#Break Free From Plastic

gaia

EVERYTHING REUSE

A Toolkit for Understanding, Implementing and Scaling Reuse

Publication 1: Terminology, Taxonomy and Guiding Principles



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GAIA is a global network of grassroots groups, nongovernmental organizations (NGOs), and individuals, in over 90 countries. The organization envisions a just, zero waste world built on respect for ecological limits and community rights, where people are free from the burden of toxic pollution, and resources are sustainably conserved, not burned or dumped. GAIA works to catalyze a global shift towards environmental justice by strengthening grassroots social movements that advance solutions to waste and pollution. www.no-burn.org

The **#BreakFreeFromPlastic (BFFP) Movement** is a global movement envisioning a future free from plastic pollution. Since its launch in 2016, more than 12,000 organizations and individual supporters from across the world have joined the #BreakFreeFromPlastic movement to demand massive reductions in single-use plastics and to push for lasting solutions to the plastic pollution crisis. www.breakfreefromplastic.org

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EVERYTHING REUSE

A Toolkit to Understand, Implement, and Scale Reuse

Everything Reuse is a modular toolkit jointly developed by the Break Free From Plastic (BFFP) movement and the Global Alliance for Incinerator Alternatives (GAIA) to support a common understanding of reuse, and advance its adoption, implementation, and scaling across products, packaging, sectors, and contexts.

Intended for policymakers, civil society organisations, businesses, researchers, funders, and other stakeholders, the toolkit is a collection of interconnected resources that can be used independently or alongside one another.

The toolkit's first publication, Terminology, Taxonomy, and Principles for Adopting and Scaling Reuse, brings together two interrelated components: 'Reuse Terminology, Taxonomy, and Application' and 'Principles for Adopting and Scaling Reuse'.

The 'Reuse Terminology, Taxonomy, and Application' section provides a shared understanding of what constitutes reuse and a common framework for recognising and classifying diverse reuse practices across products and packaging. The 'Principles for Adopting and Scaling Reuse' section sets out principles to guide the responsible adoption and scaling of reuse.

These foundational components support tools on decision-making, policy development, system implementation, and financing that will be introduced progressively as part of the broader *Everything Reuse* toolkit.

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1 INTRODUCTION, PURPOSE AND SCOPE

1.1 Context and Rationale

INTRODUCTION, PURPOSE AND SCOPE

Reuse. The word conjures many images: filling a water bottle, using a cookie container to store a sewing kit, shopping at a thrift store, or even creating works of art on wine bottles. Reuse essentially means using something more than once, as the Cambridge Dictionary defines it. The etymological breakdown of 'reuse' is: 're' indicates repetition, and 'use' means to employ, so the combined meaning is to use again or employ more than once.

Reuse has long been embedded in our social and economic life. It has existed in many forms, ranging from household practices to rental systems, community exchange, repair, resale, and redistribution. In fact, reuse is so ubiquitous that we may not recognise it as such: examples include cutlery washed and used again in restaurants; books circulated through libraries; refillable gas cylinders exchanged through local distribution systems; second-hand clothing markets; and school uniforms and textbooks passed on to younger siblings.

Many of these practices were not developed as reuse interventions or as part of a circular economy strategy. They are simply established ways of meeting everyday needs, determined by local economies, cultures, infrastructure, and resource availability. In many communities, including across parts of the Global South, such practices remain embedded in everyday life even as disposable consumption has expanded.

This matters because reuse should not be understood only through the lens of new business models, formal programmes, or interventions designed specifically to address single-use consumption. Reuse practices could be longstanding or newly developed, highly visible or largely unnoticed, and organised through households, communities, businesses, informal economies, or public institutions.

However, recognising these practices does not mean that all existing forms of reuse are inherently desirable. Some may involve challenges relating to health, labour conditions, accessibility, or environmental performance. Recognition provides a basis for understanding how reuse functions in different contexts; assessment is needed to determine whether and how to support, adapt, or scale particular systems.

The rise of disposability

As mass production and consumption systems expanded over the past century, disposability became increasingly embedded in everyday life. Businesses helped shape this transition through changes in product design, packaging systems and marketing, adoption of convenience-driven business models, and the expansion of low-cost, single-use goods. Products were often designed for shorter lifespans or replaced through planned obsolescence; packaging became increasingly disposable; and convenience became central to consumption. As Saabira Chaudhuri, author of Consumed: How Big Brands Got Us Hooked on Plastic, states in her interview with Mongabay, "The message was plain: throwaway living meant progress, hygiene, and freedom".

Recycling then became a principal response to the growing material waste. Waste management systems were largely organised around collection and disposal rather than prevention. The resulting environmental and social costs, including pollution, climate impacts, toxic exposure, and poor working conditions, have often been externalised onto communities, workers, municipalities, and ecosystems. The availability of cheap disposable goods also made some established reuse practices less visible, less convenient, or less economically viable.

The renewed attention to reuse

Historically, policy conversations and investments have focused far more on recycling though it has always ranked lower than reuse in the waste hierarchy. However, evidence has grown that recycling alone cannot address the scale of plastic pollution and resource extraction associated with today's predominantly single-use economy. As a result, reuse has increasingly appeared as a central strategy for preventing waste (United Nations Environment Programme, 2023); (OECD, 2022); (United Nations Environment Programme, 2024); (Reike et al., 2018); (Chandran, 2023) by reducing the demand for new products, extending the useful life of products, and reducing the reliance on single-use consumption.

This renewed policy attention is reflected in a growing body of international policy, research, and practice. Reuse now features prominently in discussions on the Global Plastics Treaty, circular economy strategies, Extended Producer Responsibility (EPR) reforms, national packaging and waste legislation, and voluntary industry initiatives. Businesses and researchers are increasingly developing new reuse systems and exploring new business models that reduce reliance on single-use products and packaging. (*Intergovernmental Negotiating Committee on Plastic Pollution*, n.d.); (Ellen MacArthur Foundation, 2023); (Ellen MacArthur Foundation, 2023); (World Economic Forum, 2024); (Zero Waste Europe and Searious Business., 2023); (March et al., 2025); (Gordon, n.d.)

This shift has also positioned reuse within the broader transition towards a circular economy. Circular economy approaches aim to shift away from systems that extract resources, and produce , use and discard goods, towards systems that retain the value and utility of products for as long as possible.

Attention to reuse reflects both continuity and change. It builds on long-standing practices that draw on local knowledge, and are sustained by households, communities, local businesses, and informal economies.Simultaneously, efforts to promote reuse are generating new forms of organisation, infrastructure, investment, and service delivery. These include reusable packaging systems, refill services, return infrastructure, rental and sharing models, and second-hand markets.

Reuse is therefore increasingly seen not only as an individual practice, but as something businesses, public systems, and broader value chains can organise.

The context in which reuse takes place is also changing. E-commerce, evolving retail models, changing household structures, and other social and demographic shifts are influencing how products are accessed, used and transferred. These changes create both opportunities and challenges for integrating reuse into everyday life and different sectors of the economy.

However, the growing attention to reuse can also narrow our understanding of it. Current discussions can place disproportionate emphasis on newly developed, formal, or consumer-facing systems, while overlooking individual and community practices, informal markets, , and reuse involving commercial and business-to-business products.

A broader understanding is therefore needed, one that recognises both established and emerging forms of reuse and provides a basis for understanding their different characteristics, contexts, and outcomes.

Why the shared terminology matters

Despite the growing momentum around reuse, there is surprisingly little agreement on what it actually means. People often use concepts such as reuse, reuse systems, refill, return, repair redistribution, and repurposing interchangeably, even though they describe different practices and intended outcomes.

This lack of conceptual clarity extends far beyond language. It hinders the ability to establish meaningful targets, develop coherent policies, compare initiatives, monitor progress, direct investment, support businesses and workers, or evaluate environmental, social, and economic outcomes.

It also has implications for visibility and policy. Practices formally labelled as ‘reuse’ are more likely to be measured, promoted, funded, and incorporated into policy than practices understood as ordinary ways of living. A new reusable packaging

programme may therefore attract considerable attention while a long-standing system of second-hand exchange remains largely invisible in formal accounts of the reuse economy.

Another challenge is that the current discussions on reuse are heavily focused on packaging. This can obscure the diversity of reuse across products, services, and settings. It can also obscure differences between sectors: practices prominent in consumer use may not have direct equivalents in industrial systems.

A shared taxonomy can address these gaps by providing a consistent basis for identifying and classifying reuse based on the characteristics of the practice or system, rather than its novelty, visibility, or level of formalisation. This can help governments, businesses, researchers, investors, and practitioners work from a common conceptual foundation when designing policies, financing or developing infrastructure, or evaluating performance.

Towards a shared understanding of reuse

This guide recognises that no one-size-fits-all approach exists. Effective reuse systems need to respond to local material flows, existing infrastructure, cultural practices, worker livelihoods, institutional capacity, environmental conditions, and community needs. They must protect human health and the environment, prevent waste at source, and contribute to resource efficiency and a just transition.

The guide does not seek to promote a single reuse model or establish a hierarchy among approaches. Instead, it provides a framework that applies across products, packaging, sectors, and contexts. It provides a common basis for understanding what is being reused, the function it performs in context,how reuse is operationalised, and what wider conditions enable it.

Ultimately, the guide seeks to move the conversation on reuse beyond individual products and isolated initiatives towards a broader systems perspective.

1.2 Objectives

INTRODUCTION, PURPOSE AND SCOPE

Growing international attention to reuse has brought out the need for a common understanding of what reuse is, how it relates to broader approaches to waste prevention and resource use, and how to design, implement, govern, and evaluate different reuse-based systems. This guide provides common terminology, a structured taxonomy, and guiding principles to support safe, resource-efficient, inclusive, and context-appropriate reuse.

The objectives of this guide are to:

- **Establish a shared terminology for reuse**

  Provide a shared language to define and classify reuse, and clarify its relationship to related concepts and practices, including reduction, refill, repair, sharing, rental, second-hand use, redistribution, alternate use, and recycling. This includes distinguishing between practices that constitute reuse, activities that enable reuse, and processes that fall outside the scope of reuse. The objective is not to establish a hierarchy among these practices, but to distinguish their characteristics, relationships, and contributions so that they can be appropriately recognised in policy and practice.

- **Broaden the understanding of reuse across products and packaging**

  Recognise that reuse extends beyond packaging to include products, while acknowledging the diversity of arrangements through which repeated use can occur across sectors and contexts. The taxonomy also recognises the contribution of household, community-based, informal, commercial, and locally adapted practices, alongside more formal reuse systems.

- **Provide a framework for grouping and assessing reuse and reuse systems**

  Provide a structured framework for recognising, classifying, comparing, and assessing different forms of reuse and reuse systems based on the type of asset being reused and the primary pathway enabling the next reuse cycle. By establishing a consistent classification structure and describing practical applications and operational attributes, the framework supports comparison and informs the assessment of reuse practices and systems across different contexts.

- **Establish guiding principles for responsible reuse**

  Provide principles to guide the design, implementation, assessment, and scaling of reuse systems that are safe, environmentally sound, resource-efficient, socially inclusive, and accountable.The principles emphasise the conditions necessary for reuse to deliver positive environmental, social, and economic outcomes, rather than assuming reuse is inherently beneficial in all circumstances.

- **Enable coherent application across policy and practice**

  Enable governments, businesses, civil society organisations, investors, researchers, practitioners, and other stakeholders to apply the terminology, taxonomy, and guiding principles consistently across policy development, implementation, financing, monitoring, and evaluation. By establishing a common conceptual foundation, the guide seeks to strengthen coherence, accountability, and comparability in how reuse is defined, integrated into policies and programmes, implemented, and assessed.

1.3 Who is this guide for?

INTRODUCTION, PURPOSE AND SCOPE

This guide is intended for a wide range of stakeholders engaged in accelerating reuse, including policymakers and regulators, city and local government authorities, civil society organisations and advocacy groups, businesses and service providers, researchers, practitioners, and other actors involved in designing, implementing, and governing reuse systems.

The guide provides a shared conceptual foundation for reuse, alongside practical examples and guiding principles to inform policy development, decision-making, and the design and assessment of reuse systems across different contexts.

1.4 Scope and Limitation

INTRODUCTION, PURPOSE AND SCOPE

This guide focuses on establishing the foundations to understand reuse and the principles that should guide its development. It is not intended to function as a technical or operational standard, nor does it prescribe a single model for designing or implementing reuse systems. Its terminology, taxonomy, and principles are intended to be applied and interpreted in ways that reflect different local, social, economic, environmental and institutional contexts.

Areas beyond the scope of this guide

This publication does not establish technical or operational requirements for individual products or reuse systems, such as:

- minimum rotation or reuse thresholds;
- durability or performance specifications;
- product or packaging design specifications;
- cleaning, sanitation, or upkeep protocols;
- infrastructure and logistics specifications;
- detailed system design parameters; or
- technical requirements for particular sectors or applications.

It also does not provide detailed guidance on policy development, decision-making, system implementation, financing, or impact assessment. Policy recommendations will be addressed in the second publication of the *Everything Reuse* series, while other areas may be addressed through subsequent resources within the broader toolkit or through relevant external frameworks and standards.

The following areas require further technical, methodological, or sector-specific development and are intentionally outside the scope of this publication:

- Standardised methodologies for measuring and reporting reuse performance
- Detailed life cycle assessment and environmental impact methodologies
- Comprehensive socio-economic impact assessment frameworks
- Verification, certification, and assurance protocols
- Technical operating standards
- Sector-specific implementation and design guidance
- Detailed financing mechanisms, investment frameworks and taxonomies

1.5 Methodology

INTRODUCTION, PURPOSE AND SCOPE

The classification approach presented in this guide builds on the authors' earlier work on reuse, including the 2024 publication *Unpacking Reuse in Asia*. This guide was developed through an iterative process involving expert consultations; review of literature, policies, and standards; a comparative study of existing reuse frameworks; and testing our classifications against reuse examples across different products, packaging, sectors, and contexts.

1.5.1 Expert Consultation and Review

Developing this guide involved consultations with members of the Global Alliance for Incinerator Alternatives Asia Pacific (GAIA AP) and the Break Free From Plastic (BFFP) movement, drawing on their expertise in reuse, plastics, toxicity, policy, and implementation.

To strengthen the guide's applicability across regional contexts, allies and partners from Africa, Asia and Pacific, Europe, North America and Latin America also participated in consultations and reviewed successive drafts. These included organisations and networks such as the Asia Reuse Consortium, Global Reuse Alliance, PR3, the International Alliance of Waste Pickers (IAWP), and the Alliance of Indian Wastepickers (AIW).

The consultations and draft reviews offered practical perspectives on how reuse-related terminology is understood and applied in different contexts, how reuse systems operate in practice, and where existing terminology and classification approaches create gaps or ambiguities. They also helped identify issues that approaches focused primarily on formal or newly developed reuse systems may overlook, including the role of informal workers, waste pickers, community-based practices, and everyday forms of reuse.

We incorporated feedback from consultations and successive draft reviews throughout the guide's development and refinement.

1.5.2 Literature, Policy, and Standards Review

We reviewed existing terminology, definitions, standards, policies, and legislation relating to reuse, waste prevention, packaging, products, plastics, circular economy, and Extended Producer Responsibility (EPR).

Primary references included the Basel Convention glossary of terms, relevant International Organization for Standardization (ISO) standards, the European Union Packaging and Packaging Waste Regulation (PPWR), the Ecodesign for Sustainable Products Regulation (ESPR), the Ellen MacArthur Foundation's reuse frameworks, Zero Waste Europe's guidance, emerging reuse standards and technical guidance including PR3 standards, and selected national and regional legislation and policy documents.

The review also examined academic literature and reports from international organisations, research institutions, and civil society organisations to understand how reuse is defined, classified, governed and implemented in different sectors and contexts, including fast-moving consumer goods, food service, textiles, consumer durables, logistics, transport packaging, and e-commerce.

The review also considered relevant literature and evidence on established and informal forms of reuse, which contributed to understanding the diversity of reuse practices.

The review identified areas of convergence, inconsistency, and conceptual ambiguity across existing definitions and classification approaches. These findings informed the development and refinement of the terminology and taxonomy presented in this guide. A full list of references is provided in the Reference Section.

1.5.3 Framework Testing and Development

Rather than adopting an existing classification system, the taxonomy was developed through an iterative process of reviewing and comparing existing reuse frameworks, identifying gaps in their coverage, and testing the proposed classification against diverse examples of reuse across products and packaging.

We examined whether existing reuse definitions and classifications adequately represent diverse reuse practices and systems. Reuse practices and systems we considered include formal and informal systems, commercial and community-based arrangements, household practices, and different ownership and organisational models.

The testing process examined whether our newly proposed categories could consistently distinguish different forms of reuse while remaining relevant across products, packaging, sectors, and contexts. It also considered how the classification interacted with related practices, including refill, repair, rental, sharing, second-hand

use, redistribution, repurposing, and recycling.

This process helped identify limitations in existing approaches that focus primarily on packaging, or rely on narrow or binary distinctions such as ‘return’ and ‘refill’.

1.5.4 Use of Generative Artificial Intelligence

The authors used Generative Artificial Intelligence (AI) tools in a limited, supplementary capacity in the preparation of this guide. AI-assisted tools supported brainstorming, organising and refining draft text, examining alternative wording, and testing possible scenarios and examples during the development of the taxonomy.

The authors retain responsibility for all substantive research, literature review, policy and standards analysis, conceptual development, interpretation, classification decisions, and final editorial judgement. Generative AI was not used as evidence, did

1.6 Structure of the Document

INTRODUCTION, PURPOSE AND SCOPE

The guide is organised into two parts.

Part I

Reuse Terminology, Taxonomy, and Application

Introduces key reuse concepts and definitions, establishes a taxonomy for classifying reuse across products and packaging, and explains its classification dimensions and categories. It also provides practical examples and application cards illustrating how different reuse practices and systems are organised and operationalised.

Part II

Principles for Adopting and Scaling Reuse

Sets out the principles that should guide the development, adoption, and scaling of reuse.

1.7 How to read this document

INTRODUCTION, PURPOSE AND SCOPE

This document serves as both a conceptual guide and a practical reference. It builds progressively from terminology and classification to application, principles, and policy recommendations, while allowing readers to navigate directly to the sections most relevant to their needs.

