. The World Economic Forum's Consumers Beyond Waste initiative has provided key considerations around cleaning, design, infrastructure, and other processes involved in reuse in their **Safety Guidelines**, **Design Guidelines**, and **City Playbook**. The WEF has also created a summary document for "**Developing a standardized approach for reuse measurement and reporting**".



Questions For Companies Taking Action

1. *For which product categories does our industry currently standardize packaging designs or formats?*
2. *What potential branding or operational concerns do we have about standardized and/or pooled packaging or shared infrastructure?*
3. *Which suppliers, peers, or retailers can I talk to about starting to use shared designs or pooled packaging or infrastructure?*

Companies should identify opportunities to participate in and deploy standardized packaging design and formats that will be compatible with shared infrastructure. This will be critical to lowering costs for reusable packaging systems and building out efficiencies of scale, and is a critical driver for systems change.

GROWING VIABLE BUSINESS MODELS

Scaling reusable packaging will require companies to grow economically viable business models for returnable and refillable packaging.

A systems approach is needed when weighing the true costs of reusable packaging versus today's single-use packaging systems. This is because the life cycles of single-use and reusable packaging are fundamentally different, with different capital and operational costs. For example, reusable food containers incur electricity, water, and detergent costs during the washing phase. Meanwhile, single-use packaging may require payment of specific taxes, disposal collection and recycling charges, and continuous purchasing of new products. To analyze the cost of reuse versus single-use, businesses need to consider the **full range of upfront, indirect, and recurring costs** associated with both forms, many of which are difficult to quantify or are not fully known.

On one hand, studies show that most reusable packaging systems break-even with single-use systems within several years, despite the additional costs associated with reuse, and that cost parity or even savings are possible. Zero Waste Europe's report, "**The economics of reuse systems**", conducted a cost-benefit analysis for three types of reusable packaging and found that return on investment (ROI) varied by reuse system, but can typically be reached between the second and sixth year of a program (see below). A report by **Circular Economy Portugal** found long-term cost savings for hotels, restaurants, and cafes using reusable food containers, beverage containers, and household care products, even with relatively low category-wide conversion (e.g. 10% of a category).

That said, reusable packaging systems often cost more in the short-term, especially if costs are incurred by a single entity, rather than shared across partners or a geography. For example, a **McKinsey** review of reusable e-commerce packaging in Germany and reusable food service containers in Belgium found a cost increase of 50-200% compared to single-use, largely driven by additional transportation costs. Companies should have realistic expectations about the equivalent per-package cost of a reusable option, and to view per unit cost as one factor, not a determining factor, in the success of a program. Finally, it is important to note that existing cost studies rely on estimates and assumptions, and that actual data from scaled reuse/refill programs is limited and more research is needed.



BEST-FIT CATEGORY:

SAMPLE COST IMPLICATIONS
AND/OR ROI FINDINGS:

Beverage
Bottles



- End-to-end costs range from 21% less than single-use in well-designed reuse systems, to 97% more than single-use in less optimized scenarios (EMF)
- ROI can be reached between years 5 and 6 (Zero Waste Europe)

Food service, including
takeout containers and
to-go cups



- For food containers, ROI can be reached between years 3 and 4 (Zero Waste Europe)
- For cups, initial costs may be 80-90% more than single-use (McKinsey)

Retail
bags



- No cost data available

Packaged food



- Initial costs range from just 3% higher than single-use in well-designed reuse systems, to 141% higher in less optimized scenarios (EMF)

Home and
personal care
products



- For bottles in this category, end-to-end costs range from 23% less than single-use in well-designed reuse systems to 61% more than single-use in less optimized scenarios (EMF)

Secondary packaging,
including transport
packaging



- For flexible intermediate bulk container (FIBC) bags, ROI can be reached between years 2 and 3 (Zero Waste Europe)

E-commerce
packaging such as
mailers



- Initial costs for mailers are 50-60% higher than single-use (McKinsey)

There are also many **environmental and societal externalities** associated with single-use packaging, which are extremely difficult to quantify but are nonetheless important to note. For example, expenditures arising from the post-use effects of plastics, as well as from greenhouse gas emissions caused by plastic production, amount to **at least USD 40 billion annually**. These costs are paid indirectly by taxpayers, public authorities, and waste management companies, and may include:

- Cost of managing pollution from the single-use packaging supply chain, primarily during the manufacture and disposal or recycling of packaging
- Litter-cleanup management and costs
- Health impacts from the manufacture and disposal of single-use packaging, especially in low-income and historically marginalized communities such as Cancer Alley in Louisiana
- Environmental and health impacts from microplastics
- Reputational risk and lost revenue or sales due to consumers avoiding single-use packaging

It is also important to note that today's ROI calculations and packaging costs are not a predictor of future conditions. In fact, as reuse systems mature and single-use packaging becomes increasingly disincentivized by regulation and society, **reusable packaging is likely to decrease in cost, while single-use packaging is likely to increase in cost**. This change is likely to be accelerated by the following factors:

Factors Impacting the Cost of Single-Use Packaging:

- Extended producer responsibility (EPR) fees leveraged on single-use packaging
- Virgin or single-use plastic taxes or carbon taxes on manufacturers, leveraged separately from EPR programs
- Increase in direct cost of materials for manufacturing single-use packaging, especially when recycled content is required
- Disposal fees for single-use packaging, including:
 - Direct disposal fees for the manufacturer
 - Direct disposal fees for the user
 - Additional fees leveraged through EPR programs for non-recyclable packaging

