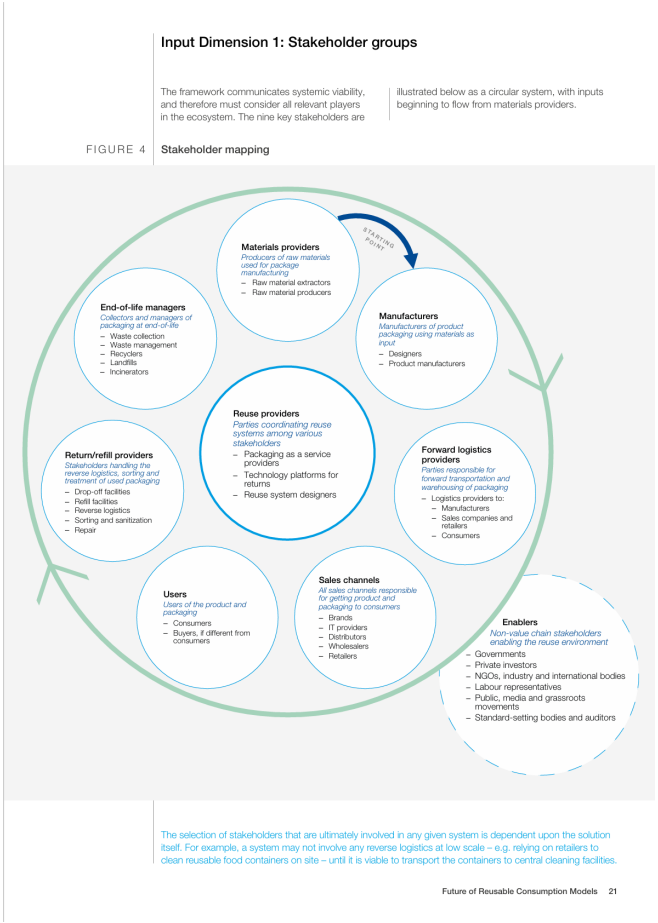
Chapter 2: Value Chain Mapping

Chapter expectations

- Understand who are the different players into the value chain, and the role that each plays
- Understand what are the main challenges and KPI for each player

Image showing key actors

To be developed, image below for inspiration



Key actors and their roles

Many actors need to come together for reuse to be successful. From sourcing products to selling to customers, ensuring proper washing and reverse logistics, an effective and

financially sustainable reuse model takes coordination and planning. This chapter will walk you through the actors and their roles, then we will dive into more detail on these and how they differ between return and refill models as we move into the nuances of each model.

Consumer (user)

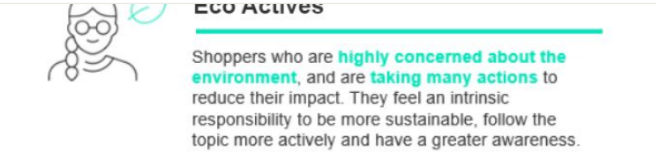
Consumers are a key actor to the success of any reuse model. Choosing reuse over single-use products requires action by consumers, for example: refilling products in their own containers, returning used containers for cleaning, participating in take-back programs. Changing consumer behavior towards reuse is **THE most challenging aspect** of scaling your reuse offering! Convenience is still king, and reuse models continue to struggle compared to most single-use options in this area.

But opportunities DO exist for reuse, especially given the overall trend in consumer behaviour towards more environmentally friendly options.

We can categorize consumers based on different criteria and drivers for reuse adoption – we'll dive into this in greater detail later.

Call out box
Potential for consumer adoption: Let's take a look at a recent Kantar Report on the UK market as an example. The report breaks down consumers into 3 categories:

- **Eco Actives –** shoppers who are highly concerned about the environment and are taking many actions to reduce their impact. They feel an intrinsic responsibility to be more sustainable, follow the topics more actively and have a greater awareness.



- **Eco Considerers**
- **Eco Dismissers**

Eco Considerers

Shoppers who are **worried about the environment** and are **taking some actions** to reduce their impact, but not as many as the Eco Actives. Their biggest barriers are convenience and price.

Eco Dismissers

Shoppers who have **little or no interest in the environment** and **taking no steps** to reduce their impact. They lack awareness of environmental concerns and do not believe they can make a difference..