Readers may use the guide in different ways:

01 For conceptual clarity

Begin with the ‘Reuse Terminology and Definitions’ in Part I and use the ‘Glossary of Terms’ as a quick reference for core and supporting terms.

02 To identify or classify a reuse practice or system

Begin with the ‘Reuse Taxonomy Framework’ and then refer to ’Application Cards’ ’ in Part I for practical examples of how the taxonomy applies to different reuse arrangements and systems.

03 To guide the design, implementation, assessment, or scaling of reuse systems

Refer to the ‘Guiding Principles’, which outline key considerations for ensuring that reuse systems are safe, environmentally sound, socially inclusive, accountable, and resource-efficient.

Additionally, cross-references throughout the document help connect terminology, classification, application, and principles, without requiring readers to read the guide from beginning to end.

01

PART ONE

REUSE TERMINOLOGY, TAXONOMY AND APPLICATION

2 REUSE TERMINOLOGY AND DEFINITIONS

This section defines the key terms used throughout the guide. It provides a common foundation for understanding reuse and supports the taxonomy, application cards and principles that follow.

The section is organised into six parts:

01 Core Reuse Concepts

Defines reuse and introduces the key concepts needed to understand the different forms of reuse. These concepts provide the foundation for reuse classification and its application presented in subsequent sections.

02 Reuse-Enabling Concepts

Actions or mechanisms that do not constitute reuse but which help maintain, restore, or extend an asset's functionality to potentially enable another cycle of use. These include repair, reconditioning, and refurbishment.

03 Concepts Describing How Reuse is Operationalised

Provides the operational context for understanding how reuse is implemented and organised. They include reuse practices and reuse systems.

04 Reuse Classification Concepts

Introduces the formal classification dimensions used in the taxonomy. These include Asset Identity, which identifies whether an asset functions as a product or packaging in a given context, and Primary Pathway enabling the next reuse cycle, which describes what primarily enables a reusable asset to enter another cycle of use.

05 Concepts describing Product and Packaging Characteristics

Describes the characteristics of products and packaging relevant to reuse, including their intended function, design, durability, and suitability for repeated use.

06 Concepts Describing the Reuse Landscape

Describes the wider economic, social, institutional, and operational environment within which reuse takes place. They help explain how reuse connects with actors, markets, livelihoods, infrastructure, services, and other aspects of the circular economy. These concepts provide context for understanding reuse but do not constitute additional classification dimensions.

Additional supporting terminology used in this guide is defined in the Glossary of Terms in Annexe III.

2.1 Core Reuse Concepts

REUSE TERMINOLOGY AND DEFINITIONS

The following concepts establish the foundation for understanding reuse and provide a basis for reuse classification and its practical application presented in subsequent sections.

REUSE

Definition

Reuse refers to the use of a product or packaging again for the same intended functional purpose for which it was designed and is suitable, including after any necessary maintenance or reconditioning.

Using an asset for a different purpose that removes or compromises its ability to continue performing its intended function is not considered reuse.

Interpretive Note

- **Relationship to the Basel Convention**

  This definition is informed by the *Basel Convention Glossary of Terms* (2017), which defines reuse as "the using again of a product, object or packaging that is not waste for the same purpose for which it was conceived, possibly after repair or refurbishment." This guide retains the core definition of using a product, object, or packaging again for the same purpose, including after repair or refurbishment, but introduces the term 'intended functional purpose' to clarify how to determine whether an asset remains suitable for reuse. (BASEL Convention, n.d.)

- **Functional purpose**

  An asset's intended purpose should be understood by considering the function for which it is designed and suitable, rather than only the specific use for which it was originally placed on the market. This should be determined by referring to the asset's functional design, material suitability, and applicable safety standards.

- **The same functional purpose does not require an identical application**

  Reuse does not require the asset to be used by the same person, hold the same contents, carry the same brand name, or be used in exactly the same application for which it was placed on the market. What matters is whether the asset continues to perform a function for which its design, materials, condition, and applicable safety requirements make it suitable.

- **Example – glass food jar**

  A glass jar originally used by a producer to package jam may be recovered, washed, and sterilised, then used by an individual or community-based enterprise to package or store condiments or other suitable food and beverage products. This can be considered reuse because the jar continues to perform its intended function as a container for food or beverage products and can be used again for that purpose, including packaging jam.

- **Suitability and safety**

  An asset's suitability for reuse depends on its condition and suitability for the intended function. Clear standards and appropriate governance are needed to determine the conditions in which reuse across different but functionally similar applications would be safe and suitable. Such requirements should protect user health and safety while preventing unnecessary barriers to participation for small retailers, street vendors, community-based enterprises, micro-entrepreneurs, and other actors involved in reuse.

- **Reuse of Packaging Originally Designed for Single Use**

  A package originally designed and marketed as single-use may subsequently be used again for the same functional purpose if it remains suitable and safe for that use. This may therefore fall within the definition of reuse. This does not mean single-use packaging is an appropriate design for reuse, or that it can substitute for packaging that is intentionally designed, tested, and demonstrated to be safe for repeated use. Therefore, continued use of single-use packaging should not be treated as a substitute for the transition to intentionally designed reuse systems, and should be considered alongside safety and producer responsibility requirements.

- **Relationship to waste status**

The Basel Convention definition refers to a product, object, or packaging that is “not waste”. This guide recognises that, in practice, assets may be discarded or enter a waste stream and subsequently be recovered for continued use. The fact that an asset has been discarded or classified as waste does not, by itself, determine whether its subsequent use is reuse. Where an asset is recovered, assessed as suitable, and returned to the same intended functional purpose, its subsequent use may constitute reuse. Its legal classification and any applicable recovery requirements remain subject to relevant national and local legislation.

For example, waste workers and waste pickers may assess discarded products such as used furniture or clothing for their condition, quality, and functionality. If these products are suitable for the same intended purpose, these may be recovered and sold or transferred through second-hand markets for a new user. Such practices can constitute reuse because the product continues to perform its intended function. The route through which an asset is recovered or transferred does not, by itself, determine whether its continued use qualifies as reuse.

- **Justice and producer responsibility**

Reuse practices involving recovery, second-hand markets, waste workers, and waste pickers should be supported and protected by appropriate policies grounded in principles of justice and producer responsibility. Such policies should prevent the transfer of low-quality or unusable products to communities and countries with weaker waste management systems, while recognising the role of waste workers and waste pickers in enabling reuse. Where producer-responsibility frameworks such as EPR support reuse systems, they should also ensure fair compensation and appropriate working conditions for workers involved in recovery and reuse. This is explained further in Part II, ‘Principles for Adopting and Scaling Reuse’.

- **Different from alternate use**

Where an asset is used for a different purpose, in a way that removes or compromises its ability to continue performing its intended functional purpose, the use is considered alternate use rather than reuse. This distinction is addressed further under ‘Distinguishing Reuse and Alternate Use’.

Examples

- Using a personal refillable water bottle for drinking
- Riding a second-hand bicycle received through donation
- Wearing a bridal gown, rented for an event

REUSE

Using a product or packaging again for the same intended functional purpose for which it is designed and suitable, including after any neccessary maintenance or reconditioning



Gin bottle used for storing vinegar is

It's the same type of function — storing a liquied — which the bottle is designed and suitable for.

ALTERNATE USE

Use for a different purpose that removes or compromises the asset's ability to continue performing its intended function is not considered reuse but alternate use



Gin bottle used for storing gasoline is ALERNATE USE

It's a different purpose — storing a fuel — which removes or compromises the bottle's ability to continue its intended function.

REFILL

Definition

Refill[1] refers to the act of replenishing a container, packaging, receptacle, or product component that is retained for repeated use.

Interpretive Note

- **Refill as a form of reuse:** Refill keeps an asset in use by replenishing it with consumable products the material it contains, holds, or dispenses. The container, packaging, receptacle, or relevant product component is retained and reused.

- **Component replacement is not refill:** Refill involves replenishing and retaining the asset that performs the relevant function. For example, adding ink into a refillable printer cartridge is a refill action practice. Replacing the retained cartridge with a new disposable cartridge, pod, or other consumable component is component replacement, not refill, even if such components are marketed as “refills.”

- **Refill does not require the refill material to be in the same physical form:** Refill may involve adding a concentrated, powdered, or otherwise different form of a product to a retained container, and adding another material, such as water, to prepare it for use. For example, adding shampoo or soap powder into a retained dispenser and mixing it with water can constitute refill, provided the retained container continues to perform its intended functional purpose. The physical form of the refill material does not, by itself, determine whether an activity constitutes refill.

- **Existing refill practices:** Refill practices is are not limited to formal refill stations or newly developed business models. It They are already can be embedded in long-standing household, community, and local market practices. For example, rice is sold in a cloth or jute bag that the consumer keeps and refills during subsequent purchases. The same bag is retained across multiple purchase cycles and replenished with the same product, making this both a refill practice and a form of reuse.

Examples

- Filling a user-owned steel water bottle with drinking water from a water station at a sporting event
- Retaining a cloth or jute rice bag and refilling it with rice during subsequent purchases
- Refilling a reusable container at home using a product purchased in a shop or delivered to the household
- Dispensing shampoo into a user-retained refillable bottle at a refill store
- Adding concentrated shampoo powder to a retained dispenser and mixing it with water so that the dispenser can continue dispensing shampoo
- Refilling a reusable ink pen with writing ink
- Adding ink into a refillable printer cartridge

[1] Note: This definition has also taken into consideration the Ellen MacArthur Foundation's (2019) *Reuse – Rethinking Packaging*, which distinguishes between refill at home and refill on the go: Refill at home: Users refill a reusable container at home using refills that are either delivered to the home, for example through a subscription service, or purchased from a shop. Users retain ownership of the main reusable packaging and are responsible for cleaning it. Refill on the go: Users refill reusable packaging at a dispensing point away from home, such as in a store. Users retain ownership of the reusable packaging and are responsible for

WHAT IS REFILL?

Refill means replenishing a product into a container, receptacle, or product component retained for repeated use.



Filling a user-owned steel water bottle with drinking water from a water station



Filling a reffilable vape tank with liquid so that the vape can be used again



Using a user-retained bag to buy package-free rice at a neighbourhood store



Adding ink to a user-retained refillable printer cartridge so that it can be used again

2.2 Reuse-Enabling Concepts

REUSE TERMINOLOGY AND DEFINITIONS

Reuse-enabling concepts describe activities or mechanisms that do not constitute reuse but enable an asset to undergo another reuse cycle. These processes may restore, maintain, or improve an asset's condition or functionality so it can be used again for its intended purpose. Depending on the asset and its reuse pathway, these may include inspection, cleaning, maintenance, repair, reconditioning, refurbishment, component replacement, or other forms of restoration.

Some of these processes are defined below.

RECONDITIONING

Definition

Reconditioning[2] refers to an operation or set of operations that assesses, restores, or prepares a product or reusable packaging so that it is suitable for another cycle of safe and functional reuse.

Reconditioning may range from relatively simple activities, such as inspection and cleaning, to more extensive interventions, including maintenance, repair, component replacement, or other forms of restoration. The required activities depend on the asset's condition and the intended reuse pathway. (*Regulation (EU) 2025/40 of the European Parliament and of the Council of 19 December 2024 on Packaging and Packaging Waste, Amen*, *2024*)

[2] Adapted from the definition of "reconditioning" in Regulation (EU) 2025/40 on packaging and packaging waste, which defines reconditioning as any operation necessary to restore reusable packaging to a functional state for the purpose of its reuse. The definition has been broadened in this publication to apply to both products and packaging.

Examples

- Cleaning, washing, and inspecting returnable beverage bottles after collection, and replacing broken or missing parts where necessary, before returning them to circulation
- Washing and inspecting clothing received at a thrift store before making it available for reuse
- Inspecting, cleaning, and, where necessary, repairing reusable food containers returned through a managed reuse system, before circulating them again
- Washing and maintaining reusable nappies through a nappy-washing service programme

Interpretive Note

- **Reconditioning as an Enabling Activity:** Reconditioning activities enable reuse but do not themselves constitute reuse.
- **Access to Reconditioning Services and Resources:** Reconditioning activities can be undertaken directly by users, or may depend on access to manufacturers, service providers, spare parts, software support, or specialised infrastructure. The availability, accessibility, and affordability of these services and resources can influence the duration for whichhow long products and packaging remain functional, safe, and suitable for continued reuse.
- **Cleaning and Hygiene Requirements:** This guide does not prescribe any cleaning frequencies or hygiene routines. Where specific cleaning frequency or sanitation requirements are necessary to ensure safety, these should be informed by applicable health and safety standards, and context-specific operational guidelines. Do not infer these from examples used to illustrate reconditioning.

RECONDITIONING

> Cleaning, washing, inspecting or replacing any broken or missing parts so that products can be used again for the same intended purpose.



Cleaning and inspecting returnable beverage bottles after collecting used bottles

Washing a steel bottle after every use

Washing clothes received at thrift stores

Maintaining reusable nappies via a washing programme

MAINTENANCE

Definition

Maintenance[3] refers to activities that preserve or restore an asset's condition and functionality so it can continue to perform its intended purpose.

Interpretive Note

- **Maintenance may involve multiple activities:** Maintenance may include routine or periodic activities such as inspection, cleaning, servicing, adjustment, software or firmware updates, and replacing worn components as needed, to preserve functionality.
- **Responsibility for maintenance:** The user, service provider, manufacturer, or another actor may perform maintenance, depending on the asset and reuse pathway.
- **Relationship to reuse:** Maintenance can support continued use and enable further reuse cycles, but maintenance itself is not reuse.
- **Access to maintenance support:** Some maintenance activities are within the user's control, while others depend on manufacturers, service providers, software support, spare parts, or other infrastructure. The availability and affordability of the supporting infrastructure for maintenance can therefore affect the duration for which products remain functional and reusable.

Examples

- Regularly servicing a washing machine or dishwasher to maintain its functionality and extend its useful life.
- Cleaning and lubricating a bicycle's moving parts to keep it functional.
- Replacing worn seals or filters as part of routine appliance servicing, before the asset becomes non-functional.

[3] For some products, particularly electronic and digital products, continued functionality and reuse may depend on maintenance that is controlled or supported by the manufacturer or service provider. This can include access to software or firmware updates, technical support, spare parts, servicing, and other forms of maintenance. Without such support, products may have a shorter functional life, contributing to premature replacement and disposal. The availability, duration, and accessibility of maintenance and support are therefore relevant considerations when assessing the conditions that enable reuse.

- Applying protective treatments or performing routine care to keep furniture usable.

- Performing routine software or firmware updates to maintain an electronic product's functionality, security, or compatibility.

REPAIR

Definition

Repair[4] refers to the operation of fixing a specified fault, damage, or defect, including through the replacement of damaged, defective, or missing components, to restore a product or reusable packaging to a functional state suitable for its intended functional purpose.

Interpretive Note

- **Repair is a form of reconditioning:** Repair is an intervention that supports or enables reuse by restoring the functionality of an item that has been damaged, degraded, or become partially or fully non-functional. Repair may be part of a broader reconditioning process or a standalone activity.

- **Replacing missing components:** Repair may also involve replacing missing components, not just damaged ones, if the missing component is necessary for the asset to perform its intended function. For example, replacing a missing screw, bracket, connector, or other component of a furniture item can constitute repair when it restores the asset's functionality. This is distinct from replacing the entire asset.

- **Maintenance and repair may overlap:** Maintenance generally refers to activities intended to preserve an asset's condition and functionality, while repair specifically addresses faults or defects. Therefore, repair may be undertaken as part of regular maintenance activities. Both may form part of reconditioning where necessary to enable another safe and functional reuse cycle.

[4] Adapted from the Basel Convention Glossary of Terms definition of repair (UNEP/CHW/OEWG.10/INF/10, 2016; UNEP/CHW.13/4/Add.2).

Examples

- Replacing a broken cap of a reusable takeaway container within a returnable packaging reuse system to ensure it can be repeatedly reused instead of being discarded[5]
- Stitching a torn jacket so the user can continue to wear it
- Fixing a broken part of a bicycle before resale in the second-hand market so a new owner can use it again for its intended purpose

REFURBISHMENT

Definition

Refurbishment[6] refers to a process involving multiple interventions to restore, improve, or update a product so that it is suitable for continued use or reuse for its intended functional purpose. This includes restoring or demonstrating compliance with relevant technical, safety, or regulatory requirements where applicable.

Interpretive Note

- **Refurbishment and reuse:** Refurbishment itself is not reuse, but the subsequent use of the refurbished asset for its intended functional purpose constitutes reuse.
- **Refurbishment may include other reuse enabling activities:** Refurbishment can incorporate activities, such as inspection, cleaning, repair, component replacement, software updates, and testing. These activities remain conceptually distinct even when undertaken as part of the same refurbishment process.

[5] Replacing a broken or damaged component of an existing reusable container to restore its functionality constitutes repair. By contrast, replacing a worn-out container with a new container is replacement, not repair. Replacing a removable consumable component as part of normal use is component replacement, rather than repair.

[6] Adapted from the Basel Convention Glossary of Terms definition of refurbishment (UNEP/CHW/OEWG.10/INF/10, 2016; UNEP/CHW.13/4/Add.2).

- **Refurbishment does not necessarily mean upgrading:** A refurbished product does not need to perform better than it did when it was new. The purpose may be to restore or improve its condition and functionality so it can continue to perform its intended function and be suitable for another use cycle.

- **Refurbishment may include alterations:** The use of an altered or modified asset can still constitute reuse if it continues to perform its intended function. Such modifications need not be limited to addressing physical deterioration or defects. For example, resizing a garment to accommodate changes in body size, altering its sleeves to suit seasonal needs or style preferences, or modifying second-hand clothing to suit a new user may enable continued use for its intended functional purpose.