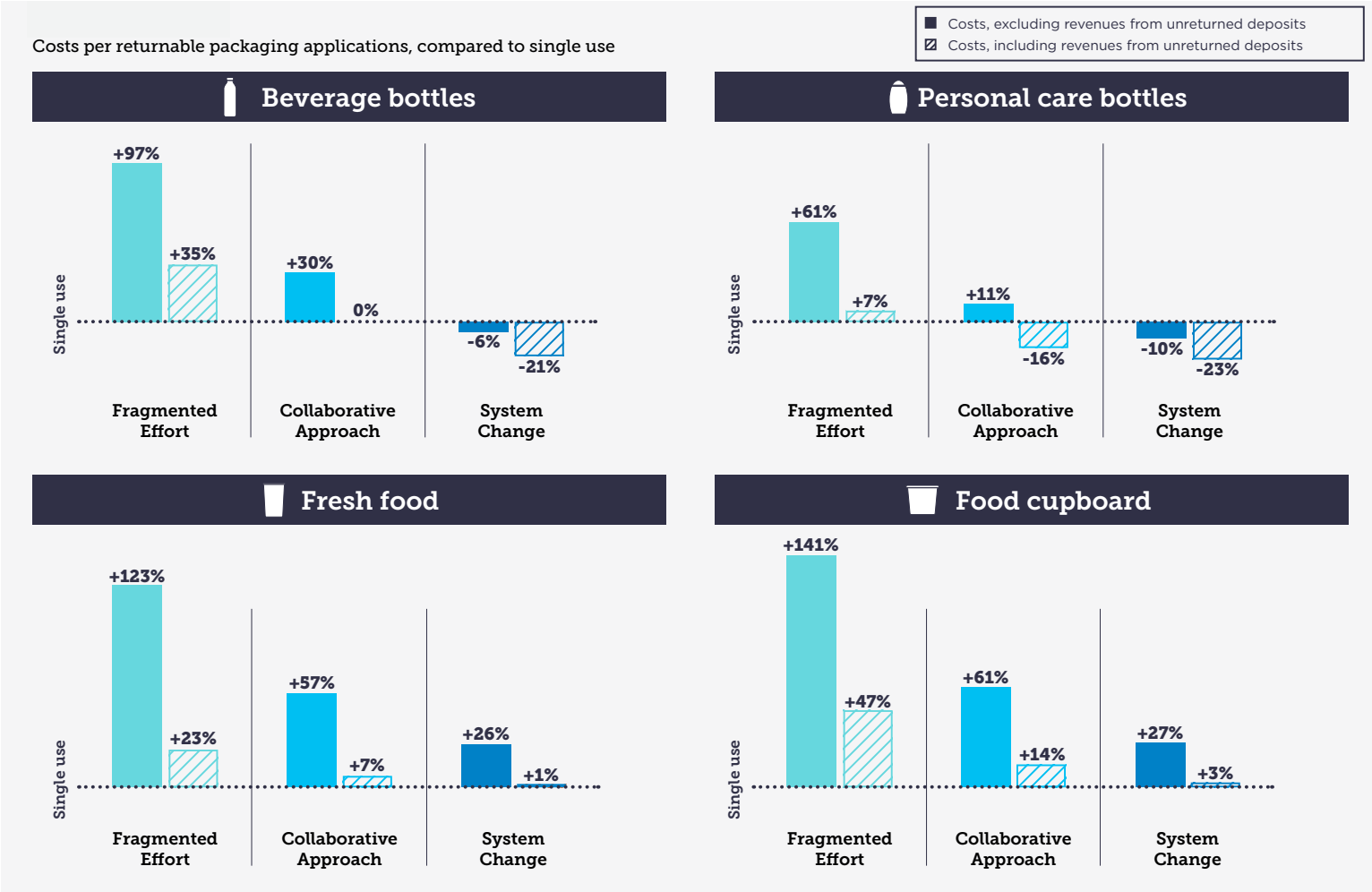
Factors Impacting the Cost of Reusable Packaging:

- Decreasing costs for starting and managing reusable packaging programs, including:
 - Higher standardization of packaging, leading to efficiencies of scale for manufacturing, filling, and collection
 - Lower transportation distances as reuse infrastructure becomes more widespread
 - Shared reuse filling, washing, or collection infrastructure
 - Higher return rates for reusable packaging
 - Reduced costs during transportation and washing as a result of format optimization
- Fees leveraged to participating businesses:
 - A pay-per-use fee, charged to businesses (not consumers) by reusable service providers, such as in the case of food service containers or secondary transport packaging
 - Fees charged to users for not returning reusable packaging



Indeed, the Ellen MacArthur Foundation’s [2023 report on returnable packaging](#) clearly outlines the trend-line for the increasing cost of single-use packaging:

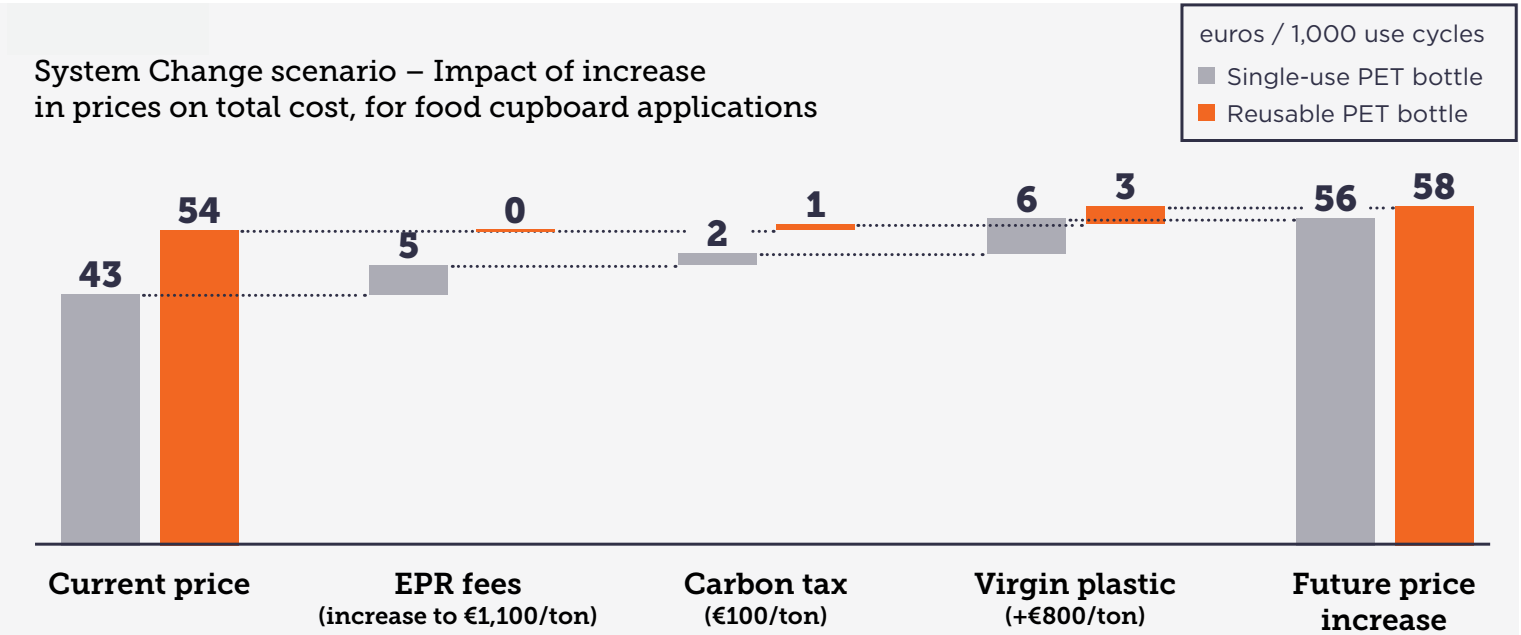
“It is widely expected that the full life-cycle cost of single-use packaging will increase, strengthening the business case for returnable packaging. With expected changes in regulation to fully account for packaging’s end-of-life cost, externalities such as pollution and GHG emissions, and investor priorities, the cost of single-use packaging looks set to rise.”