"Eco Actives" households in the **UK have been growing, reaching 29%, which beats the global average of 22%. This increase is reflective of increased government action and legislation in this area, alongside more activism with companies heavily promoting their eco credentials. This steady increase means that Eco Actives are now worth £37bn to the British grocery market – providing opportunities of growth for brands and retailers to tap into and connect with them on their sustainability needs.**

Product Brand

Brands offer products for sale, which can be packaged in refillable or returnable containers. Brands can play in the value chain as either B2B or B2C actors, by selling their products directly to consumers, for example through their own stores or online channels in reuse models. In a B2C offering they could partner with hardware providers and/or retailers who could in turn provide their product directly to consumers through these models.

For example, a homecare company could sell liquid detergent directly to consumers from their own store or home delivery service. Alternatively, they could collaborate with a retailer to offer their liquid detergent to the end user through a vending machine format.

Packaging

Packaging plays a critical role in reuse models, serving not only as a container for products but also as a tool to enable the circularity of the system. Packaging must be durable, reusable, and compatible with the logistics and consumer use patterns. The size of packaging is also very relevant for operations as it will affect the point of sale, and also the replenishment cost. Depending on your target audience and reuse model, the packaging needs and options will vary.

To better understand the functions and opportunities for circularity, packaging can be segmented into three levels:

- Primary (customer) packaging: This is the packaging that directly contains the product. In reuse systems, examples include a glass milk bottle, a refillable shampoo dispenser, or a reusable coffee cup. For single-use models, this would be a disposable bottle, including its label, cap, and seal.
- Secondary packaging: This groups together multiple units of primary packaging for handling and distribution. Examples include a reusable crate holding several bottles of milk or a durable box that can circulate many times. In single-use systems, this would often be a cardboard box with dividers.
- Tertiary (transit) packaging: This is used for transporting larger quantities efficiently through the supply chain. A reusable pallet with straps securing multiple crates of milk is one example; in linear systems, this is often a stretch-wrapped single-use pallet.

Over time, moving towards standardized packaging formats across these levels can unlock significant efficiencies - streamlining logistics, reducing costs, and making it easier for both businesses and consumers to participate in a truly circular system. Considering all three layers of packaging also helps to identify where the biggest environmental impacts and operational opportunities lie.

B2B Packaging

If you are a brand selling products to a business for refill distribution, your packaging will typically take the form of large-volume, durable containers such as reusable kegs, tanks, jerrycans, or bulk dispensers that can be tapped or portioned into smaller packaging for the end users. Responsibility for the B2B offerings include washing and product replenishment, logistics and transportation/delivery.

Packaging could include elements of traceability, but it is not required. Traceability measures could include, for example, a printed QR code, sticker RFID or NFC capabilities. If you opt for a software or app you most likely will have a traceability element embedded.

B2C Packaging

If you are selling directly to consumers, you will have several options for packaging. For refill, consumers can bring their own container (BYOC), thereby putting the responsibility for washing and care with the consumer themselves, or there can be a take-back system for refill at home.

There are many key aspects to consider in packaging such as standardization, nesting for transportation efficiency, labeling, etc but we will go into those details later!

Point of Sales

Reuse models can be implemented in various sales channels depending on the target market, infrastructure, and business goals. The table below gives examples of different PoS options.

Type	Description	Examples
Retailer	**A retailer is a business that sells goods to consumers in relatively small quantities for use or personal consumption (not for resale).** **For reuse, this could be a specific zero waste store, or return/refill models within a traditional shop (ie. Grocery store, petfood store, etc)**	- Zero waste store: The Soap Dispensary and Kitchen Staples - Mainstream retailer (ex: Carrefour or tesco) - Lotus's supermarkets in Thailand piloting refill and return stations. - Zero Waste Saigon store and refill stations in Vietnam.
Vending Machine	A vending machine is a physical machine that dispenses product directly to consumers. These can be standalone in a high-traffic area, or in a retailer location, with high-tech or low-tech functionalities.	- Ecourage - a high-tech vending machine set up in retailer stores in Europe. - IRefill offers low and mid-tech solutions to mom-pop stores and retail shops in India and beyond. - Stand alone. - Qyos - smart refill kiosks in Jakarta (Indonesia)