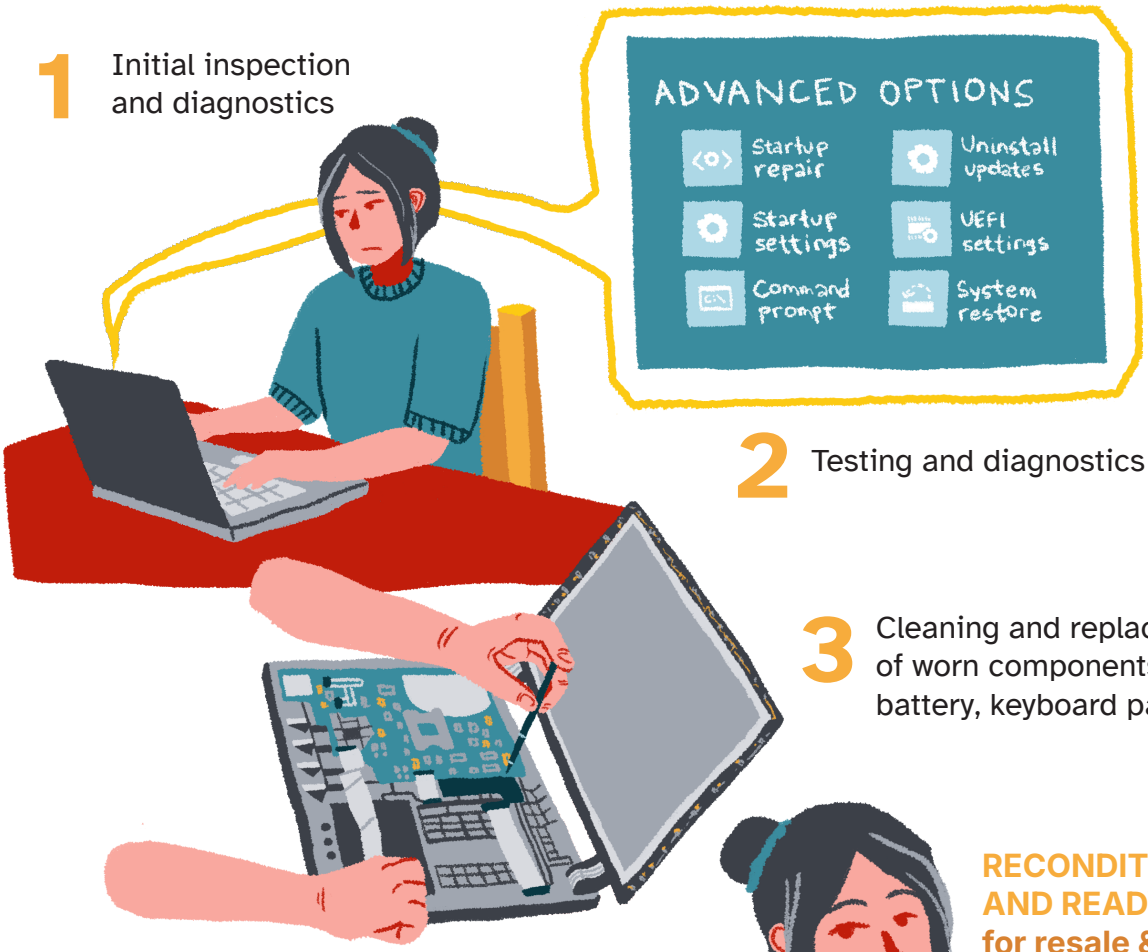
Examples

- A used laptop that is tested, cleaned, fitted with replacement components as needed, updated, and quality-checked before being resold

- A sofa restored by replacing worn foam and upholstery so it can be used again for its intended purpose

Used laptop reconditioned for resale

1 Initial inspection and diagnostics



2 Testing and diagnostics

3 Cleaning and replacement of worn components (e.g. battery, keyboard parts)

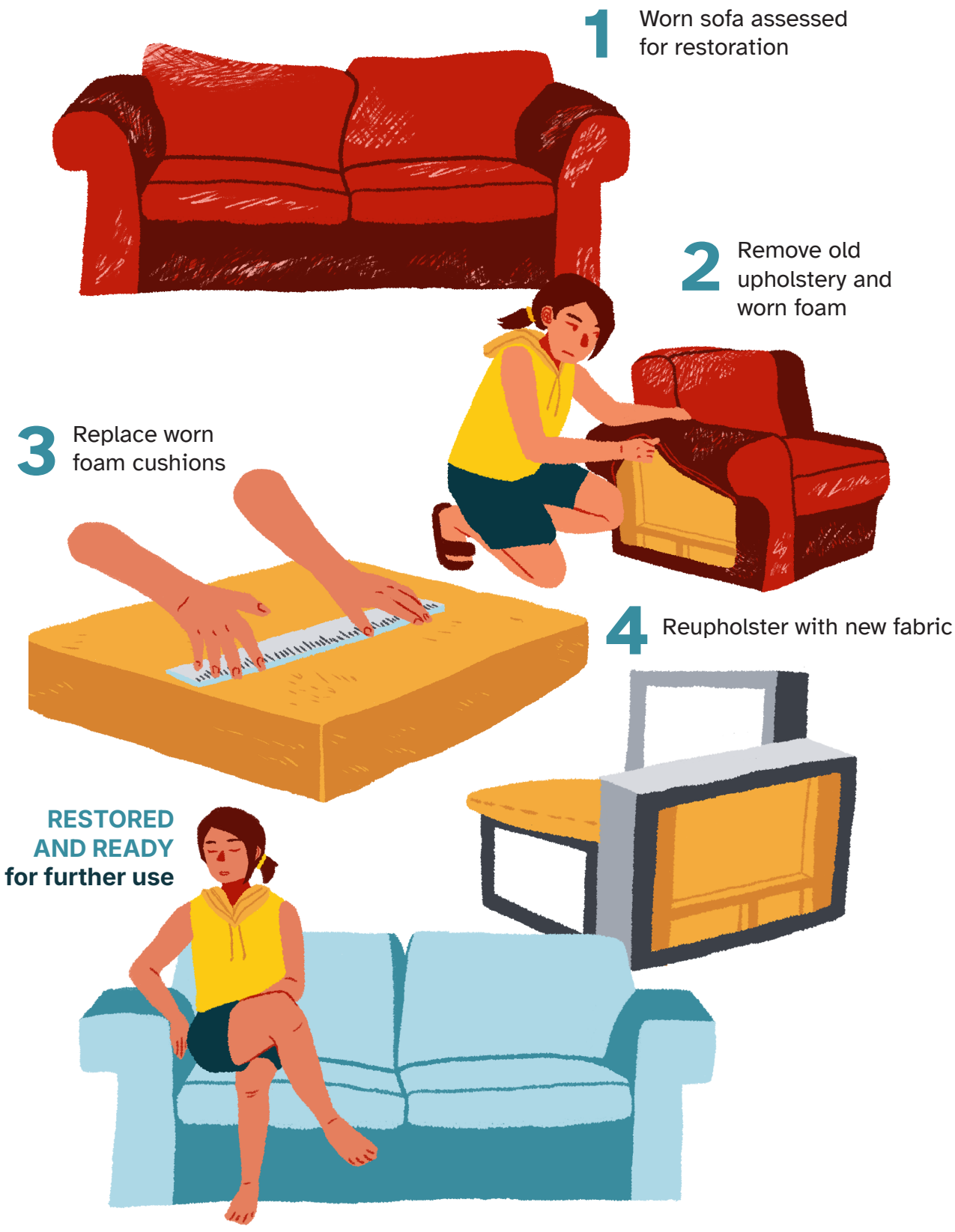
RECONDITIONED AND READY for resale & further use

4 Software updates and set up



5 Final quality checks

Sofa restored for further use



2.3 Concepts describing how Reuse is Operationalised

REUSE TERMINOLOGY AND DEFINITIONS

This section introduces the concepts that describe how reuse is implemented and organised in practice. It provides the operational context for understanding how the classification that follows is applied.

REUSE PRACTICES

Definition

Reuse practices[7] are actions through which users use products or packaging again for their intended functional purpose. The term describes reuse from the user's perspective.

Reuse practices may occur independently of an organised reuse system.

Examples

- Refilling and reusing a personal water bottle at a friend's home.
- Repeatedly using reusable nappies within a household.
- Using a jacket handed down by a relative.

[7] The authors recognise reuse practices as a distinct concept to capture the full range of ways in which repeated use occurs and to distinguish the actions and behaviours that enable it from the systems that may support them. This distinction is informed by literature and case studies demonstrating that reuse may occur both through organised systems and through established social, cultural, and economic practices. Examples include traditional reuse practices documented in African contexts. Demonstrating Traditional Practices of Reuse in Africa; as well as refill-based purchasing models such as Kuha sa Tingi in the Philippines, which build on existing everyday reuse and refill practices Kuha sa Tingi - Greenpeace Philippines

Reuse practices may also occur within organised reuse systems.

Examples

- Using a returnable beverage bottle that is collected and prepared for another use cycle.
- Using rented furniture that is returned to the service provider for further use.

Interpretive Note

- **Reuse practices versus reuse-enabling actions**

  Distinguish reuse practices from reuse-enabling actions that support or enable another reuse cycle but do not themselves constitute reuse. Reuse-enabling actions may include product return, collection, sorting, inspection, cleaning, maintenance, repair, tracking, and providing logistics.

REUSE SYSTEMS

Definition

A reuse system is an organised arrangement of infrastructure, actors, and actions that work together to enable the repeated use of products or packaging. Reuse systems may operate through different mechanisms, including return and recirculation, refill, lending or rental, and the transfer of products or packaging between users. Their configuration varies by reuse category and context, including the infrastructure, actors, and reuse-enabling actions involved.

Following are the key components of reuse systems:

- **Infrastructure:** This refers to the physical or service arrangements that support repeated use, such as collection and sorting facilities, washing stations, refill kiosks, storage spaces, and transport networks.
- **System Actors:** System actors are all individuals, groups, and organisations involved in a system's functioning. They include users, producers, retailers, service providers, waste pickers, community organisations, producer responsibility organisations (PROs), and workers.

- **Reuse Enabling Actions:** These actions support or enable another cycle of reuse but do not themselves constitute reuse. They may include activities such as collection, sorting, inspection, cleaning, maintenance, repair, reconditioning, and logistics.

Beyond these activities, reuse also depends on broader enabling conditions, including appropriate infrastructure, financing, policy support, information and education, and user engagement. These are discussed separately under the Reuse Ecosystem sub-section.

Annex I provides further explanations of the operational attributes used to describe reuse systems, including system design, infrastructure arrangements, system boundaries, ownership and circulation model and responsibilities for reconditioning.

Interpretive Note on Scale, Formalisation, and Technology

Reuse systems can vary considerably in their scale, organisational structure, level of formalisation, and technology use. A system does not need to be large-scale, commercially operated, highly formalised, or technology-intensive to constitute an organised system through which reuse occurs. It could be a simple, locally organised arrangement for return, preparation, or recirculation, without involving digital platforms or apps.

Conversely, larger or more complex systems may use digital tools, tracking systems, or other technologies to support participation, coordination, logistics, or asset management. They may also involve more formalised procedures, tracking mechanisms, reporting requirements, or defined responsibilities among participating actors.

For example, a neighbourhood refill store, a milk supplier delivering unpackaged milk to households in India, a returnable system for beverage containers, or a thrift store may all involve organised systems through which reuse occurs. What differs is the combination of actors, infrastructure, activities, scale, degree of formalisation, and use of technology.

SPECTRUM OF SYSTEM FORMALITY

> Same goal: Enable reuse. Different levels of **scale**, **investment**, **regulation** and **accountability**.

SCALE, INVESTMENT, REGULATION & ACCOUNTABILITY

Less formal → More formal



Section 3, ‘Practical Applications of the Reuse Taxonomy’, describes the different types of reuse systems through which reuse occurs.

Examples

- **Neighbourhood refill store:** A refill store may utilise refill dispensers and storage infrastructure, and involve users, retailers, and service providers. It may support activities such as product dispensing, container management, maintenance, and logistics.
- **Returnable beverage bottle system[8]:** A returnable beer bottle system may involve consumers, retailers, breweries, waste workers, and other actors, supported by collection, sorting, inspection, cleaning, refill, and recirculation processes that enable the bottles to be used by multiple users.
- **Thrift store:** A thrift store enables reuse by receiving clothing from previous users, sorting or checking items as needed, and making them available to new users for the same intended function. Here, repeated use is enabled through transfer of

2.4 Reuse Classification Concepts

REUSE TAXONOMY FRAMEWORK

Reuse classification concepts introduce the dimensions used to classify reuse within the taxonomy. These include (i) asset identity, which distinguishes between products and packaging, and (ii) the primary pathway enabling the next reuse cycle, which describes how a reusable asset is enabled to enter another cycle of use.

[8] Refer to the Case Study: Beer Bottle collection by Waste Pickers for Reuse in India, in the publication *Unpacking Reuse in Asia*

a. Asset Identity

An asset is any physical item that performs a function within a particular context. Asset Identity distinguishes whether an asset functions as a product or as packaging in that context. The asset's function—not solely its physical form, original market application, or common description— determines this identity. The same physical item may therefore function as a product in one context and as packaging in another.

Product

A product is an asset designed, produced, or used to fulfil a particular function or purpose. Products encompass a wide range of goods, including clothing, furniture, tools, equipment, utensils, containers, and other items used in everyday life, commercial activities, or institutional and community settings.

Products may be designed for single use, limited use, repeated use, or long-term use.

Packaging

Packaging refers to assets used to contain, protect, carry, or serve another product as part of its supply or distribution to a recipient through commercial or non-commercial arrangements.

Packaging may perform different functions throughout the supply and distribution process, including storage, transportation, delivery, and provision for consumption. Like other products, packaging may be designed for single use or repeated use.

Distinguishing Products from Packaging

Although packaging is itself a type of product, this taxonomy distinguishes products from packaging based on the function they perform in a particular use cycle.

An asset is classified as a **product** when it is used for its own intended purpose, irrespective of whether it packages another product for supply or distribution. It is classified as **packaging** when it is used to contain, protect, carry, or serve another product as part of its supply or distribution to a recipient.

This distinction is based on the function of the asset rather than its physical characteristics, ownership, or location of use. The same asset may therefore function as a product in one use cycle and as packaging in another.

Interpretive Note

- **Understanding Supply and Distribution:** Supply and distribution encompass commercial and non-commercial arrangements through which products are provided to recipients. They do not necessarily require payment, transfer of ownership, or transportation to another location.

- **Distinction from Regulatory Definitions:** The EU Packaging and Packaging Waste Regulation (PPWR) defines packaging with reference to its use by economic operators. This taxonomy adopts a broader scope that also recognises packaging functions within public, community-based, and other non-commercial arrangements.

- **Refill-at-Home Arrangements:** Products and their reusable packaging need not be supplied together. A reusable detergent bottle retained and refilled at home using separately supplied refill packs continues to perform a packaging function within the product-provision arrangement.

- **Household and Personal Use:** Ordinary household and personal activities, such as storing food in containers, carrying personal belongings, filling a bottle from a household tap, or serving meals to guests at home, do not in themselves constitute supply or distribution arrangements. Assets used for these purposes are therefore classified as products rather than packaging.

Scenario	Asset Type	Rationale
A household container used to store rice	Product	The container is used for household storage and not for the supply of rice.
A reusable container used to purchase loose rice from a grocery shop	Packaging	The container holds rice as part of its supply to the customer.
A reusable coffee cup used at home	Product	The cup is not used as part of a supply arrangement but for personal consumption.
A customer-owned reusable cup filled with coffee at a café	Packaging	The cup is used to receive a beverage supplied by the café.

A reusable plate used to serve food to a guest at home	Product	The plate is used as part of an ordinary domestic activity rather than an organised supply arrangement.
Airline-owned reusable plates used during in-flight meal service	Packaging	The plates are used to serve meals to passengers as part of the supply arrangement by an institutional service.

b. Primary Pathway Enabling the Next Reuse Cycle

An asset is any physical item that performs a function within a particular context. Asset Identity distinguishes whether an asset functions as a product or as packaging in that context. The asset's function—not solely its physical form, original market application, or common description— determines this identity. The same physical item may therefore function as a product in one context and as packaging in another.

Three pathways are distinguished:

- **System-retained Pathway**
- **User-retained Pathway**
- **Ownership-transfer Pathway**

These pathways describe how an asset is kept in repeated use, rather than solely who owns it, physically possesses it, or coordinates the services associated with its use.

Ownership arrangements remain relevant to understanding how reuse operates, but do not independently determine the pathway. For example, within a returnable packaging reuse system, ownership may remain with one actor or transfer between participating actors but the packaging continues to be recovered and recirculated through the system.

SYSTEM-RETAINED PATHWAY

Definition

System-retained Pathway refers to an arrangement in which a reusable asset is returned to or otherwise recovered within an organised reuse system after its use, and made available for subsequent use cycles.

The asset remains within the reuse system across successive cycles, although it may pass through multiple actors involved in collection, reconditioning, distribution, and use.

Examples

- **Returnable beverage packaging:** Reusable beverage bottles owned by a brewery or another system actor, returned, reconditioned, refilled, and redistributed through a packaging reuse system. Ownership may remain with a brewery or transfer between participating actors.
- **Packaging pooling:** Reusable transport packaging, crates, or pallets circulated among participating businesses, recovered after use, and redistributed for subsequent use.
- **Furniture rental:** Furniture made available to customers for temporary use and subsequently returned to a rental service for inspection, repair, or maintenance before being rented again.

Interpretive Note

- System-retained does not necessarily mean that ownership remains with the same actor throughout the asset's reuse journey. It also does not mean that the organisation coordinating the system necessarily owns the asset. Classification depends on whether the asset is recovered and recirculated through the organised reuse arrangement, rather than solely on who owns the asset. For example, in a returnable beverage packaging reuse system, independent collectors may recover and purchase used bottles, then transfer them to participating bottlers for cleaning, refilling, and redistribution. Although ownership changes, the packaging continues through a system-retained pathway.

USER-RETAINED PATHWAY

Definition

The User-retained Pathway refers to an arrangement in which a reusable asset is retained by the same user across successive use cycles and repeatedly used for its intended functional purpose.

In this guide, a user refers to an individual, household, business, institution, organisation, community group, or other entity that uses a product or packaging for its intended functional purpose. The user is not necessarily the owner of the asset.

Examples

- A menstrual cup or cloth menstrual pad retained and maintained by an individual for use across menstrual cycles.
- A refillable water bottle retained by a user and repeatedly refilled at home, at refill points,
- A bicycle, furniture item, or appliance retained and used over time by a user, including after maintenance or repair.