The viability of reusable packaging is inextricably linked to other systems factors outlined in this Framework, particularly [policy levers](#), [standardization of packaging design and collection](#), and higher return rates when reuse is approached through the lens of [systems change](#).

This is represented in the latest modeling from the Ellen MacArthur Foundation. Their “System Change” scenario, which is defined as “a visionary scaled, shared, and standardized return system” with a reuse market share of around 40%, highly shared infrastructure, pooled packaging, and return rates of ~95%, resulted in some product categories with reuse costs that are 23% lower than single-use.

[Policy levers are particularly important in driving down cost](#). The EMF study projected potential increases in Extended Producer Responsibility (EPR) fees for flexible packaging, carbon taxes, and plastic taxes. For the “food cupboard” category, which has higher costs for reuse than single-use even in a System Change scenario, policy instruments will be critical for creating a more level playing field. For example, the combinations of EPR fees and taxes result in reusable PET bottles that are only 2 euros more expensive per 1,000 use cycles than single-use PET bottles. It is difficult to overstate the importance of policy - open loop reuse systems are unlikely to achieve economic viability without supportive policy mechanisms.



Credit: “Unlocking a reuse revolution”, Ellen MacArthur Foundation

More Success Stories



Reusable service and technology provider **Topango.io** has created a reusable ROI calculator and further explains ROI for reusable programs in this [blog post](#).

A study exploring the economics of reuse for **street vendors in India** highlighted reduced costs for vendors and customers, a significant reduction in packaging stock, and a promising 21% ROI with a 2.3-year payback period.

A [cost comparison model](#) for reusable transport packaging explores how manufacturers and distributors can save money with reusable bulk containers and totes.



Checked-out to customer
Container #AB456
Customer #1235
Location: Hollywood
Date: Nov 2

Returned
Container #AB456
Customer #1235
Location: Venice
Date: Nov 4

Due back date
Nov 5

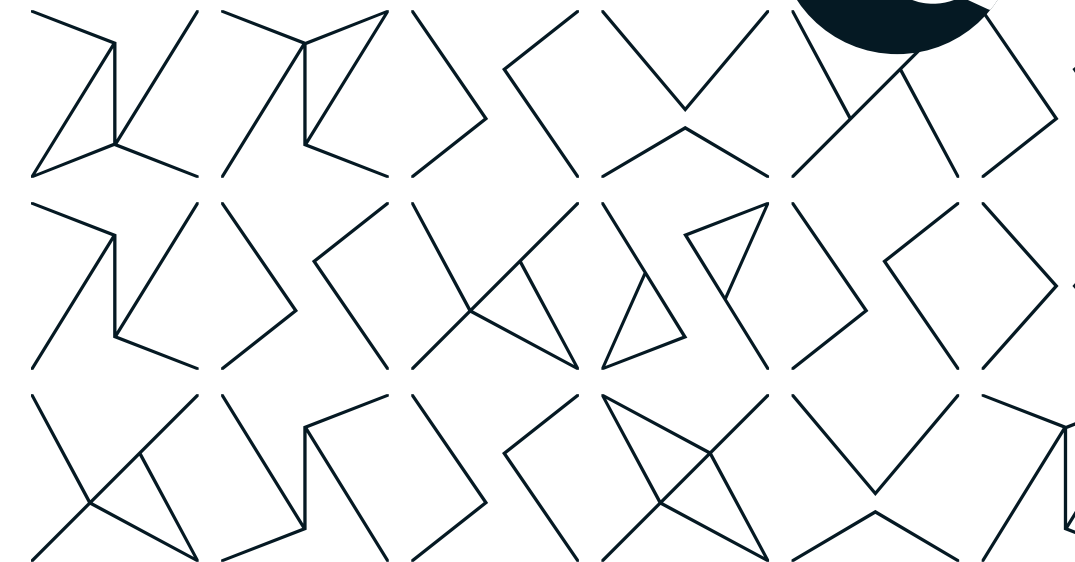
Washed
Location: 3rd Party Warehouse
Date: Nov 6

Restocked
Location: Venice
Date: Nov 7

As companies build reusable packaging models, they will need to be realistic about the upfront costs of reusable packaging, while also considering how to more fully measure the externalities and future costs associated with single-use packaging. To successfully create cost-competitive reusable packaging systems, companies will need to leverage other elements of this Framework, particularly standardization and supportive policy mechanisms.

Questions For Companies Taking Action

1. Do our company's models and assumptions about the cost of single-use packaging include projected extended producer responsibility (EPR) fees, virgin or single-use plastic taxes, carbon taxes on manufacturers, increase in direct cost of materials, or disposal fees?
2. Do our company's models and assumptions about the cost of reusable packaging include the impacts of greater standardization of packaging, shared reuse filling, washing, or collection infrastructure, or growth of return rates?





3. Collaboration

Who is critical for reuse?

Companies should work with reuse service providers, as well as peers in their industry or sector and regional municipal leaders, to scale existing solutions across product categories.

REUSE SERVICE PROVIDERS

Rather than trying to develop reuse programs on their own, companies should work with packaging and reverse logistics providers who can supply the physical reusable packaging as well as service the program with technology, reverse logistics, and other capabilities.

Companies face a number of questions and decisions when developing a new reusable packaging offering, and do not have to tackle these alone. Existing reuse service providers have a wealth of experience when it comes to some of the most common questions brands have about reuse, such as:

What materials are best suited for reusable packaging and will deliver durability and a lower environmental footprint?

How to track reusable assets and make returning or refilling packaging easier for consumers?

How to set up collection, washing, refilling, and other reverse logistics?