Delivery	For both return and refill models, this PoS delivers products direct to customers' homes using a delivery service. Delivery can be from retailers, brands, or even small, local shops.	- ocado online grocery store offering reuse options for customers - Siklus - sells products such as laundry detergent and shampoo through a pre-fill model via online channels in Indonesia.
Mom-pop store	Small shops that serve basic staples to the local community.	(show a picture?) - example from iRefill - Gallery RefillMyBottle - ASEAN network of shops and cafés (started in Bali, Indonesia, expanding across the region).
		-
Hotels, restaurants	The hospitality industry can drastically reduce their environmental footprint by switching from single-use products to reuse. From installing soap dispensers in hotel rooms to offering take-away containers in return systems. These actions not only reduce waste but can improve brand image and customer loyalty!	- WENESY offers eco-friendly, **refillable dispenser** lines for hotels and other facilities in China. - Plastic Free ASEAN hotels initiative - promoting refill and reuse (i.e., An Villa in Hoi An, Vietnam). -

Reverse logistics

Reverse logistics is the system used to collect, transport, and return used containers back through the supply chain for cleaning, refilling, or redistribution. For refill models this is focused on the B2B models where they need to collect large bulk packages to be washed, filled and entered back into the system. The process requires the collaboration and action from many actors including:

- Businesses who need to replace/replenish empty containers in a refill system.

- Logistics Providers who transport used containers from collection points to washing or processing centers.
- Sorting & Inspection Staff who sort containers by type and condition; check for damage or contamination.

✓ For B2B businesses the packaging collection and washing is the responsibility of the business.
✓ For B2C businesses the containers are either washed at home by the consumer using a BYOC model, or similar to the B2B model if they are providing specific packaging.

Warehousing

Warehousing acts as the central storage and distribution point for bulk goods before they are delivered to the different Points of Sale. It enables cost-effective, scalable, and reliable supply for reuse operations. Inventory management is a critical aspect of warehousing to ensure an accurate and ongoing tracking of inventory in stock at the warehouse to ensure demand is met on time, while at the same time avoiding excess stock that could expire. It's already hard enough to change consumer behavior, don't let this key aspect get in your way to scaling adoption!

Washing facilities

Washing facilities play a crucial role in the reuse value chain, particularly in ensuring that packaging is safely and hygienically returned to circulation. These facilities are responsible for cleaning, sanitizing, and preparing reusable containers for safe reuse in the supply chain. According to the PR3, [1]"wash" refers to a five-step process that includes the following steps in order: pre-cleaning, cleaning, rinsing, sanitizing, and drying.

Hardware

Hardware providers offer essential tools, systems, and equipment that enable efficient, scalable, and sustainable refill solutions. Hardware solutions offer storage, dispensing, and collection systems. Many hardware options exist in the market, the one that is best for you will depend on the product(s) you are offering, capabilities you need and volume to dispense.

[1] New version: Container washing

While not all hardware systems are tech enabled, many providers also offer software to allow tracking and monitoring such as replenishment alerts, customer usage, contributing to the overall environmental impact data tracking.

Software / App

Software solutions can be for both refill and return models. For refill solutions, software apps provide key metrics to enable data-driven decisions. For example, an app could allow you to have access to real time data on the products being dispensed to improve your replenishment process, consumer trends and preferences, packaging data (ie. waste avoided) which can help with reporting and compliance and much more. A software platform can also support delivery planning and services, helping to process orders and predict when refills will be needed. Both refill and return models can benefit from their apps to create customer loyalty and increase usage through loyalty programs, discounts and gamification with a larger community.

Call out box: Many types of reuse hardware and software providers exist. Check out our supplier database for verified providers in your region!

Call out box: The role of social business in reuse

Reusable packaging systems will require a transformation of the ways we produce and consume products, and should lead to positive environmental impacts all along the value chain. However focusing only on the environmental impact cannot be the sole driver of this transition; new reuse systems need to define strong social ambitions as well. Moving from single use to reuse will require an employment shift that entails the creation and promotion of green and transferable skills.

Read more in this recent report starting on page 40: A-Just-Transition-to-Reusable-Packaging.pdf page 40

Algramo example - value chain?

Activities or exercises

What is needed to move on to next chapter?