Interpretive Note

- User-retained does not mean that the user must also personally perform reuse enabling activities also to keep the asset in use. Cleaning, repair, and maintenance may be provided by third parties without changing the pathway. For example, a user may send a garment to a repair service and subsequently continue wearing it, or give a clothing for dry-cleaning service so that it could be retained for further use. These supporting services do not, by themselves, turn the arrangement into a system-retained pathway.

OWNERSHIP-TRANSFER PATHWAY

Definition

The Ownership-transfer Pathway refers to an arrangement in which ownership of a reusable product passes from one owner to another, enabling the product to continue performing its intended functional purpose.

Ownership may transfer through resale, gifting, donation, exchange, or other mechanisms. Transfer may occur directly between individuals or organisations, or through services and systems that facilitate second-hand circulation and redistribution.

Once ownership has transferred, continued repeated use by the new owner generally follows the user-retained pathway, until a subsequent transfer occurs.

Examples

- A functioning computer sold or donated to a new owner who continues to use it as a computer.
- Clothing gifted, donated, resold, or exchanged and subsequently worn by another person.
- A functioning household appliance or other product lawfully recovered by a waste picker or other recovery worker, assessed as suitable for continued use, and sold or transferred to another user who uses it for its intended purpose.

Interpretive Note

On Transfer of Ownership for Products

- Ownership transfer alone does not establish that reuse has occurred. The asset must remain suitable for, and be used for, its intended functional purpose.
- Second-hand marketplaces, donation networks, and resale platforms may facilitate ownership transfer, but they are not necessarily the owners of the products being exchanged.

- The recovery or transfer of discarded items remains subject to applicable laws and local waste-management rules. Placing an item outside for collection or disposal does not, by itself, establish that anyone is legally entitled to take it.

- Although ownership changes, the packaging continues through a system-retained pathway.

On Transfer of Ownership for Packaging

- Ownership transfer may also occur between actors within a returnable packaging reuse system (open-loop packaging reuse). However, it does not establish a separate packaging reuse pathway or reuse classification category. For example, reusable bottles may transfer in ownership between independent collectors, washing facilities, and bottlers while remaining within a system-retained packaging reuse arrangement.

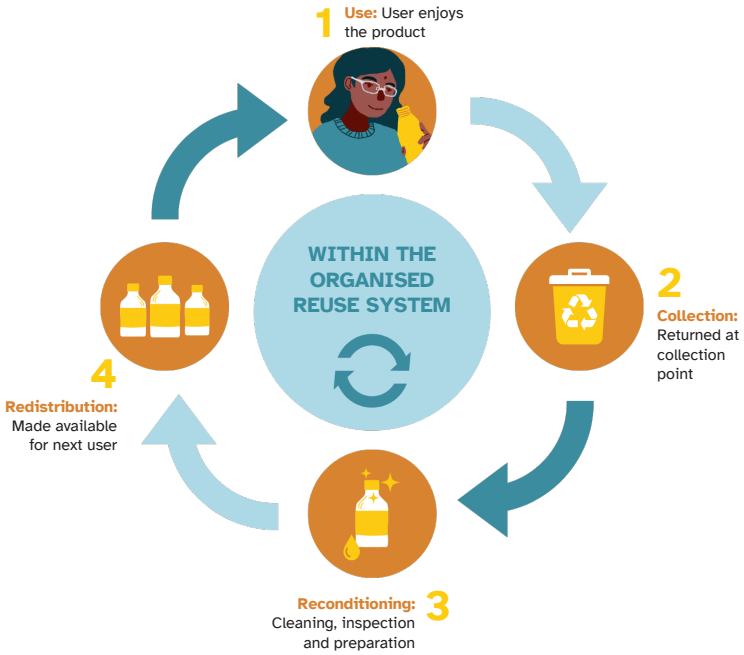
- Likewise, the physical movement of packaging between actors does not necessarily establish ownership transfer. For example, a reusable bottle returned to a retailer or collection point may remain owned by the same company or jointly by a cooperative group of companies throughout the reuse cycle, even as it moves between different participating actors (closed-loop packaging reuse).

The distinction between open- and closed-loop packaging reuse arrangements, including how ownership is retained or transferred within them, is discussed further in the Annexure-I on operational characteristics of reuse systems.

THREE PATHWAYS FOR REUSE

Different arrangements through which reusable assets remain in use.

SYSTEM-RETAINED PATHWAY



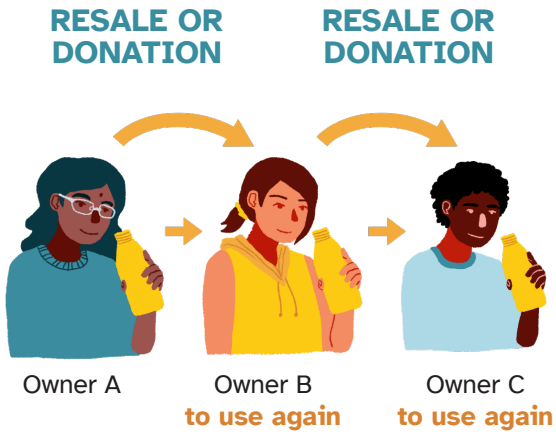
A reusable asset is returned to or recovered within an organised reuse system after use and made available for the next cycle. It remains within the reuse system, even as it moves across actors involved in collection, reconditioning, distribution, and use.

USER-RETAINED PATHWAY



A reusable asset is retained by the same user across successive use cycles and repeatedly used for its intended functional purpose. The user may be an individual, household, business, institution, organisation, or community group.

OWNERSHIP-TRANSFER PATHWAY



Ownership of a reusable product pauses from one person to another through resale, gifting, donation, exchange, or similar mechanisms. After transfer, repeated use by the owner generally follows the user-retained pathway until a later transfer occurs.

2.5 Concepts Describing Product and Packaging Characteristics

REUSE TERMINOLOGY AND DEFINITIONS

Products and packaging may differ in their design, intended use, durability, and suitability for repeated use. The following concepts clarify these characteristics, including the distinctions between single-use, limited-use, and reusable products and packaging.

These characteristics are relevant to understanding reuse but do not constitute additional dimensions of the reuse taxonomy.

PRODUCT CHARACTERISTICS

Definition

Products vary in how they are used, consumed, and designed to remain functional over time. The following distinctions are relevant to understanding their suitability for repeated use.

Consumable Products

These refer to products or materials intended to be ingested, applied, or progressively depleted during use. Examples include food, beverages, personal care products, household care products, and ink.

Reusable Products

These are products designed to be durable and perform their intended function over multiple use cycles and remain in use over time, including with maintenance, repair, alteration, reconditioning, refurbishment, or other necessary care, where applicable. Examples include clothing, furniture, electronics, vehicles, bicycles, tools, household appliances, sports and leisure equipment, and reusable menstrual products.

Interpretive Note

- Some products traditionally used over extended periods are increasingly being designed, marketed, or consumed in ways that shorten their useful life. Factors such as convenience-oriented design, low-quality materials, limited repairability, and planned or premature obsolescence can reduce the number of times a product is used before it is discarded.

Single- and Limited-Use Products

Single- and limited-use products are designed or intended to perform their function only once or a limited number of times They are not designed or suitable for repeated use beyond the intended number of uses. Examples include wet wipes, plastic straws, disposable razors, and single-use menstrual pads.

Interpretive Note

- The fact that a single- or limited-use product can be used more than once, or may in practice be used more times than intended, does not by itself make it a reusable product. Classification depends on whether the product is was designed and is suitable for repeated use while continuing to meet its intended functional, performance, and applicable health and safety requirements.

- Similarly, a reusable product does not become a disposable product simply because it is discarded after one use. Disposability is a characteristic of the product's design and intended use, not merely a description of how the user handles it.

- For example, a disposable razor may be used more than once in practice, but it remains a limited-use product because it is designed and intended for a limited number of uses rather than sustained repeated use over its useful life.

- Manufacturers and other relevant actors should provide accessible information on intended use, including relevant instructions for safe use, maintenance, and disposal where applicable. This helps users distinguish products unsuitable for repeated use from those designed for durability and reuse, and can help prevent both unsafe reuse and premature disposal of reusable products. The function of communication in supporting safe and responsible reuse is further addressed in Part II, 'Principles for Adopting and Scaling Reuse'.

Reusable Alternatives to Single Use Products[9]

These are products designed to replace single-use products since they can by performing the same functional purpose over repeated use cyclesbe used repeatedly for the same purpose. Examples include cloth pads and diapers, reusable water bottles, and reusable cutlery.

Interpretive Note

- Many products and practices described today as “reusable alternatives” have long existed in households, communities, local markets, and other systems, including before the widespread adoption of disposable products. Their renewed adoption may therefore represent the continuation, adaptation, or reintroduction of established practices rather than the development of entirely new products or consumption practices.

- The term “‘reusable alternative’” is descriptive, not a separate classification category.

Products Within the Scope of This Guide

This guide focuses on products that are relevant to reuse. It includes:

- Products designed to replace single- or limited-use items and be used repeatedly for the same purpose, such as cloth pads, reusable diapers, reusable bottles, and reusable cutlery;

- Reusable products designed and suitable for repeated use by the same or different users

Reuse of these products may involve different reuse arrangements, including continued use by the same user, provision through a reuse system, or transfer to another user through resale, gifting, donation, sharing, lending, rental, or other forms of ownership transfer.

[9] The authors use the term “reusable product alternative” to distinguish products designed to replace single-use products from other durable products intended for long-term use that are not primarily substitutes for single-use items. This distinction supports classifying reuse interventions that replace disposable products with reusable alternatives.

PACKAGING CHARACTERISTICS

Definition

Like other products, packaging may be designed for single or repeated use. The distinction lies in whether the packaging is designed and suitable to perform its intended packaging function over multiple use cycles while meeting applicable performance, health, and safety requirements.

The following terms distinguish packaging according to its intended use and suitability for repeated use.

Single-Use and Limited-Use Packaging

Single- and limited-use packaging is packaging designed or intended to perform its functional purpose for a single use or a limited number of uses. It is not designed or suitable for repeated use beyond the intended number of uses. Examples include sachets, disposable takeaway containers, and single-use beverage bottles.

Interpretive Note

- The fact that packaging can physically be used more than once, or is reused by a user in practice, does not by itself make it reusable packaging. Classification depends on whether the packaging is designed and suitable for repeated use and meets its intended functional, performance, and applicable health and safety requirements over repeated use cycles. For example, a single-use beverage bottle may be repeatedly filled with water by a user, but this does not make the bottle reusable or refillable packaging.

Reusable Packaging

Reusable packaging refers to packaging that is intentionally designed and suitable for repeated use for its intended functional purpose. It may be used repeatedly used through system-retained arrangements, where packaging is returned or recovered and recirculated for subsequent use, or through user-retained arrangements, where packaging is retained and refilled by the same user.

In this guide, two pathways are distinguished:

Returnable packaging

Where packaging is returned and recirculated for subsequent use. This generally involves collection, reconditioning, refilling where applicable, and redistribution through a reuse system.

Refillable packaging

Where the user retains the packaging and refills it multiple times for the same intended functional purpose. This pathway does not require the packaging to be returned and recirculated across users.

Interpretive Note

- **Reusable packaging as an umbrella term:** This guide uses ‘reusable packaging’ as an umbrella term covering both returnable and refillable packaging. This recognises that both returnable and refillable packaging are designed and suitable for repeated use, while distinguishing between arrangements in which packaging is returned and recirculated and those in which it is retained and refilled.

- **Distinction from regulatory terminology:** Under Regulation (EU) 2025/40 on Packaging and Packaging Waste (PPWR), Article 3(27) defines ‘re-use’ as “any operation by which reusable packaging is used again multiple times for the same purpose for which it was conceived”. Article 11(1) establishes the requirements for packaging to qualify as reusable, including its design for multiple uses and rotations, safety, reconditioning and recyclability.

  The PPWR defines ‘re-use system’ in Article 3(31) as arrangements that enable packaging reuse within closed-loop or open-loop systems, including the collection of packaging for subsequent reuse. It defines ‘refill’ separately under Article 3(33), covering the filling of containers that serve a packaging function and are owned or purchased by end users.

  In contrast, this guide adopts a broader conceptual understanding of packaging reuse, encompassing both packaging returned and recirculated within a system and packaging retained by users for repeated refill.
  This conceptual distinction does not alter the legal definitions or requirements established under the PPWR.

- **Operational arrangement may be formal or informal:** Packaging designed for repeated use may be classified as returnable packaging when an operational arrangement enables its return, any necessary reconditioning, and recirculation for subsequent use. Such arrangements may rely on formal tracking and record-keeping or operate through informal practices without a formal system for tracking or verifying reuse cycles.

- **Distinction between refillable packaging and packaging that is subsequently refilled:** Packaging that is not designed and suitable for repeated refilling should not be classified as refillable packaging, even where a user subsequently refills it. Such use may still constitute reuse where the packaging continues to perform its intended functional purpose, but it does not convert the packaging itself into refillable packaging.

  For example, repeatedly filling a single-use beverage bottle with water may constitute reuse, but the bottle would not therefore be classified as refillable packaging.

Examples of Returnable Packaging

- **Returnable beverage bottles:** Reusable beverage bottles that users or retailers return, which are collected through an established arrangement, reconditioned as necessary, refilled with a beverage permitted under applicable safety and quality requirements, and recirculated for subsequent use

- **Returnable takeaway food containers:** Reusable containers returned after use, reconditioned as necessary, and redistributed for repeated use. Such systems may operate through formal collection arrangements or simpler local arrangements between participating businesses and users.

- **Returnable transport crates:** Reusable crates used to deliver or transport products, returned after delivery, inspected or cleaned where required, and reused for subsequent deliveries

- **Reusable pallets:** Wooden or plastic pallets used to support, handle, store, or transport goods, then returned and reused within supply chains or pallet-pooling arrangements

- **Reusable beer kegs:** Kegs used to contain and transport beer or other beverages, returned to the brewery or supplier, reconditioned as necessary, refilled, and recirculated for subsequent use

Examples of Refillable Packaging

- **Refillable detergent container:** A container the consumer retains and repeatedly refills with detergent or similar products permitted under applicable safety and quality requirements.
- **User-owned steel container:** A container a user keeps and repeatedly uses to receive milk from a bulk supply.
- **Refillable shampoo bottle:** A bottle the user retains and repeatedly refills with shampoo at home or in a store.

These concepts describe the broader economic, social, institutional, and operational landscape in which reuse occurs. They help explain how reuse connects to actors, markets, livelihoods, infrastructure, and other aspects of the circular economy.

REUSE ECOSYSTEM

Definition

Reuse ecosystem refers to the interconnected actors, systems, infrastructure, policies, economic and marketplace conditions, social practices, and the wider environmental and institutional contexts that collectively influence how reuse is organised, enabled, practised, and scaled.

The reuse ecosystem encompasses, for example, producers, users, workers and waste pickers; reuse operators and retailers; collection, washing and logistics infrastructure; policies and economic instruments; product design and business models; consumer behaviour and cultural practices.

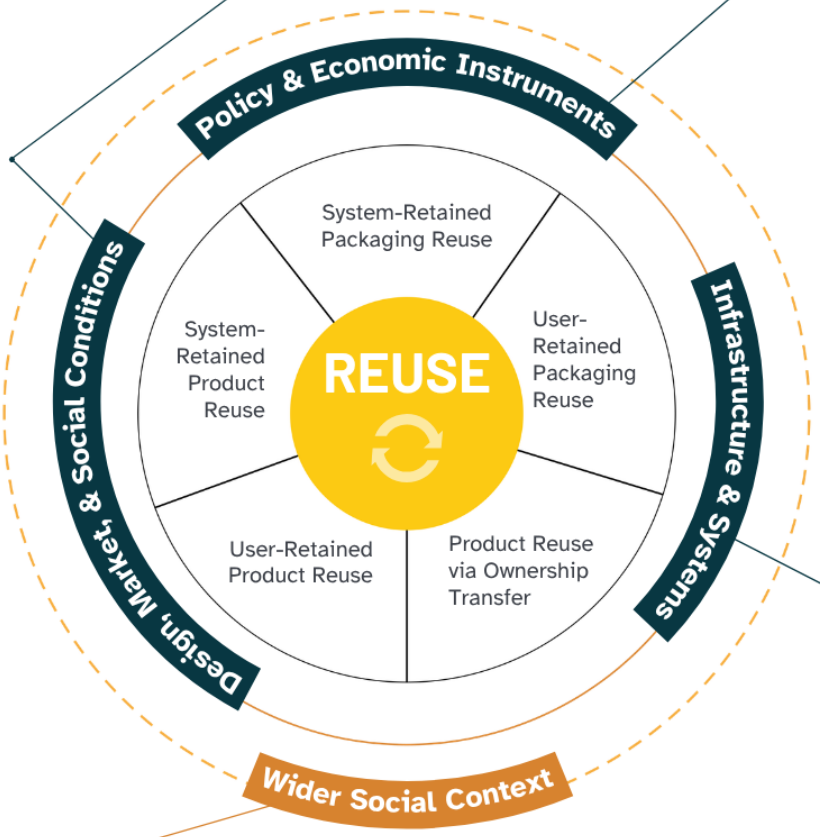
It also operates within broader social, environmental, economic, and institutional contexts, including those relating to public health, climate, biodiversity, livelihoods, and resource availability.

2.6 Concepts Describing the Reuse Landscape

REUSE TERMINOLOGY AND DEFINITIONS

Products and packaging may differ in their design, intended use, durability, and suitability for repeated use. The following concepts clarify these characteristics, including the distinctions between single-use, limited-use, and reusable products and packaging.

These characteristics are relevant to understanding reuse but do not constitute additional dimensions of the reuse taxonomy.



POLICY & ECONOMIC INSTRUMENTS

Policies and economic levers that shape incentives, responsibilites and investment for reuse.

EXTENDED PRODUCER RESPONSIBILITY (EPR)
To include reuse and refill targets.

DEPOSIT RETURN SYSTEMS (DRS)
For returnable packaging and products.

STANDARDS
Safety and quality standards for reusable products and packaging, including that for transboundary movement for product reuse

ECODESIGN
Design for durability, repairability, reusability, modularity and reduced material use.