These and other challenges are already solved by choosing the right reusable packaging partner. The following resources can be used to find a service provider partners with expertise in delivering reusable packaging programs:

- Perpetual's Living Landscape of Reuse Solutions database is a regularly updated global list of for profit and nonprofit programs and campaigns that provide reusable solutions across a range of product categories
- Members of the Sustainable Packaging Coalition have access to a dynamic Reuse Innovations Database with over 500 examples of reuse being executed by companies alongside information about their partner reusable service providers

	A Business or Brand ...	Supply Chain Role	Product Category	Secondary Product ...	A Business or Brand ...	Partnered With
291	Ridwell	Service Provider	Food Service		https://www.ridwell.com/s...	Starbucks USA
292	Festicup	Service Provider	Food Service		https://www.festicup.be/	
293	Goodless	Service Provider	Food Service		https://www.goodless.be/	
294	Quppa	Service Provider	Food Service		https://en.quppa.be/	
295	Tiffin	Service Provider	Food Service		https://tiffin.be/	
296	Fillbee (DW Reusables)	Service Provider	Beverage		https://www.dwreusables...	
297	Forever Ware	Service Provider	Food Service		https://foreverware.org/p...	
298	OOM	Service Provider	Reuse as a Service (Ra...	Wine	https://www.oom.earth/	
299	FreshPrep	Service Provider	Meal Kit	Grocery Delivery	https://www.freshprep.ca/	
300	Friendlier	Service Provider	Food Service		https://www.friendlier.ca/	
301	Full Cycle Takeout	Service Provider	Food Service		https://www.fullcycltake...	
302	Hui Zero	Service Provider	Food Service		https://www.huizero.com/	
303	Glassia	Service Provider	Beverage		https://glassiawater.com/	
304	Good Filling	Service Provider	Personal Care		https://www.goodfilling.c...	
305	Green Box (Keep Truckee ...	Service Provider	Food Service		https://www.keeptruckee...	
306	reusableEats	Service Provider	Food Service		https://reusableeats.wixsi...	

- The Ellen MacArthur Foundation's Upstream Innovation guide and case studies also feature reusable packaging solutions
- For secondary and transport packaging, the Reusable Packaging Association's Marketplace lists products and services from RPA member companies



There is also a significant opportunity to engage larger third party logistic providers (such as UPS and Fedex) as well as waste companies for reverse logistics. Though these companies may not always have direct experience with reuse systems, they have invaluable solutions for making the logistics of reuse cost-efficient and scalable. These providers can also help to develop hubs for sorting, washing, and co-filling of reusable packaging.

Technology providers who offer RFID, tracking, and payment solutions can also support reuse implementation across a range of product categories. These providers include:

- **Reusables.com** - Offering Smart Return Bins that incorporate IoT technology for seamless returns with complete traceability and zero contamination, “Tap to Reuse” software to eliminate the common barriers to reuse including deposits, downloading apps, and scanning QR codes, student ID integrations, RFID tracking, and more.
- **Kleen Hub** - Kleen hub has developed a technology that allows consumers to pay for both the item (e.g. coffee) and the reusable packaging (e.g. cup) with a single credit card tap, eliminating the need for stand-alone apps, deposits, or accounts.
- **99 Bridges** - A technology provider for a software platform called Mosaic, which is a SustainabilityOS built to enable the full lifecycle tracking of reusables.

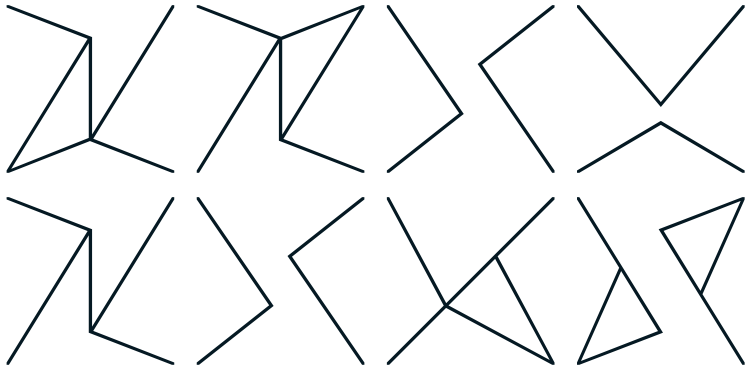


Questions For Companies Taking Action

1. Who are the key reuse service providers for the product categories our company is most interested in?
2. What services (e.g. collection, washing, tracking, filling) will we need to partner on for our reusable packaging to succeed?
3. How can we learn from the past experiences of suppliers, partners, and competitors implementing reuse?



Companies should find a partner to execute their reusable packaging offering. After determining how they will approach reuse (for example, by focusing on the right categories, standardizing designs, focusing on consumer value, and collaborating with industry peers), companies can use existing service providers to execute the reuse offering and work through any remaining challenges or open questions.



Barclays partnered with service provider **Re:Dish** to create a reusable dishware program in their New York office cafeteria.

Reusable e-commerce mailer provider **RePack** has engaged with a variety of brands on their rental, take-back, and direct-to-consumer programs

Seattle’s **Woodland Park Zoo** launched a reusable cup program in partnership with Levy, its hospitality partner, and reusable service provider **Bold Reuse**

More Success Stories



Many service providers bring essential expertise in reusable packaging design, reverse logistics capabilities, supportive technologies such as RFID, and an understanding of the policy landscape. No company should be designing reuse programs from scratch - working with existing experts in the reuse space is critical for scaling reuse.

INDUSTRIES AND SECTORS

For success and scale, industries will need to work together on a coordinated plan for implementing reuse, taking into account other Framework components like reuse as the default in the right categories, sharing and standardizing packaging designs and infrastructure, and consistent, multi-channel communication aimed at reducing barriers and delivering benefits. By working together, these industries can “row in one direction,” lower the upfront and

operational costs of reuse by building out efficiencies, and avoid confusing consumers with conflicting messaging or offerings.

For example, when looking at the seven **best-fit categories**, it becomes clear that there are a handful of relevant industries and groups of stakeholders that should align their reuse efforts:

BEST-FIT CATEGORY:

EXAMPLES OF INDUSTRIES:

Beverage Bottles



- Beverage companies
- Sports and entertainment venues
- Retailers

Food service, including takeout containers and to-go cups



- Restaurant chains
- Hospitality and food service groups
- Sports and entertainment venues

Retail bags



- Retailers

Packaged food



- Consumer packaged goods companies
- Retailers

Home and personal care products



- Consumer packaged goods companies
- Retailers

Secondary packaging, including transport packaging



- Retailers

E-commerce packaging such as mailers



- E-commerce Retailers

Industry-specific handbooks for reuse are available, and efforts are already underway. Retailers are a key group of stakeholders who, by aligning their efforts, can drive reuse in nearly all of the seven best-fit categories. For this group, one guiding resource is the OPLN's **Reuse & Refill Playbook** for Retailers, which offers comprehensive guidance on logistics, consumer participation, and cross-value chain collaboration modalities. This resource can help retailers take action on beverages, packaged food such as snacks and pet food, and home and personal care products such as skincare and household cleaners.

For reusable food serviceware, **closed-loop venues such as sports and entertainment venues are leading examples** of an industry working together to align their approach. The Green Sports Alliance's **Reuse Playbook for Sports and Entertainment Venues** outlines the transition from single-use products to reuse and gives operators, venues, concessionaires, and leaders the tools to make this transition. Venues like the **Crypto.com Arena** in Los Angeles and Providence Park, the home of the **Portland Timbers**, as well as operators like **Live Nation** and events like **Wimbledon** have all partnered with reusable service providers to switch to reusable cups or bottles.

Food service groups, including restaurant and facility groups, hospitality, catering, and distribution providers, are another key player in executing reusable food service solutions across a variety of locations and making it a seamless experience for consumers. For example, **Compass Group Canada** is working with reusable technology provider Reusables.com to offer a reusable foodservice solution with passive RFID technology on university campuses. Aramark has partnered with university campuses in the US, including **Boston University**, to offer similar services. **Sodexo recently announced** a partnership with service provider Topanga at 10 campus locations in the US.

With all of these examples, it is clear that **by working together, an industry or group of stakeholders is able to arrive at scalable, cost-effective reusable packaging solutions much more quickly** than if companies were attempting to develop these programs on their own. A handful of nonprofits, businesses and industry associations are leading companies through this collaboration: Closed Loop Partners' NextGen Consortium and Beyond the Bag Consortium are tackling food service packaging waste and single-use retail bag waste, specifically, while the **U.S. Plastics Pact** plans to help Activators take an industry-aligned approach to reuse by facilitating precompetitive discussions to create a blueprint for reuse design and implementation of a selected product category.



More Success Stories



In the UK, **Milk & More** is working with supply chain start-up **Again** to use refillable glass bottles across **25 new product lines** for packaging such products as water, soft drinks, cream, flavored milks, yogurts, and new juices

Several iconic **San Francisco music venues** took the leap towards sustainability by switching to reusable cups with the support of reusable cup providers r.World and TURN



For secondary packaging, a new **reusable plastic pallet** can be shared across existing fresh grocery supply chain operations, creating long-term higher logistics efficiency for suppliers and retailers alike



Companies should work with their peers and competitors to implement a shared strategy to reusable packaging for the relevant best-fit product categories. In addition to lowering the barrier to entry and sharing costs, this allows companies to deliver a more consistent experience to consumers. When they experience a uniform reuse program, consumers are more likely to find value in these new reuse offerings since they will be available across a variety of locations and brands, and thus will be more convenient to participate in. Industry-wide collaboration is the most effective - and arguably the only - way to unlock cost savings compared to single-use, and to achieve environmental goals and targets.

CITIES AND REGIONAL LEADERS

Local governments are critical players when it comes time to roll out reusable packaging offerings at the city or municipal-scale.

Why should companies interested in reusable packaging start by exploring regional programs that they can plug into? Regional efforts, typically led by cities or counties, do an excellent job of putting other elements of this Framework into action.

Companies will find that cities are some of the best facilitators of reuse, offering infrastructure and solutions that build economies of scale and make it easier for consumers to engage. For example, cities can enact - or already have - **supportive policies**, particularly in the food service space, that emphasize reusable packaging as the default. Cities are motivated to help businesses reduce waste costs through reusable packaging, in part because they typically share the cost of disposal. They are also instrumental in enabling washing facilities or other reverse logistics infrastructure.

A number of examples exist, both in the US and across the world, where cities have stepped into a leadership role to propel large-scale reusable packaging forward. One of the most notable examples is the City of Seattle, which launched its

Reuse Seattle Partnership in 2022 and has been working to build out a network of restaurants and entertainment venues that use reusable food serviceware, with the ultimate goal of expanding reuse across all neighborhoods, stores, venues, and campuses. The reusable services are offered by registered third-party service providers like **r.World** and **Turn Systems**, and are governed by a set of common reuse standards.

Elsewhere, the non-profit **Perpetual** is engaging four smaller U.S. cities - Ann Arbor, Galveston, Hilo, and Savannah - to design and implement city-scale open-loop reusable foodware systems. Their work involves mobilizing funding from public and private sources for shared reuse infrastructure and assets, outlining how individual reuse service providers will collaborate within the system, and developing a cost-sharing model for participating businesses. An extensive participatory design process will help to ensure the reuse program is designed for each specific community.



Questions For Companies Taking Action

1. Which peers can we partner with in order to execute a more robust and cohesive reusable packaging strategy?
2. How might our company lead in implementing a shared strategy for reusable packaging for a best-fit category?





A regional approach to reuse is most applicable to three of the seven best-fit categories: beverage bottles, food service, and retail bags.

For the other categories (packaged food, home and personal care products, secondary packaging, and e-commerce packaging), cities and larger regional municipalities can still play an important role in providing **supportive policies** and facilitating **sharing and standardization** of reverse logistics infrastructure such as collection points.

BEST-FIT CATEGORY:

SAMPLE COST IMPLICATIONS AND/OR ROI FINDINGS:

Beverage Bottles



- Coca Cola's Universal Bottle - featuring a standardized shape that is filled and refilled across portfolio brands - is used in **three provinces in South Africa** and **across Brazil**
- **Oregon's OBRC BottleDrop Refill program** - 100 different beverage types, produced by nearly a dozen local beverage manufacturers, are using one standardized bottle in Oregon

Food service, including takeout containers and to-go cups



- The Next Gen Consortium is leading an effort to default to reusable cups across a variety of restaurants - from Starbucks to local cafes - in the city of **Petaluma, CA**
- **Banff, Alberta's** partnership with service provider Muuse for reusable cups
- **Aarhus, Denmark's** partnership with technology provider TOMRA for reusable cups
- Cities are initiating reuse systems for take-away coffee and food boxes in **Freiburg, Germany** and **Bern, Switzerland**
- Other efforts to transition to reusable food serviceware across Western Europe have been led by **Zero Waste Europe**
- Reusable food service containers are being launched across **Southern Ontario's university** and college campuses by service provider **Friendlier** alongside Compass Group Canada and Aramark Canada

Retail bags



- A **returnable bag pilot in a cluster of New Jersey cities** from the Beyond the Bag Consortium used shared bags and kiosks to build scale

For municipalities that want to take a leading role in facilitating reuse, the **World Economic Forum's City Playbook** outlines the unique role of cities in driving reuse, and guidelines for building a reuse city that cover program development, policy instruments, and infrastructure.