BANS AND TAXATIONS
To reduce single-use products and packaging.

FINANCIAL MECHANISMS
Subsidies, grants, green finance, fiscal incentives, impact investments.

RIGHT TO REPAIR
Policies that enable repair, access to spare parts, repair information and affordable services.

DESIGN, MARKET, AND SOCIAL CONDITIONS

Conditions that shape whether reuse is desirable, practical, accessible, viable, and inclusive.

PRODUCT & PACKAGING DESIGN
Durability, modularity, standardisation, repairability, and non-toxic materials.

BUSINESS MODEL & SERVICES
Rental, refill and repair services, subscription, and sharing economy models suited to local context.

CONSUMER BEHAVIOUR & CULTURE
Awareness, trust, convenience, affordability, and habit change.

WORKER INCLUSION
Inclusion of workers and waste pickers, decent work, fair payments, and skills development.

DATA & TRANSPARENCY
Tracking, reporting, standards, proof of reuse outcomes.

INFRASTRUCTURE & SYSTEMS

Physical systems that make reuse possible and convenient.

COLLECTION & RETURN POINTS / SERVICE
For durability, modularity and reduced material use.

REFILL INFRASTRUCTURE
Dispensers, refill stations, bulk systems, and supporting logistics.

REPAIR SERVICES
Repair centres, spare parts, and refurbishment services.

REVERSE LOGISTICS
Transport, sorting, and consolidation

WASHING & RECONDITIONING
Cleaning, disinfection, and quality control.

SECOND-HAND MARKETS
Collection, sorting, resale, and exchange platforms (physical and online)

WIDER CONTEXT

Broader social, environmental, and economic conditions that shape and are affected by reuse.

CLIMATE
Climate commitments, emissions reduction, and climate resilience.

BIODIVERSITY
Protection of ecosystems and natural resources.

HEALTH
Public health and reduced exposure to harmful materials.

LIVELIHOODS & JUST TRANSITION
Jobs, income, rights, and social protection for workers in reuse systems, including fair contracts and capacity building

RESOURCE SECURITY
Efficient use of materials and supply security.

ECONOMIC RESILIENCE
Sustainable production, consumption, and global supply chains.

SOCIAL CONTEXT
Culture and norms, education, community participation, and effective governance.

The table below outlines key enabling conditions within the reuse ecosystem and illustrates how they may support or influence reuse in different contexts.

TABLE - The Enabling Ecosystem for Reuse

Reuse Enablers	Explanation	Examples
Policy and Regulatory Context	Policies, regulations, standards, and accountability mechanisms that influence the adoption and implementation of reuse	Extended producer responsibility (EPR), reuse targets, product safety requirements, ecodesign requirements, public procurement, restrictions or taxes on disposable products
Infrastructure	Physical infrastructure and services that support the return, refill, reconditioning, repair, and repeated use of assets	Collection and return points, refill stations, washing facilities, repair services, storage and logistics facilities, second-hand markets
Financing and Economic Incentives	Financial arrangements and incentives that support reuse systems, services, and related infrastructure	EPR financing, deposit systems, grants, subsidies, low-interest loans, and other financial support for reuse enterprises and community initiatives
Labour and Service Ecosystem	Workers, enterprises, and service providers undertaking activities that enable reuse	Waste pickers, repair workers, refill operators, collection workers, washing and reconditioning providers, and reuse service operators
Training and Capacity Building	Skills, knowledge, and institutional capabilities that support participation in and operation of reuse systems	Training for workers, businesses, community organisations, reuse operators, and local governments

Cultural Norms and Behaviours	Social norms, expectations, behaviours, and established practices that shape participation in reuse	Traditions of repair and reuse, willingness to return packaging, acceptance of refilling, trust in second-hand products, and practices of sharing and lending
Information, Education and Communication	Information and communication that help stakeholders understand, access, and participate in reuse	Public awareness campaigns, guidance on safe and appropriate reuse, information about available refill and return services, and clear instructions for using reuse systems
Markets and Business Models	Market conditions, commercial arrangements, and business models that influence the availability, accessibility, affordability, and viability of reuse.	Refill and return services, rental and sharing models, second-hand markets, repair and resale businesses, packaging pooling services, and procurement arrangements that create demand for reusable products and services

Interpretive Note

- Not all enabling conditions are required for every form of reuse, and their importance varies by context. For example, an individual who repeatedly uses and maintains a reusable product may not need dedicated infrastructure, while a returnable packaging system may depend on coordinated collection, reconditioning, and recirculation arrangements. The enabling conditions listed above are illustrative, not exhaustive, and should not be interpreted as prerequisites for every reuse system.

2.7 Key Distinctions and Interpretive Clarifications

REUSE TERMINOLOGY AND DEFINITIONS

This section clarifies important distinctions made in the guide,such as continued use versus reuse and reuse versus alternate use. These distinctions support consistent classification of reuse practices while recognising that products and packaging may remain in use through different arrangements and contexts.

Distinguishing between Reuse and Continued Use

Reuse

Occurs when an asset completes a functional use cycle and is used again for the same intended functional purpose. Cleaning, washing, repair, maintenance, or reconditioning may prepare an asset for subsequent use, but these activities do not constitute reuse and are not required in every instance.

Continued use

Refers to the ongoing use of an asset for its intended functional purpose within the same functional use cycle. When you can identify distinct functional use cycles, each subsequent cycle constitutes reuse. Where an asset continues to perform its intended function without a distinct subsequent use cycle, this constitutes continued use. An interruption in use does not, by itself, establish a new functional use cycle.

The distinction between continued use and reuse should not depend on whether cleaning or reconditioning has occurred. Instead, it should depend on whether the asset has completed one use cycle and begun another.

Following are some examples that illustrate the difference between reuse and continued use.

Example	Classification	Explanation
Wearing a T-shirt for a certain duration before washing it	Continued Use	The T-shirt remains within the same wearing cycle.
Wearing the T-shirt again after washing it	Reuse	The previous wearing cycle has ended, and the T-shirt is used again for the same intended purpose.
Using your table every day	Continued Use	The table remains in service for its intended function. Each day does not constitute a separate reuse cycle.
Using your table again after you fixed a damaged part	Reuse	The table is restored to a functional condition and used again for its intended purpose.
Washing reusable nappies and using them again	Reuse	Each wear–soil–wash–wear sequence represents a new functional use cycle.
A parent repeatedly uses reusable nappies for their child, with a laundry service washing the nappies between use cycles	Reuse (Service-maintained*)	Each wear–soil–wash–wear sequence represents a new functional use cycle, whether it is undertaken by the owner or a service provider. Washing enables subsequent reuse but does not itself constitute reuse.
A service that owns, supplies, collects, washes, and redistributes nappies	Reuse (via Product Reuse System)	The nappies are used across successive cycles through an organised reuse system.

Drinking water from a bottle after refilling it at a water kiosk	Reuse	The bottle is refilled and used again for its intended purpose.
Using the same toothbrush again the next morning	Reuse	The toothbrush is used again for its intended purpose after the previous brushing cycle.
Inheriting a functional pan and using it for cooking	Reuse through Ownership Transfer	The pan passes to a new owner and continues to perform its intended function. The transfer enables continued use by another user.

*Service-maintained reuse refers to an arrangement in which cleaning, maintenance, or other activities necessary to prepare a reusable asset for subsequent use cycles are undertaken by a service provider rather than the user.

Distinguishing between Reuse and Alternate Use

Alternate use refers to using a product or packaging for a purpose different from its intended functional purpose, in a way that compromises its ability to return to the intended purpose through the reconditioning processes normally applicable to it.

For example, an alcohol bottle recovered and used to store gasoline would be classified as alternate use if it compromises the bottle's suitability for packaging alcohol again under the applicable reconditioning requirements, due to potential contamination and associated health and safety risks.

In many communities, using products or packaging for different purposes is part of long-standing resourcefulness and is commonly referred to as reuse. Such practices can extend the useful life of products and materials, promote resource efficiency, and help prevent waste. However, under this guide, an activity is classified as alternate use rather than reuse where it compromises the asset's ability to return to its intended functional purpose under the applicable reconditioning requirements.

This distinction aligns with the distinction made by the Open-ended Working Group of the Basel Convention[10] between reuse for the originally intended purpose of an object or substance and alternative uses for different purposes. The Working Group recognised that alternative uses may promote resource efficiency, help prevent objects

[10] Open-ended Working Group of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Tenth Meeting, Nairobi, 30 May–2 June 2016. The document distinguishes reuse for the originally conceived purpose of an object or substance from alternative uses. It cited the use of tyres as fenders on quay sides in a port as an example of alternative use.

or substances from becoming waste, or bring waste back into use, while cautioning that such uses should not harm human health or the environment.

The distinction adopted in this guide provides conceptual clarity and helps identify potential health, safety, and greenwashing concerns. It does not imply that alternate use lacks value or that established community practices are inherently undesirable. Rather, it distinguishes these practices from reuse as defined in this guide.

For example, using a used pesticide container to transport drinking water would be an unsafe alternate use because pesticide residue may contaminate the water and pose risks to human health.

This illustrates why you must assess an asset's suitability for a different purpose considering its material, previous contents, and the requirements of the proposed use.

Activity	Reuse	Alternate Use	Explanation
Refilling a refillable detergent container with detergent	Yes	No	The container is being used again for its intended purpose of holding detergent.
Using old clothing as filler when making a mattress	No	Yes[11]	The clothing is used for a different functional purpose —providing filling material— rather than being worn as clothing.
Using reusable takeaway packaging from one reuse system for takeaway food in another system	Yes	No	The packaging continues to perform its intended functional purpose of holding takeaway food, provided it remains suitable for that use.

[11] Note on the clothing example: This illustrates repurposing, but it qualifies as alternate use under the guide's definition only if the new use compromises the ability to reuse the clothing for its intended functional purpose through normally applicable reconditioning.

Using an old beer bottle to store gasoline	No	Yes	The bottle is used for a different purpose, and contact with gasoline may compromise its suitability for subsequent use as a beverage bottle and introduce health and safety risks.

Annex I provides further explanations of the operational attributes used to describe and distinguish reuse systems, including system design, infrastructure arrangements, system boundaries, and responsibilities for reconditioning.

3 REUSE TAXONOMY FRAMEWORK

3.1 Framework Overview

REUSE TAXONOMY FRAMEWORK

The Reuse taxonomy framework presents a structured approach to classifying reuse across products and packaging.

The framework is designed to:

01 Describe the different arrangements through which products and packaging are kept in repeated use, including how they are retained, circulated, or transferred across successive use cycles;

02 Help stakeholders classify reuse examples using a common set of dimensions and criteria; and

03 provide a common basis for comparing similar forms of reuse across contexts, geographies, and sectors, including differences in infrastructure, actors, and enabling arrangements.

The framework builds on the definitions of reuse, asset identity, and ownership arrangement introduced in Section 1. It distinguishes the reused asset from the primary pathway that enables the asset to enter another reuse cycle.

This framework sets a common basis for subsequent publications within the ‘Everything Reuse’ toolkit.

3.2 Core Taxonomy Dimensions

REUSE TAXONOMY FRAMEWORK

The framework classifies reuse using the following two core dimensions: asset type and the primary pathway enabling the next reuse cycle.

Dimension	Description	Types/ Pathways
Asset Type	Identifies whether the asset functions as packaging or product in the context in which it is used	Packaging; Product
Primary Pathway Enabling the Next Reuse Cycle	Describes the pathway that primarily enables an asset to enter another cycle of reuse	System-retained pathway; User-retained pathway; Ownership transfer pathway

3.3 Reuse Taxonomy Logic

REUSE TAXONOMY FRAMEWORK

The reuse taxonomy is based on the interaction between the two core dimensions: asset type and pathway enabling the next reuse cycle.

When these two dimensions are mapped together, they give rise to **five reuse categories** within the taxonomy framework:

01 **System-retained Packaging Reuse**

02 **User-retained Packaging Reuse**

03 **System-retained Product Reuse**

04 **User-retained Product Reuse**

05 **Product Reuse through Ownership Transfer**

REUSE TAXONOMY

Reuse can take many different forms depending on what is reused and what primarily enables it to enter another cycle of use.

A reuse category is formed by the interactions of two dimensions:

ASSET TYPE
Is it packaging or a product?

X

PRIMARY PATHWAY ENABLING THE NEXT REUSE CYCLE
Is it system-retained, user-retained, or via ownership transfer?

ASSET TYPE

PRIMARY PATHWAY ENABLING THE NEXT REUSE CYCLE

What primarily enables the asset to enter another cycle of use?

SYSTEM-RETAINED PATHWAY

The asset is used by multiple users but ownership remains with the same system operator throughout.

USER-RETAINED PATHWAY

The asset is retained by the user for repeated use.

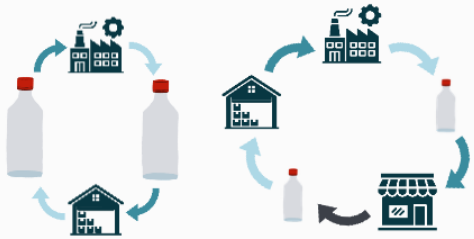
OWNERSHIP TRANSFER PATHWAY

The asset is transferred to a new owner enabling continued use.

PACKAGING (PKG)
Primarily used to contain, protect, handle, deliver, or present a product



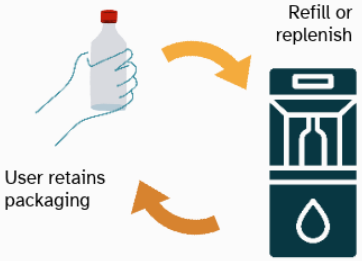
1. SYSTEM-RETAINED PACKAGING REUSE (PKG.1)



CLOSED-LOOP SYSTEM
Ownership remains unchanged

OPEN-LOOP SYSTEM
Ownership may change between system participants (e.g. producer, distributor)

2. USER-RETAINED PACKAGING REUSE (PKG.2)



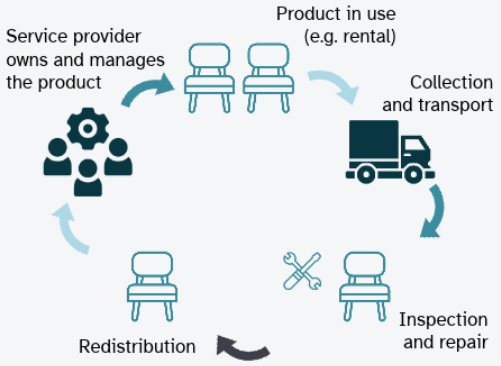
NO DISTINCT REUSE CATEGORY FOR PACKAGING

Ownership transfer may occur during packaging reuse, but it does not, in itself, define a distinct packaging reuse category.

PRODUCT (PROD)
Designed to perform a function on its own



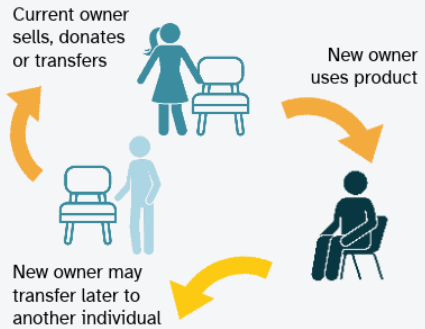
1. SYSTEM-RETAINED PRODUCT REUSE (PROD.1)



4. USER-RETAINED PRODUCT REUSE (PROD.2)



5. PRODUCT REUSE THROUGH OWNERSHIP TRANSFER (PROD.3)



3.4 Categories within the Reuse Framework: How Reuse Occurs

REUSE TAXONOMY FRAMEWORK

The categories within the reuse framework represent different ways in which products and packaging are kept in repeated use. Some categories operate through organised systems, while others may occur either through a system or as a standalone reuse practice. . The table below defines each category and explains how reuse occurs in practice under each, i.e., through a reuse system, as a standalone practice, or both.

No.	Reuse category	Definition	How Reuse occurs in practice under the category	Illustrative examples
1.	**System-retained Packaging Reuse**	Reuse in which reusable packaging is returned to or otherwise recovered within a reuse system after its use, reconditioned, refilled if necessary, and recirculated for subsequent use cycles. This category can include arrangements in which ownership remains with one system participant or changes between participants within the system.	Through a Returnable Packaging Reuse System, an organised system in which reusable packaging is provided for use and, after use, is returned through an established return pathway so that it can be collected, reconditioned, refilled if necessary, and made available for subsequent use cycles. This may operate through open- or closed-loop arrangements. In closed-loop arrangements, ownership of the packaging remains with the same actor or a cooperative group of companies throughout circulation. In open-loop arrangements, ownership transfers between participating actors as packaging is recovered and recirculated. Both arrangements fall within the system-retained packaging reuse category and are not classified as further categories within the taxonomy. Further explanation is provided in Annexe I.	• A citywide takeaway beverage-container system in which a single operator or cooperative owns a pool of reusable cups used across participating cafés. Customers return the cups after use for reconditioning and redistribution • A restaurant, train operator, or airline owns reusable plates, trays, cups and cutlery that are provided to customers for use within the service setting. After use, the packaging is collected, cleaned and recirculated. • Reusable glass bottles recovered by independent collectors, which are then transferred to participating bottlers for inspection, cleaning, refilling of products for the same intended functional purpose, and recirculation
2.	**User-retained Packaging Reuse**	Reuse in which the same individual retains reusable packaging across successive use cycles and repeatedly uses it for its intended packaging function, with replenishment where relevant.	Can occur as an independent Refill Practice, or through a Refill System which is an organised arrangement to provide products in a format that would enable users to refill and retain their containers.The user may refill at home, in a retail setting, or through other arrangements.	• **Example of Refill Practice:** Refilling a personal steel water bottle at a friend's home. A system is not necessarily required to enable refilling of the bottle. **Examples of Refill System:** • A neighbourhood store selling cleaning liquids through refill dispensers, allowing customers to refill the containers they retain • A drinking water kiosk where users refill their own bottles • A doorstep milk delivery system in which milk is transported in bulk containers and dispensed into the containers owned and retained by households for their repeated use

No.	Reuse category	Definition	How Reuse occurs in practice under the category	Illustrative examples
3.	**System-retained Product Reuse**	Reuse in which a product is made available to one or more users for temporary use and, after use, is returned to or recovered within an organised reuse system for further circulation. Users access the product without taking ownership for continued retention.	Through Access-based Product Reuse Systems, which are organised access-based arrangements including rental, leasing, lending, and sharing services. The arrangement enables access, return or recovery, necessary reconditioning, and further use.	• A rental or lending service that makes furniture, toys, books, or clothing available to successive users and recovers the items between uses • A reusable nappy subscription service that provides fresh nappies, and collects used nappies for washing and redistribution among its subscribers
4.	**User-retained Product Reuse**	Repeated use of a product retained by the same user across successive use cycles. Cleaning, maintenance, repair, or refurbishment may support continued use.	Occurs as repeated use by the user without a dedicated reuse system. Independent repair, maintenance, and other services can support this reuse, but are not required for every cycle.	• **A household repeatedly using the reusable nappies it retains, laundering them at home or through a laundry serviceA user regularly using a bicycle, appliance, or electronic device over time, including after repair**
5.	**Product Reuse through Ownership Transfer**	Continued use of a reusable product for its intended function, enabled by the transfer of its ownership from one owner to another	It can occur as:direct transfer between users through donation or sale (Ownership Transfer Reuse Practice); or through organised arrangements that facilitate the transfer of ownership of reusable assets between actors for continued use (Ownership Transfer Reuse Systems). These may include second-hand markets, resale platforms, thrift and consignment systems, donation networks, exchange systems, and other organised channels for redistribution. Repeated use of the asset by the new owner after its transfer falls under the User-retained Product Reuse category.	• A household donates a chair to another household, which then uses itA second-hand or thrift shop sells a used appliance to a new owner for continued use

Interpretive Note

- **Ownership Transfer and Reuse Pathways:** Transfer of ownership does not necessarily constitute a distinct reuse pathway. For the purposes of this taxonomy, the relevant consideration is whether the transfer of ownership serves as the primary pathway enabling the next reuse cycle.