Questions For Companies Taking Action



1. *What are our target markets for launching reusable packaging offerings, and why were these selected?*
2. *Do our target markets have existing reusable packaging programs, or municipal staff who are developing public-private partnerships to support reuse?*
3. *Have we connected with local officials in our target markets, even if it seems they do not have any existing regional reuse programs?*

Companies should seek out and engage with key municipal partners who can facilitate and support their reuse offerings. Companies do not have to wait for a city to announce a regional reuse program like Reuse Seattle - rather, they can approach municipalities in key markets and ask for support as they launch or expand their reuse offering. Cities may be able to connect companies with local reuse service providers, offer incentives, institute supportive policies, or suggest ways to share infrastructure and costs with other organizations. Taking a regional approach to reuse is about tapping into local ecosystems that can ultimately make a company's reusable offering much more successful.



Starbucks used a regional approach to test personal reusable cup usage at **200 drive-thru stores across Colorado**, which ultimately led to learnings that apply to nationwide practices. Following the regional test, customers can use their own clean, personal cup to order across channels, including drive-thru, the Starbucks app, and in café.

More Success Stories



A new industry research project, in collaboration with 21 stakeholder organizations, aims to pioneer the development of reusable packaging systems nationwide in Finland.

Elevating Reuse in Cities (ERIC) is a two-year project (launched in April 2022) that aims to support 18 to 30 EU municipalities to embed waste prevention locally, through the creation of Plastic Prevention Plans (PPPs) that target and implement reuse actions within their direct sphere of public control - which includes public events, **buildings (e.g. municipal facilities, gyms), spaces (e.g. streets, squares, parks) and through procurement tenders.**



4. Advocacy

What else is needed?

To scale reuse, companies will need to advocate for supportive policies at the local and federal level while simultaneously working to build a new reuse system.

SUPPORTIVE POLICY

Reusable packaging will be difficult to scale without supportive policies at the local and federal level. Legislation, regulation, incentives, and other government practices are key to enabling the successful implementation of other elements of this Framework, particularly Viable business models, sharing and standardization, and value to consumers.

Recent publications by industry and nonprofit organizations have begun to explore how policy can play an instrumental role in advancing reusable packaging. For example, in 2024 the U.S. Plastics Pact (USPP) developed a [Reuse Policy Guidance](#) document that outlined eight “policy levers” (replicated in the table below), which can advance reuse and may be effective in different political contexts and climates:



Policy Lever	What This Policy Lever Does?	Examples of Lever in Practice	Other Resources Related to Policy Lever
Reuse mandates and enablers	Mandating reuse in on-site dining, event spaces, closed loop systems such as museums or office spaces, or within a particular jurisdiction	California's Alameda County has drafted Model Ordinance language that provides a menu of policy options for its cities to consider, including prioritizing reuse and the reduction of disposable materials used in food service and beverage packaging.	StopWaste Model Ordinance for Food Service Packaging Reduction and Reuse
Government procurement	Giving preference to and/or requiring reusable packaging or products under government contracts, or in government-owned or managed facilities such as universities and parks	In late 2023, the General Services Administration proposed to add a new provision and clause to identify single-use plastic free (SUP-free) packaging availability for products under the Federal Supply Schedules.	2024 comments on proposed rule from several states
Integration in Extended Producer Responsibility (EPR) and Deposit Return Systems (DRS)	Businesses can receive exemptions from EPR system fees for qualified reusable packaging, or bonus credits and requirements in eco-modulation of portfolios. DRS collection systems can manage collection and incentives related to reusable containers. Producer Responsibility Organizations (PROs) can fund the development of reuse infrastructure and systems, drive community education/outreach, and provide technical assistance to member companies wishing to switch to reusable packaging	In California's SB 54, which was passed in June 2022 and creates an EPR program for printed paper and packaging, the producer fees will be adjusted based on “actions taken to invest in robust reuse and refill systems.”	A Just Transition to Reusable Packaging explores harmonized reuse targets, mandatory standardization, and financing reuse infrastructure from Extended Producer Responsibility (EPR) fees.
Bans, fees, and bring-your-own	Bans and/or fees on problematic and unnecessary single-use materials (for example bags, straws, utensils).	The UK's Department for Environment, Food and Rural Affairs (Defra) passed a single-use plastic ban , taking into effect October 2023, under which enterprises cannot offer or carry single-use plastic items in England.	
Standardization	Standard definitions for terminology related to reusable packaging, as well as requirements to use standardized packaging.	France's law promoting bulk and reusable packaging included standard definitions and requirements for retail locations to provide reusable containers for items sold in bulk.	See Standardization section Unlocking a reuse revolution - scaling returnable packaging - Ellen MacArthur Foundation
Health and safety regulations	Guidance for appropriate handling, cleaning, and storage of reusable containers, as well as updates to food codes	Washington State updated its Food Code in 2023 to allow any multi-use food container that is washed, rinsed, and sanitized by the food establishment to be refilled with food.	Safety Guidelines for Reuse - World Economic Forum
Reuse targets	Targets for which product categories should offer a percentage of products in reusable packaging by a specific date.	In the EU's Packaging and Packaging Waste Regulation , companies are required to provide at least 10% reusable beverage packaging by 2030 (except milk, wine, and spirits), and 10% of takeaway food and drinks in reusable packaging by 2030.	US Plastics Pact Roadmap 2.0 Recommended targets by category are listed here: Policy recommendations for efficient and economically viable reuse packaging systems Zero Waste Europe

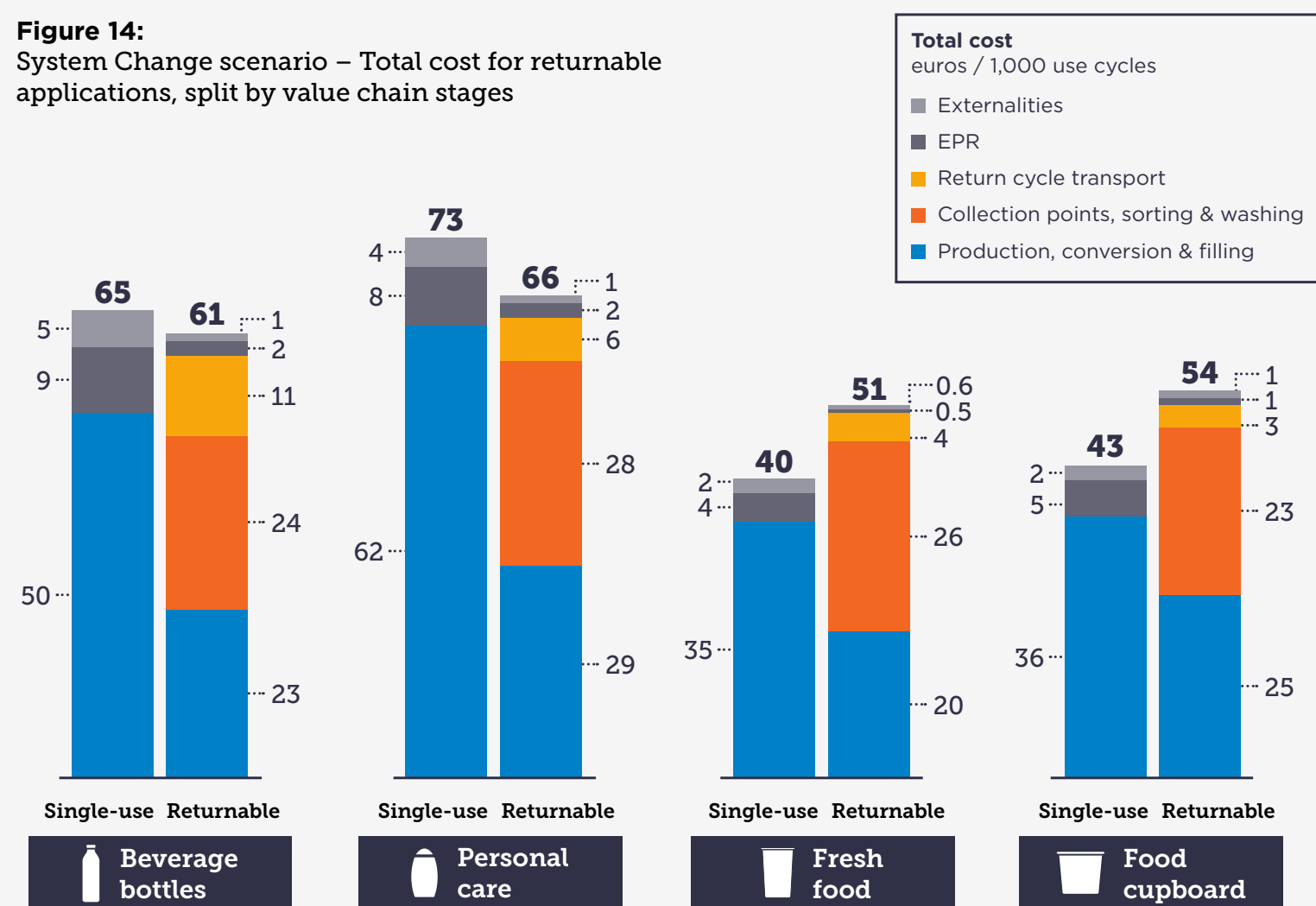
Upstream's reuse policy playbook also outlines the importance of correctly defining reusable packaging in policy. Definitions of reusable packaging should outline that products are designed for durability, to actually be reused, and are non-toxic. The US Plastics Pact also offers a comprehensive, performance-based definition of reusable packaging in their [Roadmap 2.0 document](#).

As explored in the [Growing viable business models](#) section, policies can have an enormous impact on the cost of reusable packaging. The EMF report found that EPR is critical for leveling the playing field when it comes to the difference in total costs - for instance, without EPR, returnable beverage bottles and personal care formats do not have lower total costs than their single-use counterparts.

“Efforts such as the international legally binding instrument on plastic pollution and the EU Packaging and Packaging Waste Regulation (PPWR) have the opportunity to play a crucial role in bringing reuse to scale, building on existing global momentum.”

-Unlocking a Reuse Revolution, Ellen MacArthur Foundation

Figure 14:
System Change scenario – Total cost for returnable applications, split by value chain stages



May not sum to total due to rounding

Credit: “Unlocking a reuse revolution”, Ellen MacArthur Foundation

US-based non-profit Upstream published a “[A reuse policy roundup for 2023](#)” highlighting some of the progress made at the federal and state level to pass supportive legislation, including deposit return schemes, as well as progress on implementation of passed EPR bills.

[Amped-up ‘Break Free From Plastic’ legislation reintroduced in Congress | Packaging Dive:](#) The bill, reintroduced in 2023, proposed establishing a national EPR program for beverage containers and packaging, and requiring all such products to be reusable, recyclable or compostable by 2033. It would also offer competitive grants for reuse and refill projects, with an emphasis on expanding equitable access and non-toxic materials.

More
Success
Stories



Companies should become active advocates for policy measures like extended producer responsibility, supportive health and safety regulations, and reuse mandates and targets. These mechanisms will be instrumental for lowering the cost of reusable packaging and normalizing reuse offerings. Engaged companies will be able to help guide proposed policy to make sure it works for their industry and product categories.

Questions For Companies Taking Action

1. How does my company currently voice support for or opposition to proposed city, state, and federal packaging policies? How does my company stay up-to-speed on these policies?
2. Does my company contact or engage directly with elected officials to ask for more supportive reuse policies?
3. Does my company engage with state officials or lobbying groups to improve proposed packaging bills to include provisions that are supportive of reuse?
4. Does my company participate in trade associations, and do you know your trade association's position on reuse policies?