  In the case of packaging, there may be situations where packaging moves from a reuse system to a user in a manner that could be interpreted as ownership transfer. For example, packaging owned within a returnable reuse system may not be returned and may consequently remain with the user. Although the user may subsequently retain and repeatedly use the packaging, such an unintended transfer is not recognised as a distinct 'ownership-transfer packaging reuse' category.

  In the case of products, the initial transfer of ownership from a manufacturer or retailer to a user does not constitute Product Reuse Through Ownership Transfer. For example, when a new reusable nappy is purchased from a retailer, the transaction represents the initial provision of the product to the user rather than a pathway enabling its next reuse cycle, since the product has never been used. In contrast, when a previously used reusable nappy is resold or donated to another user, the transfer of ownership enables a subsequent reuse cycle and may therefore be classified under Product Reuse through Ownership Transfer.

- **Reuse categories may change across an asset's lifetime:** Reuse categories describe how an asset enters or continues in a reuse cycle at a particular point. Therefore, more than one reuse category may apply to an asset across its lifetime.

  For example, when ownership of a second-hand product transfers from one user to another, the transfer is classified as Product Reuse through Ownership Transfer. Once the new owner retains and repeatedly uses that product, the subsequent use falls under User-retained Product Reuse.

- **Coexistence of reuse categories within the same arrangement:** Different reuse categories may coexist in the same arrangement when more than one reusable asset is involved. For instance, a household may repeatedly refill a container it retains with products supplied in a returnable refill pack. The reuse of the household container falls under User-retained Packaging Reuse, while reuse of the returnable pack falls under System-Retained Packaging Reuse.

3.5 How Reuse Categories are Enabled

REUSE TAXONOMY FRAMEWORK

While asset type and the primary pathway enabling the next reuse cycle provide the basis for classifying reuse categories, repeated use across all reuse categories depends on relevant reuse-enabling actions. Who performs these actions, and how they are coordinated, depends on the way the category is operationalised. Where an organised reuse system is involved, reuse-enabling actions may be undertaken by system participants. Where reuse occurs as a practice, actions may be undertaken directly by users or supported by service providers, community actors, or other enabling actors.

Reuse category	Reuse-enabling Actions by System Participants or Service Providers (where applicable)	Reuse-enabling Actions by Users
System- retained Packaging Reuse	Collection, reconditioning, refiling where applicable, and recirculation.Ownership transfer among system actors may also occur.	Appropriately use and subsequently return packaging through the designated return pathway
User-retained Packaging Reuse	Provide or dispense refill products; operate and maintain refill infrastructure where relevant	Bring the packaging for refill; retain and maintain packaging
System-retained Product Reuse	Facilitate access, collection, reconditioning where needed, and recirculation	Care for the product while in use and return it after use
User-retained Product Reuse	Offer maintenance, repair, cleaning, or refurbishment services where required	Regular cleaning and maintenance
Product Reuse through Ownership Transfer	Collection or pickup, facilitating access and ownership transfer, and reconditioning where applicable	Transfer or receive the product; continue using and maintaining the received product

3.6 Determining the Reuse Category

REUSE TAXONOMY FRAMEWORK

This section explains how to classify a real-world reuse example through a three step process.

Step 1: Identify the Asset whose Reuse Cycle is being Examined

A reuse arrangement may involve multiple reusable assets, each following a different reuse pathway. Therefore, classification should focus on the reuse of a particular asset rather than assigning a single reuse category to the entire arrangement.

Illustrative Examples

- A menstrual cup or cloth menstrual pad retained and maintained by an individual for use across menstrual cycles.
- A refillable water bottle retained by a user and repeatedly refilled at home, at refill points,
- A bicycle, furniture item, or appliance retained and used over time by a user, including after maintenance or repair.

Step 2: Identify the Asset Type

A reuse arrangement may involve multiple reusable assets, each following a different reuse pathway. Therefore, classification should focus on the reuse of a particular asset rather than assigning a single reuse category to the entire arrangement.

Once the asset has been identified, determine whether it functions as a product or packaging in the use cycle being examined.

- Product: The asset is used for its own intended purpose, irrespective of whether it packages another product for supply or distribution.
- Packaging: The asset is used to contain, protect, carry, or serve another product that is being supplied or distributed to a recipient.

The same reusable asset may function as either a product or packaging depending on how it is used. The distinction is based on the function of the asset in the particular use cycle. Refer to Section 1 'Distinguishing Products from Packaging' for detailed explanations and illustrative examples.

For example, a reusable cup owned by an individual is a **reusable product**.
When that cup is used to receive and contain a takeaway beverage, it performs a **packaging function** for that use.

Step 3: Identify the Primary Pathway Enabling the next Reuse Cycle

Determine what primarily enables the asset to be used again after its current use.

Guiding Question	Pathway	Identifiers
Does the asset get returned to or recovered within a reuse system for further use?	System- retained	The system enables collection or recovery, and recirculation.
Does the same user retain the asset and repeatedly use it?	User-retained	The user continues to hold and use the asset, refilling or maintaining it as applicable.
Is a product passed into the ownership of another person or entity for continued use?	Ownership-Transfer	A change of owner enables the product to remain in use.

Step 4: Determine the Taxonomy Category

Use the asset type and next cycle pathway to identify the corresponding category within the reuse framework.

Guidance:

Asset Type		Next Cycle Pathway		Category
Packaging	X	System-retained	=	System-retained Packaging Reuse
Packaging	X	User-retained	=	User-retained Packaging Reuse
Packaging	X	Ownership Transfer	=	No distinct category; assess whether the packaging ownership transfer happened within a System-retained Packaging Reuse
Product	X	System-retained	=	System-retained Product Reuse
Product	X	User-retained	=	User-retained Product Reuse
Product	X	Ownership Transfer	=	Product Reuse through Ownership Transfer

3.7 Taxonomy Structure and Coding

REUSE TAXONOMY FRAMEWORK

Understanding the Classification Codes

The categories described in this taxonomy are organised using classification coding. The framework uses alphanumeric codes to identify reuse categories.

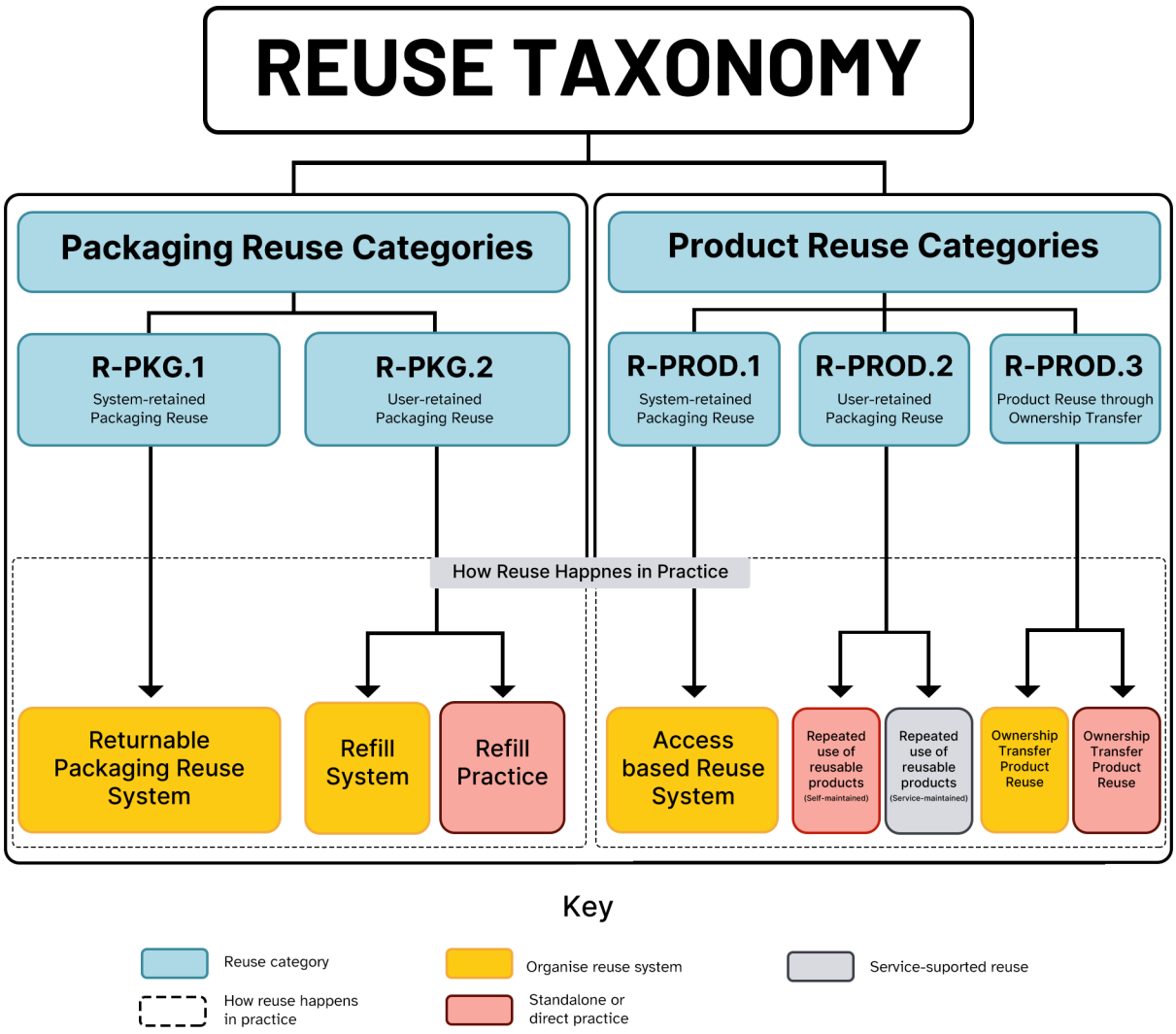
- R denotes Reuse.
- PKG refers to Packaging, while PROD refers to Products.
- The number following the asset identifier indicates the reuse category (e.g., R-PKG.1 refers to System-retained Packaging Reuse).

These codes are assigned only at the reuse category level. The applications presented in Section 3 'Practical Applications of the Reuse Taxonomy' illustrate how each category may be operationalised through different reuse systems or practices. They are illustrative rather than exhaustive and are therefore not assigned separate classification codes.

Reading the Visualisation

The taxonomy classifies reuse into five categories across packaging and products. Within these categories, reuse may occur through different arrangements. Some forms of reuse necessarily occur through organised systems, while others may occur either through a system or independently as a reuse practice. For example, refill may take place through a refill system, or independently when a user replenishes their water bottle at a friend's place instead of a refill water kiosk.

The reuse arrangements shown within the taxonomy therefore do not represent separate reuse categories or formal subcategories, rather, they describe how reuse occurs within a category.The taxonomy framework is further elaborated in Section 3, which describes how each category and pathway is applied in practice, including relevant assets, system requirements where applicable, reuse practices, key identifiers, and operational attributes.
operationalised.


REUSE TAXONOMY
Packaging Reuse Categories
Product Reuse Categories
R-PKG.1
System-retained Packaging Reuse
R-PKG.2
User-retained Packaging Reuse
R-PROD.1
System-retained Packaging Reuse
R-PROD.2
User-retained Packaging Reuse
R-PROD.3
Product Reuse through Ownership Transfer
How Reuse Happnes in Practice
Returnable Packaging Reuse System
Refill System
Refill Practice
Access based Reuse System
Repeated use of reusable products (Self-maintained)
Repeated use of reusable products (Service-maintained)
Ownership Transfer Product Reuse
Ownership Transfer Product Reuse
Key
Reuse category
How reuse happens in practice
Organise reuse system
Standalone or direct practice
Service-suported reuse

4 PRACTICAL APPLICATIONS OF THE REUSE TAXONOMY

This section explains how the reuse taxonomy can be applied in practice. While the previous section explained the taxonomy framework, this section shows how the five reuse categories may be operationalised through organised reuse systems, standalone reuse practices, or service-supported arrangements. This is demonstrated through application cards and a visual map.

The applications presented in this section are illustrative rather than exhaustive. They capture common ways in which reuse categories are applied in real-world contexts, while recognising that additional applications may exist or emerge over time.

4.1 Application Cards

PRACTICAL APPLICATIONS OF THE REUSE TAXONOMY

The cards are intended to help readers understand how different reuse applications are organised, what distinguishes them from one another, and how they relate to the broader reuse taxonomy.

For system-based applications, the cards describe elements such as infrastructure, actors, processes, and operational attributes. Operational attributes are included where they are particularly relevant to understanding an application. Other attributes, such as ownership and circulation arrangements, infrastructure models, and system design, are not necessarily defining characteristics of an application, so they are further explained in Annex I.

For user-led or standalone practice applications, the cards focus on the asset, the reuse-enabling action, infrastructure requirement, and responsibility for cleaning or maintenance.

Application Card: Pre-filled Packaging Reuse Systems

Example	Description
Reuse Taxonomy Category	System-retained Packaging Reuse
Operational Form	Returnable Packaging Reuse System
Core Definition	Pre-filled Packaging Reuse Systems are organised arrangements in which products are delivered to users in pre-filled reusable packaging. After use, the packaging is returned to or otherwise recovered within the reuse system, reconditioned as necessary, refilled, and recirculated for subsequent use cycles. Ownership may remain with one actor or transfer between participating actors within the system.
Asset Identity	Reusable packaging designed to contain and deliver consumable products (e.g., bottles, containers, jars)
System Infrastructure Requirements	• Return and collection mechanisms (e.g., in-store, doorstep, or drop-off points) • Transport of returned packaging • Storage and sorting facilities • Washing facilities • Filling facilities
Reuse-enabling Actions by User	Returning the empty packaging through the designated return channel
Key Identifiers [13]	• Products are delivered in pre-filled reusable packaging • Packaging is recovered and recirculated through an organised system • A return or recovery mechanism exists • Packaging is reconditioned and refilled for successive use cycles
Examples	• Reusable beverage bottle systems • Reusable packaging systems for household and personal care products

[13] For more details, refer to Annexe I

Operational Attributes		
Attribute	**Classification**	**Application**
System Boundary	Networked Circulation	Packaging moves beyond the point of service or sale and circulates across multiple locations within a broader system boundary.
Asset Reconditioning	System-led	Inspection, cleaning, sanitisation, maintenance, replacement of damaged components where required, and other activities necessary to restore packaging to a functional state for subsequent use cycles

Application Card: On-site Packaging Reuse Systems

Example	Description
Reuse Framework Category	System-retained Packaging Reuse
Operational Form	Returnable Packaging Reuse System
Core Definition	On-site Packaging Reuse Systems are organised arrangements in which reusable packaging is provided for consumption within a defined system boundary, with assets collected, reconditioned, and recirculated for repeated use within the same system. Packaging is intended to remain within the system boundary and is not designed for off-site consumption.
Asset Identity	Reusable food service packaging and serveware performing a packaging function in the relevant setting (e.g., plates, cups, cutlery, trays)
System Infrastructure Requirements	• Clearly designated on-site return points, preferably supported by signage that enables easy collection and sorting of used assets • Collection and sorting systems • Washing facilities (on-site or off-site) • Storage
Reuse-enabling Action by User	Returning the provided asset to designated collection points within the same location after use
Key Identifiers	• Packaging is provided for on-site use within a defined service setting • No takeaway; consumption happens on-site • Packaging is returned shortly after use • Packaging is collected by the system and reconditioned for recirculation

Application Card: Takeaway and Delivery Reuse Systems

Example	Description
Reuse Framework Category	System-retained Packaging Reuse
Operational Form	Returnable Packaging Reuse System
Core Definition	Takeaway and Delivery Reuse Systems are organised arrangements in which food and beverages are provided to users in reusable packaging for off-site consumption. After use, the packaging is returned through designated collection channels, reconditioned, and recirculated across users within the system.
Asset Identity	Reusable food service packaging and serviceware (e.g., takeaway containers, cups, cutlery, bowls, trays)
System Infrastructure Requirements	• Return mechanisms (drop-off points or home pickup) • Reverse logistics and transport • Sorting and storage where required • Washing and sanitisation facilities • Redistribution of packaging to participating restaurants, cafés, retailers, or delivery providers
Reuse-enabling Action by User	Returning the empty packaging through a designated collection channel
Key Identifiers	• Packaging is intended for off-site use • Packaging is not intended to be permanently retained by the consumer • Packaging is returned through designated collection channels • Packaging is collected, reconditioned, and recirculated by the system
Examples	• Reusable packaging systems for food delivery and takeaway services

Operational Attributes		
Attribute	**Classification**	**Application**
System Boundary	Networked Circulation	Packaging moves beyond the point of service and circulates across multiple locations within a broader system boundary.
Asset Reconditioning	System-led	Participating actors coordinate cleaning, sanitisation, inspection, and maintenance for subsequent use. Responsibilities may be distributed among service providers, food businesses, collection workers, and other system participants.

[13] Illustrative examples include reusable takeaway container and cup programmes operated by individual businesses as well as pooled systems coordinated across multiple participating restaurants, cafés, or other food service providers. Examples include Taiwan's Plasticircular® reusable cup programme and Foodpanda's 'Choose to Reuse' pilot programme in Hong Kong.

Application Card: Transport and Distribution Packaging Reuse Systems

Example	Description
Reuse Framework Category	System-retained Packaging Reuse
Operational Form	Returnable Packaging Reuse System
Core Definition	Transport and Distribution Packaging Reuse Systems are organised arrangements in which reusable packaging is used to contain, protect, handle, or transport goods through supply chains and distribution systems. After use or delivery, the packaging is returned or recovered, reconditioned as necessary, and recirculated for subsequent use cycles. These systems are commonly used in logistics, e-commerce, and business-to-business (B2B) or business-to-consumer (B2C) distribution.
Asset Identity	Reusable packaging used for transport and distribution, including crates,pallets,delivery boxes,,insulated delivery bags,returnable shipping containers, andprotective wraps.
System Infrastructure Requirements	• Distribution of goods using reusable transport packaging • Collection and return mechanisms (pickup, drop-off, and reverse logistics) • Aggregation, sorting, and recirculationInspection, cleaning, or maintenance facilities where required
Reuse-enabling Action by User	Returning packaging after delivery or use, through the designated return channels
Key Identifiers	• Packaging is designed for repeated use in transport or distribution systems • Packaging is returned after delivery or use • Reverse logistics is integrated into the supply chain • Packaging is reconditioned and recirculated across users, businesses, or intermediaries

Examples	• Returnable e-commerce delivery boxes • Reusable crates in retail supply chains • Pallet pooling systems • Returnable transport packaging used in last-mile delivery

Operational Attributes		
Attribute	**Classification**	**Application**
System Boundary	Networked Circulation	Packaging moves beyond the point of adoption or sale and circulates across multiple locations within a broader system boundary.
Asset Reconditioning	System-led	Inspection, cleaning, maintenance, repair, or replacement of components may be coordinated by system participants, depending on the packaging type, condition, and requirements of subsequent use.

Application Card: Refill-on-the-Go System

Example	Description
Reuse Framework Category	User-retained Packaging reuse
Operational Form	Refill System
Core Definition	Refill-on-the-Go systems are organised arrangements in which users bring or access containers at a point of service—such as a refill station, store, kiosk, or dispensing point—and refill the containers.. Packaging is retained by the user, and repeated use is enabled through refilling rather than return and recirculation.
Asset Identity	User-retained reusable packaging, including bottles, containers, jars, cups, and suitable bags used for containing or carrying refill products
System Infrastructure Requirements	• Dispensing or bulk delivery infrastructure, such as refill stations, refill stores, dispensing kiosks, bulk product dispensers, or water refill points
Reuse-enabling Action by User	• Bringing or accessing containers • Maintaining and reusing the container over time
Key Identifiers	• Users bring or access containers at point of service • The system provides the user access to refill products or dispensing infrastructure • The user retains the packaging across successive refill cycles • Repeated use is enabled through replenishment and maintenance of the containers by the user

Examples	• Water refill stations • Bulk food dispensing systems • Refill stores • In-store refill counters for personal or household care products or food products

Operational Attributes		
Attribute	**Classification**	**Application**
Asset Reconditioning	Primarily User-led	Users are responsible for cleaning containers prior to refill. Systems may provide guidance or limited support (e.g., rinsing stations), but responsibility primarily lies with the user.

[15] Refill-on-the-Go Systems may use either user-owned containers (e.g., reusable bottles, jars, or bags brought by the user) or containers accessed at the point of service and subsequently retained by the user. In both cases, packaging remains with the user after refill and is not returned to the system for recirculation.For more details, see Reuse Rethinking Packaging

Application Card: Refill-at-Home System

Example	Description
Reuse Framework Category	User-retained Packaging Reuse
Operational Form	Refill System
Core Definition	Refill-at-Home Systems[17] are organised arrangements in which users retain packaging for repeated use and replenish it at home with products supplied through bulk delivery, returnable refill packaging, or other refill supply formats. Repeated use of the packaging is enabled through its replenishment at the user's home.
Asset Identity	Refill-at-Home Systems involve two distinct asset roles: (i) user-retained packaging and (ii) refill supply formats that enable product delivery. (i) User-retained Packaging: Packaging or containers retained by the user and used for storage or dispensing at home. These could be original refillable packaging or other compatible household containers. (ii) Refill supply formats that enable product delivery: • Bulk containers (for bulk supply)Packaging-free (naked) refill packaging • Returnable refill packaging • Single-use refill pouches are excluded here because they encourage the production of single-use packaging.
System Infrastructure Requirements	• Supply formats enabling refill • System for ordering and delivering refill products • Collection and return systems, where returnable refill packaging is used

[16] The term 'Refill at Home' is widely used in reuse literature, including by the Ellen MacArthur Foundation (EMF), to describe systems in which products are supplied to users for transfer into reusable containers at home. In this taxonomy, the term is used to describe refill systems where repeated use is enabled through user retention of packaging rather than return and recirculation.

Reuse-enabling Action by User	Cleaning the packaging for subsequent refill cycles
Key Identifiers	• User-retained packaging is repeatedly used at home • Refill products are supplied through an organised arrangement • User transfers the product into the retained packaging • User-retained packaging does not need to be returned • Reuse depends on retention of the user-held packaging and the refill behaviour of the user
Examples	• Milk delivered directly into household containers • Cleaning or personal care products supplied through returnable refill packaging • Packaging-free delivery of household products • Bulk delivery of cooking oil, cleaning liquids, or other liquid products for transfer into user-held containers

Operational Attributes		
Attribute	**Classification**	**Application**
Asset Reconditioning	User- led	The user is responsible for cleaning containers prior to refill. Systems may provide guidance on cleaning methods, but responsibility primarily lies with the user.

Application Card: Refill Practice

Example	Classification
Reuse Framework Category	User-retained Packaging Reuse
Operational Form	Reuse Practice
Core Definition	Refill Practice involves replenishing the packaging retained by a user for repeated use, without relying on an organised refill system established specifically to provide that service. The user continues to retain and reuse the packaging for its intended functional purpose.
Asset Identity	User-retained reusable packaging
System Infrastructure Requirements	No dedicated organised refill system is required.
Reuse-enabling Action by User	Regular maintenance of the packaging
Maintenance Responsibility	User maintains the packaging between uses
Key Identifiers	• The user retains the packaging • Replenishment is undertaken without reliance on an organised refill service • The same packaging is used repeatedly for its intended function.
Examples	• Filling a personal steel water bottle at a friend's home or at a restaurant

Application Card: Product Rental and Lending System

Example	Description
Reuse Framework Category	System-retained Product Reuse
Operational Form	Access-based Product Reuse System
Core Definition	Reusable Serveware Lending Systems are organised arrangements in which reusable serveware (such as plates, cups, and cutlery) is provided to users for temporary use. After use, the serveware is returned, reconditioned, and recirculated across users.Interpretive Note: Reusable Serveware Lending Systems are distinguished from on-site or takeaway packaging reuse systems because not all serveware functions as packaging. The distinction between product reuse and packaging reuse depends on the intended function of the asset and the context in which it is used.
Asset Identity	System-owned reusable serveware, including • plates, • cups, • cutlery like spoon, • fork, and knives, and • serving tongs and ladles.
System Infrastructure Requirements	• Booking, reservation, or rental interfaces (formal or informal) • Collection and return mechanisms • Transport and storage facilities, where applicable • Washing and reconditioning facilities, where applicable
Reuse-enabling Action by User	• Access serveware for temporary use (e.g., events, gatherings, community functions) • Return after use in accordance with agreed conditions • May undertake cleaning prior to return depending on system requirements

Key Identifiers	• Serveware, such as plates, cups, and cutlery, is provided for temporary use as a product, either against a small deposit or free of charge based on trust. • Users access the products temporarily and return them after use • Repeated use depends on return and recirculation across users • Cleaning and maintenance responsibilities may be shared between users and the lending service.
Examples	• Community cutlery or crockery banks • Event-based reusable dishware rental services • Catering equipment lending schemes.

Operational Attributes		
Attribute	**Classification**	**Application**
Asset Reconditioning	System- led	Inspection, cleaning, maintenance, repair, and other activities are performed to restore products to a functional state for subsequent use cycles.

Application Card: Reusable Serveware Lending System

Example	Description
Reuse Framework Category	System-retained Product Reuse
Operational Form	Access-based Product Reuse System
Core Definition	Reusable Serveware Lending Systems are organised arrangements in which reusable serveware (such as plates, cups, and cutlery) is provided to users for temporary use. After use, the serveware is returned, reconditioned, and recirculated across users.Interpretive Note: Reusable Serveware Lending Systems are distinguished from on-site or takeaway packaging reuse systems because not all serveware functions as packaging. The distinction between product reuse and packaging reuse depends on the intended function of the asset and the context in which it is used.
Asset Identity	System-owned reusable serveware, including • plates, • cups, • cutlery like spoon, • fork, and knives, and • serving tongs and ladles.
System Infrastructure Requirements	• Booking, reservation, or rental interfaces (formal or informal) • Collection and return mechanisms • Transport and storage facilities, where applicable • Washing and reconditioning facilities, where applicable
Reuse-enabling Action by User	• Access serveware for temporary use (e.g., events, gatherings, community functions) • Return after use in accordance with agreed conditions • May undertake cleaning prior to return depending on system requirements

Key Identifiers	• Serveware, such as plates, cups, and cutlery, is provided for temporary use as a product, either against a small deposit or free of charge based on trust. • Users access the products temporarily and return them after use • Repeated use depends on return and recirculation across users • Cleaning and maintenance responsibilities may be shared between users and the lending service.
Examples	• Community cutlery or crockery banks • Event-based reusable dishware rental services • Catering equipment lending schemes.

Operational Attributes		
Attribute	**Classification**	**Application**
Asset Reconditioning	System- led	Inspection, cleaning, maintenance, repair, and other activities are performed to restore products to a functional state for subsequent use cycles.

[17] Illustrative examples include community-led initiatives such as Crockery Bank for Everyone (India), Rent-A-Cutlery (India), and similar reusable tableware lending schemes that provide temporary access to reusable serveware for events, gatherings, and community functions.

Application Card: Self-Maintained Repeated Use of Reusable Products

Example	Description
Reuse Framework Category	User-retained Product Reuse
Operational Form	Service-supported Reuse Practice
Core Definition	Service-Maintained Product Reuse involves the repeated use of a reusable product retained by the same user, where continued use is supported by external service providers who undertake cleaning, maintenance, repair, refurbishment, or other forms of reconditioning. The user continues to retain and use the product across successive use cycles, even when the product is temporarily handed over to a service provider for maintenance or repair.
Asset Identity	User-retained products requiring or benefiting from external cleaning, maintenance, or servicing, such as reusable nappies, appliances, and electronics
System Infrastructure Requirements	• Access to relevant service infrastructure, such as laundry services, repair centres, maintenance providers, servicing facilities, or refurbishment services, depending on the product.
Reuse-enabling Action by User	• Users get the product cleaned or maintained by a service provider, enabling the product to be used repeatedly for its intended purpose
Key Identifiers	• The same user retains the product across successive use cycles • An external service supports continued use • The product is returned to the user after servicing rather than recirculated among different users through a product lending or rental system • Service involvement does not itself transfer ownership or change the reuse pathway

Examples	• Cloth sanitary pads • Reusable nappies washed at home • Menstrual cups • Clothing worn repeatedly • Bicycles, tools, furniture, and household appliances maintained and repeatedly used by the same user

Application Card: Service-Maintained Repeated Use of Reusable Products

Example	Description
Reuse Framework Category	User-retained Product Reuse
Operational Form	Service-supported Reuse Practice
Core Definition	Service-Maintained Product Reuse involves the repeated use of a reusable product retained by the same user, where continued use is supported by external service providers who undertake cleaning, maintenance, repair, refurbishment, or other forms of reconditioning. The user continues to retain and use the product across successive use cycles, even when the product is temporarily handed over to a service provider for maintenance or repair.
Asset Identity	User-retained products requiring or benefiting from external cleaning, maintenance, or servicing, such as reusable nappies, appliances, and electronics
System Infrastructure Requirements	• Access to relevant service infrastructure, such as laundry services, repair centres, maintenance providers, servicing facilities, or refurbishment services, depending on the product.
Reuse-enabling Action by User	• Users get the product cleaned or maintained by a service provider, enabling the product to be used repeatedly for its intended purpose
Key Identifiers	• The same user retains the product across successive use cycles • An external service supports continued use • The product is returned to the user after servicing rather than recirculated among different users through a product lending or rental system • Service involvement does not itself transfer ownership or change the reuse pathway

Application Card: Ownership Transfer Reuse System

Example	Description
Reuse Framework Category	Product Reuse through Ownership Transfer
Operational Form	Ownership Transfer Reuse System
Core Definition	Transfer-based reuse systems are organised arrangements that enable the continued use of products through the transfer of ownership between users, allowing assets to be used for the same intended purpose.
Asset Identity	Products in circulation across users, including, but not limited to • clothing, • furniture, • electronics, and • books.
System Infrastructure Requirements	• Collection or listing of used products • Sorting and quality assessment mechanisms • Redistribution channels (physical or digital)
Reuse-enabling Action by User	• The giver transfers the product through sale, donation, or exchange • The recipient acquires the product in order to reuse it for the same purpose, and carries out regular maintenance
Key Identifiers	• Products move across users through transfer of ownership • The system enables listing, collection, sorting, resale, donation, or exchange • Continued use for the same intended purpose occurs after transfer • Reconditioning may be undertaken before or after transfer where necessary, but is not a universal requirement

Examples	• Thrift stores • Resale platforms • Donation networks • Community exchange systems	
Operational Attributes		
Attribute	**Classification**	**Application**
Asset Reconditioning	May be undertaken by the original owner, a system operator or intermediary, a contracted service provider, or the recipient, depending on the product and the ownership arrangement.	The giver may clean or repair the product before transfer, while the recipient is responsible for regular maintenance after receiving it. In some cases, the service provider may undertake sorting, quality checks, repair, refurbishment, or restoration before further circulation.

Application Card: Ownership Transfer Reuse Practice

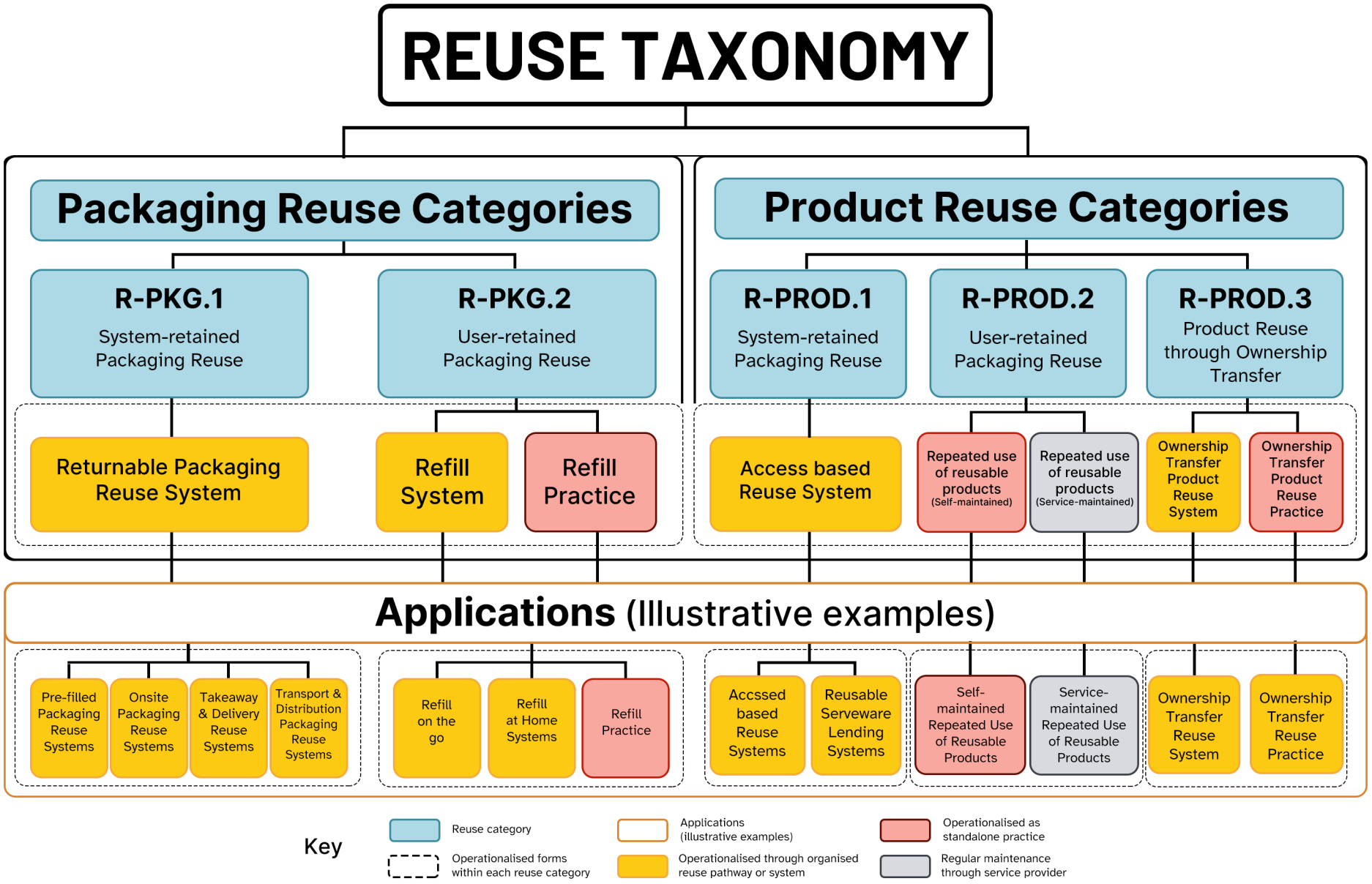
Example	Description
Reuse Framework Category	Product Reuse through Ownership Transfer
Operational Form	Standalone Reuse Practice
Core Definition	An Ownership Transfer Reuse Practice involves the direct transfer of a reusable product from one owner to another, without relying on an organised ownership transfer reuse system, enabling the product to continue being used for its intended functional purpose. The transfer may be done through gifting, donation, sale, exchange, or other direct arrangements.
Asset Identity	Product transferred from one user to another
System Infrastructure Requirements	No organised ownership transfer reuse system is required.
Reuse-enabling Action by User	• The current owner makes the product available for transfer • The recipient accepts the product
Maintenance Responsibility	The original owner or recipient may undertake cleaning, maintenance, or repair where necessary. Such interventions are not mandatory prerequisites for every transfer.
Key Identifiers	Ownership transfers directly between actors, without an organised intermediary facilitating the transfer
Examples	• A person gives clothing to a friend, who then wears it regularly • A household gives a functioning chair to a neighbour who continues using it.