SYSTEMS CHANGE

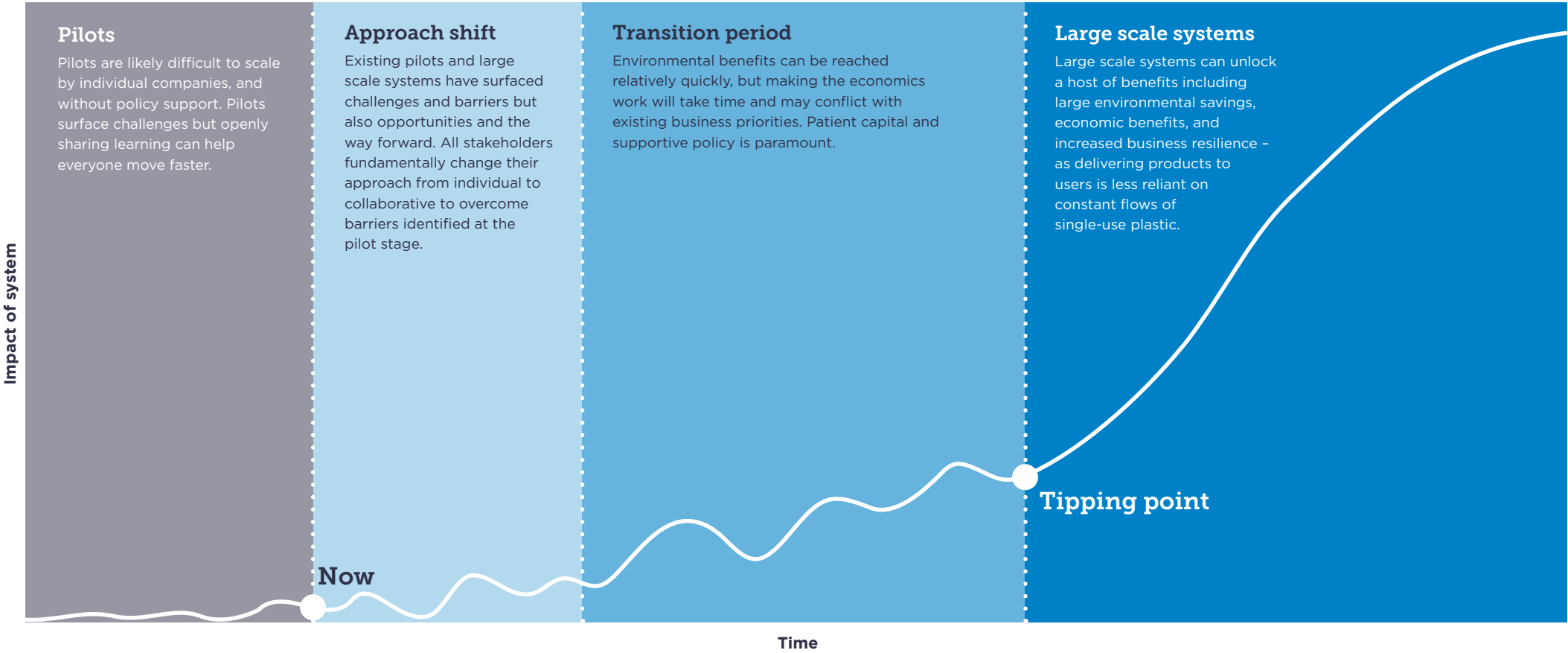
For reusable packaging to scale, companies will need to continuously advocate for large-scale systems change. Across the best-fit categories, a new reuse system will need to take the place of the existing single-use system, so that the environmental potential and cost-savings of reuse have an opportunity to be realized.

As the [Ellen MacArthur Foundation notes](#), large scale systems can “unlock a host of benefits including large environmental savings, economic benefits, and increased business resilience - as delivering products to users is less reliant on constant flows of single-use plastics”. During supply chain disruptions, reuse programs can help to reduce the volatility of packaging costs and lessen any business disruptions related to global issues, whether they are political, economic, or climate related.

While the industry currently stands at the tail-end of pilot testing, ready to adopt a new approach, it will take time - a transition period - to reach critical tipping points for reuse.

A new reuse system - a world where reuse has tipped into mainstream and is widespread in availability - will require systems change. The [World Resources Institute](#) explains systems change as shifting component parts of a system — and the pattern of interactions between these parts — to ultimately form a new system that behaves in a qualitatively different way. It requires companies to continually focus on the bigger picture:

- Seeing the whole rather than just parts
- Seeing patterns of change rather than static snapshots
- Understanding key interconnections within a system and between systems
- Engaging different perspectives
- Constantly learning and adapting
- Probing assumptions



Credit: “Unlocking a reuse revolution”, Ellen MacArthur Foundation





Large-scale systems change takes time and focused energy. Stakeholders across the packaging value chain need to consistently engage with the new approaches, strategies, and priorities outlined in this Framework, aligning their efforts to achieve the desired outcomes

Many of these behaviors are woven into this Framework - for example, delivering new value to consumers with reusable packaging requires engaging different consumer perspectives, seeing the entire reuse offering as a whole, and continuously adapting the offering to make sure it creates fewer barriers and delivers more benefits.

Working towards a new reuse system doesn't have to be daunting. The conditions for effective reuse systems have already been identified and outlined. For example, [Zero Waste Europe](#) distills the following five necessary conditions:

- System infrastructure: drop-off networks, return logistics, washing facilities, redistribution, item tracking, customer refunds - and employee training;
- Good governance: clearly defined rules concerning its functioning, requirements and standards for packaging design, usage, collection, washing, storage, handling, filling, and elements that can control proper operation and performance of the system;
- Packaging design: durability, interoperability and safety need to be ensured from the design phase, which can guarantee that packaging can be used as many times as possible for the same purpose. The interoperability can be enhanced by 'universal' designs that enable acceptance of packaging across different reuse schemes;
- Systems at scale: economies of scale are essential to ensure efficiency and avoid any burden-shifting;
- Minimum viable population density: reuse packaging systems perform at their best within a minimum viable population density, within urban areas rather than more dispersed communities.




More Success Stories



[Don't Waste Durham](#) promotes city-wide reuse systems, including infrastructure for return, collection, processing, and redistribution of reusable packaging, aiming to transform waste management and promote economic and social justice through sustainable practices and policies.

Zero Waste Europe examined the economic viability of transitioning India's [street food vendors](#) from single-use plastics to a novel reuse system, conducting a thorough cost-benefit analysis of both packaging approaches.

To complement its single-use packaging tax, the city of [Tübingen](#) introduced a subsidy program supporting local businesses in adopting reusable packaging systems, covering costs for existing pool systems, creating custom reusable packaging, and installing dishwashers, facilitating a transition towards a system of reuse.

Questions For Companies Taking Action

1. *Is our company prepared to engage with reuse in the long-term, extending our offering across a wider geographic and product range over time?*
2. *Is our company developing reuse in line with the latest developments in [reusable packaging standards](#)?*
3. *Is our company laying the groundwork for the future success of reuse by starting to implement the principles in this Framework?*

Conclusion

Scaling reusable packaging will require a multifaceted approach that goes beyond merely setting goals, launching individual product lines, or banning single-use items. This Framework provides comprehensive guidance to help companies think through the strategy, design, collaboration, and advocacy that is needed when implementing successful reuse systems.



By embracing the recommendations outlined in this Framework - including working with the right product categories, standardizing packaging formats, and delivering value to consumers - companies can move beyond pilots and accelerate the transition to a sustainable reuse system at scale.