4.2 Visualising the Taxonomy with Application Cards

PRACTICAL APPLICATIONS OF THE REUSE TAXONOMY

This sub-section presents a visual overview of the reuse taxonomy and its practical applications. It illustrates how the two core dimensions—Asset Type and Pathway Enabling the Next Reuse Cycle—give rise to five reuse categories, and how these categories may be operationalised through different reuse systems and practices.

The visualisation helps readers understand the relationship between reuse categories, operational forms, and specific applications. These applications are illustrative rather than exhaustive. A reuse arrangement may involve more than one reuse category. Classification therefore depends on the asset and reuse cycle being examined, rather than requiring an entire arrangement to fit within one category.


REUSE TAXONOMY
Packaging Reuse Categories
Product Reuse Categories
R-PKG.1
System-retained Packaging Reuse
R-PKG.2
User-retained Packaging Reuse
R-PROD.1
System-retained Packaging Reuse
R-PROD.2
User-retained Packaging Reuse
R-PROD.3
Product Reuse through Ownership Transfer
Returnable Packaging Reuse System
Refill System
Refill Practice
Access based Reuse System
Repeated use of reusable products (Self-maintained)
Repeated use of reusable products (Service-maintained)
Ownership Transfer Product Reuse System
Ownership Transfer Product Reuse Practice
Applications (Illustrative examples)
Pre-filled Packaging Reuse Systems
Onsite Packaging Reuse Systems
Takeaway & Delivery Reuse Systems
Transport & Distribution Packaging Reuse Systems
Refill on the go
Refill at Home Systems
Refill Practice
Accssed based Reuse Systems
Reusable Serveware Lending Systems
Self-maintained Repeated Use of Reusable Products
Service-maintained Repeated Use of Reusable Products
Ownership Transfer Reuse System
Ownership Transfer Reuse Practice
Key
Reuse category
Operationalised forms within each reuse category
Applications (illustrative examples)
Operationalised through organised reuse pathway or system
Operationalised as standalone practice
Regular maintenance through service provider

02

PART TWO

5 PRINCIPLES FOR ADOPTING AND SCALING REUSE

Introduction

The terminology and taxonomy presented in the previous sections provide a common structure for identifying, classifying, and distinguishing different forms of reuse. However, determining whether an initiative constitutes reuse is only the first step.

Reuse is a means to achieve wider environmental, social, and economic objectives, not an end in itself. A system may meet the technical definition of reuse yet cause unintended harm, exclude affected stakeholders, or fail to deliver meaningful reductions in resource use and pollution.

Whether a reuse system delivers benefits while avoiding unintended harm depends on how it is designed, governed, and implemented. Assessing whether an initiative constitutes reuse is therefore only one part of determining whether to support, adopt, improve, or scale it.

The principles presented here draw on established concepts and commitments reflected across international environmental, public health, labour, human rights, and circular economy frameworks[19]. They help translate the wider objectives of reuse into conditions, safeguards, and design considerations for adopting and scaling reuse systems responsibly. This means looking beyond whether a product or packaging is used more than once to consider whether the system helps prevent waste and pollution, protects human health, advances social justice, strengthens local economies, and promotes accountability across value chains

Following are the five principles:

01 **Ensure Safe and Non-toxic Reuse**

02 **Advance Producer Responsibility and Accountability**

03 **Centre Justice and Inclusion for Workers and Communities**

04 **Ground Reuse Systems in Local Contexts and Realities**

05 **Design for System and Material Efficiency**

The principles are intended to be applied together. A reuse initiative should not be considered responsible solely because it performs well against one principle while creating significant risks or harms under another.

[19] These concepts and commitments include principles articulated in the Rio Declaration on Environment and Development (1992), including precaution, public participation, and the polluter-pays principle, as well as subsequent developments in extended producer responsibility, environmental justice, just transition, the waste hierarchy, and zero waste approaches.

Each principle includes four components:

01 Why it matter

The rationale for the principle

02 What it requires

The key conditions and safeguards needed to put the principle into practice

03 Applying the principle in practice

Illustrative scenarios showing how the principle can guide decisions and actions in different reuse contexts.

04 Decision checks

Practical questions to assess an initiative. They help identify areas where safeguards, enabling conditions, or corrective actions may be needed before a reuse initiative is adopted, improved, or scaled.

Note: The decision checks support reflection and assessment; they do not serve as a certification or complianc emechanism. They help identify where safeguards, enabling conditions, or corrective actions may be needed before a reuse initiative is adopted, improved, or scaled.

1 Ensure Safe and Non-toxic Reuse Systems

Principle statement

Reuse systems should protect human health and the environment throughout their lifecycle. Products and packaging intended for reuse should be made from safe materials, used under appropriate conditions, cleaned and maintained safely, and removed from circulation when they are no longer fit for reuse.

Safety measures should match the material composition and intended use of the product or packaging, the reuse arrangement, and the level of risk associated with reuse. All reuse systems should seek to prevent human exposure to hazardous substances, contamination, unsafe products, and unsafe working conditions.

Why this matters

Reuse can reduce waste and resource consumption, but repeated use cycles involving handling, transport, washingw, refilling, repair, and sharing can create risks, for example, exposure to hazardous chemicals, contamination, material deterioration, and unsafe working conditions.[19]

Responsible reuse therefore requires products and packaging to remain safe and fit for purpose across successive use cycles, while protecting human health and the environment. This includes safeguarding consumers, other users, and everyone involved in collection, sorting, inspection, cleaning, maintenance, repair, reconditioning, transport, and redistribution, including informal workers and third-party service providers.

[19] International guidance on reuse emphasises that reusable products and packaging should remain safe and fit for purpose throughout repeated use cycles, including during handling, transport, storage, cleaning, maintenance, and recirculation. Relevant resources include United Nations Environment Programme (UNEP) guidance on reuse systems, applicable food safety standards, and Zero Waste Europe's ReuSe Blueprint – Annex III: Safety Guidelines that provides illustrative technical guidance on material safety, contamination prevention, cleaning, and asset performance. https://zerowasteeurope.eu/wp-content/uploads/2025/05/ZWE_ReuSe_Blueprint_Annex_III_Safety_Guidelines_EN.pdf

Scope of this principle

This principle applies to all products and packaging intended for reuse. However, the practical guidance focuses primarily on reusable packaging, particularly food-contact packaging, because safety requirements and technical guidance are more developed for these applications.

Specific requirements would vary by asset, material, intended use, reuse arrangement, and jurisdiction.[21] For reusable products including textiles, nappies, menstrual products, furniture, appliances, electronics, and tools, assess safety based on product type, materials, intended use conditions, potential exposure pathways, and applicable requirements.

Safety considerations extend throughout an asset's lifecycle, from material extraction and manufacture to distribution, repeated use, and end-of-life management. This guide focuses on the reuse cycle: handling, filling or refilling, cleaning, maintenance, inspection, redistribution, and removal from circulation when an asset is no longer suitable for safe use.

A comprehensive safety assessment of all lifecycle stages is beyond the scope of this guide. Consider risks arising at other lifecycle stages where relevant.

This guide also does not establish product-specific safety requirements or replace applicable laws, regulations, standards, or technical guidance. Where requirements are absent, limited, or evolving, the guide can help identify relevant risks and safeguards, alongside appropriate technical expertise and evidence.[21]

What this requires

1.1 Choose safe and reuse-compatible materials

Products and packaging intended for reuse should be made from materials that remain safe and functional under their expected conditions of use. Material selection should consider the intended application of the product, likely temperature exposure, repeated washing and sanitisation, storage and transport conditions, and potential contact with food, beverages, personal care products, household chemicals, or other substances.

[20] Safety requirements and the availability of technical guidance vary across reuse categories, materials, intended uses, and jurisdictions. Reusable and refillable packaging, particularly food-contact packaging, has a more developed body of regulatory requirements and technical guidance than some other reuse categories. This does not mean that other reusable products are exempt from applicable safety requirements.

[21] This guide does not establish product- or packaging-specific safety requirements. Users should consult applicable laws, regulations, standards, and technical guidance in the relevant jurisdiction. Where requirements are absent, limited, or evolving, the guide can help identify risks and considerations, but does not replace technical assessment or regulatory advice.

1.1a Prioritise the avoidance of hazardous chemicals and materials of concern

Begin material selection by identifying and avoiding hazardous chemicals and materials of concern wherever feasible. This should take priority over relying on measures to manage their use later. Besides individual chemical additives, consider the material's broader characteristics and impacts, including its chemical composition, production, use, degradation, and end-of-life management.

For example, avoiding or restricting a particular additive does not necessarily address the wider concerns associated with the selected material. Therefore, consider whether a material is appropriate for reuse in the first place, rather than assessing only whether specific substances are present in it.

Where avoiding a hazardous chemical or material of concern is not currently feasible, reduce its use and potential for exposure to the greatest extent possible, informed by current scientific evidence, applicable requirements, and the intended application. The absence of a substance from a restricted list should not, on its own, be interpreted as evidence that a material is non-toxic or suitable for repeated use.

Annexe II 'Materials and Chemicals of Concern for Reusable Packaging' provides an indicative reference to inform material selection and identify substances and materials that warrant avoidance or careful assessment. It is not exhaustive, and inclusion in the annexe does not necessarily mean that a material is prohibited in every jurisdiction.

The UP Scorecard may serve as a supplementary screening tool for assessing foodware and food packaging across chemical, climate, water, plastic pollution, recoverability, and sustainable sourcing considerations. It is not a substitute for regulatory compliance or a detailed chemical hazard assessment. The international standard RES-001:26/CSA R304:26 on container design and performance for reusable packaging systems may also provide a useful reference for reusable foodware and food packaging, including its provisions concerning restricted chemicals and chemical classes. These resources should inform material selection alongside applicable requirements and relevant scientific evidence.

1.1b Consider chemical composition and potential hazards

Material selection should consider not only known hazardous substances, but also material complexity, durability, stability, and the potential for substances to migrate, degrade, or be released under conditions of repeated use. Materials may contain intentionally added substances, non-intentionally added substances (NIAS), or degradation products that are insufficiently characterised or regulated.The absence of a substance from a restricted list should therefore not be interpreted as proof that a material is safe for repeated use.

NIAS used in food-contact plastics may contain impurities, reaction intermediates, and decomposition or reaction products formed during manufacture or use. Relevant resources on NIAS include Commission Regulation (EU) No 10/2011 on plastic materials and articles intended to come into contact with food, the European Food Safety Authority, Intertek's food-contact NIAS resources, and ILSI Europe's guidance

on NIAS risk assessment. The EU regulation is jurisdiction-specific, not a universal requirement.

The broader chemical composition of plastics also warrants attention. The PlastChem report examines the diversity of chemicals associated with plastics and the limitations of relying on restricted-substance lists alone. Where feasible, materials should be durable, stable, simple in composition, and less likely to release hazardous substances under expected conditions of repeated use, washing, heating, storage, and transport. The RES-001:26/CSA R304:26 container design and performance standard for reusable packaging systems, referred to earlier, includes a list of restricted chemicals and chemical classes, informed by the PlastChem report. These substances should be completely avoided in reusable foodware and food packaging.

1.1c Assess performance under conditions of repeated use

Where appropriate, testing should be done to assess whether the selected materials can withstand expected heat, washing, mechanical stress, and normal use conditions without compromising safety, functionality, or performance. Particular attention should be given to material degradation, chemical migration, and microplastic shedding, especially if the material would be repeatedly exposed to users or would come into direct contact with food, beverages, personal care products, or household chemicals.

Testing methods and performance requirements should be decided according to the material, product, intended use, and applicable requirements. Relevant technical guidance includes Zero Waste Europe's 'ReuSe Blueprint – Annex III: Safety Guidelines', which addresses material performance, chemical migration, microplastic shedding, and stress testing.[22]

These considerations also apply to reusable products such as textiles, nappies, menstrual products, furniture, appliances, electronics, and tools.

1.2 Prevent contamination through appropriate use and handling

1.2a Ensure compatibility with intended use

Reuse systems should ensure that products and packaging remain suitable for their intended applications and expected conditions of repeated use. Appropriate safeguards should be in place during filling, refilling, collection, storage, transport, cleaning, and redistribution.

Packaging may be reused for the same or a different product, provided it remains suitable for that application and meets relevant material compatibility, functional, health, and safety requirements. Particular attention should be given to preventing unsafe cross-use between incompatible product categories, such as food and household chemicals.

[22] Zero Waste Europe, ReuSe Blueprint – Annex III: Safety Guidelines. This resource addresses safety considerations relevant to reusable packaging, including material performance, chemical migration, microplastic shedding, and stress testing. Apply its recommendations based on the asset, intended use, and relevant requirements. https://zerowasteeurope.eu/wp-content/uploads/2025/05/ZWE_ReuSe_Blueprint_Annex_III_Safety_Guidelines_EN.pdf

1.2b Establish safeguards for handling and recirculation

Systems should establish procedures to prevent contamination throughout the reuse cycle. These may include segregating assets by intended use, inspecting containers before filling or refilling, identifying and setting aside damaged or potentially contaminated items, and ensuring that cleaning and sanitisation procedures are appropriate to the product and level of risk.

In managed returnable packaging systems, cleaning, inspection, and preparation for redistribution should be treated as connected steps. Containers should be returned to circulation only after they have been assessed as suitable for their intended use. The specific procedures should reflect the packaging material, reuse arrangement, and applicable safety requirements.[23]

Where appropriate, standardisation can support contamination prevention, traceability, and interoperability across returnable packaging systems. However, standardisation is not a prerequisite for safe reuse. Where adopted, it should not create unnecessary barriers for small businesses, local operators, or community-based reuse initiatives. Safeguards should be proportionate to the risks and suited to the operating context.

Relevant technical guidance

The PR3 standards, including RES-002:25/CSA R303:25 on container washing, inspection and packing for distribution, may provide additional technical guidance for managed returnable packaging systems. Their applicability depends on the packaging, reuse arrangement, and operating context. Use them alongside applicable legal requirements and other relevant technical guidance.

1.3 Ensure religious and dietary considerations are recognised in reuse systems

Reuse systems should recognise and respect religious and dietary requirements, including halal and kosher requirements, as well as Jain, vegetarian, and vegan practices where relevant. These considerations can affect the acceptability and inclusiveness of reuse systems, particularly when containers circulate among different food businesses, users, or communities.

[23] PR3, Reusable Packaging System Design Standard: Container Washing, Inspection, and Packing for Distribution (RES-002:25/CSA R303:25). The standard addresses washing, inspection after washing, and packing for redistribution in systems where primary packaging is returned, washed, and redistributed for reuse. It is not a universal standard for every reuse arrangement or product type. https://www.pr3standards.org/pr3-washing-standard

Depending on the relevant requirements, safeguards may include identifiable containers, segregation during collection, storage and transport, appropriate cleaning procedures, and clear communication about how containers are handled. In some circumstances, cleaning alone may not be sufficient, and dedicated containers, equipment, or handling arrangements may be needed.

Develop safeguards in consultation with relevant users and participating businesses, taking account of applicable religious requirements, food safety obligations, and local context. Clear procedures and communication can help prevent cross-contact, respect user needs, and maintain confidence in reuse systems.[24]

1.4 Ensure safe cleaning and maintenance

1.4a Establish appropriate cleaning and maintenance procedures

Reuse systems should have clear, consistent procedures for inspecting, cleaning, sanitising, and maintaining reusable products and packaging, including repair where appropriate. These measures should be proportionate to the asset's material, intended use, reuse arrangement, and potential risks of contamination, exposure, or deterioration.

Cleaning and sanitisation procedures should maintain microbiological and chemical safety without compromising the asset's functionality or durability. Cleaning agents and maintenance practices should be compatible with the materials used in the asset. They should not leave harmful residues or create unnecessary risks for workers or the environment.

Depending on the reuse arrangement, procedures may encompass washing, rinsing, drying, inspection, storage, and preparation for subsequent use. Where appropriate, systems should verify that cleaning and sanitisation procedures are effective. In managed returnable packaging systems, containers should be inspected after washing and before packing for redistribution to identify any remaining contamination, damage, or other conditions that could compromise their suitability for reuse. Technical guidance on these procedures should be selected according to the material and intended use, level of risk, and applicable laws or standards.[25] [26]

[24] Codex Alimentarius Commission, General Guidelines for Use of the Term "Halal" (CAC/GL 24-1997). The guidelines address halal food requirements, including prevention of contact with non-halal food and following appropriate cleaning procedures in facilities previously used for non-halal food. They are an example of context-specific requirements and do not establish requirements for other religious or dietary practices. https://www.fao.org/4/y2770e/y2770e08.htm

[25] Zero Waste Europe, ReuSe Blueprint – Annex III: Safety Guidelines. This resource addresses safety considerations relevant to reusable packaging, including material performance, chemical migration, microplastic shedding, and stress testing. https://zerowasteeurope.eu/wp-content/uploads/2025/05/ZWE_ReuSe_Blueprint_Annex_III_Safety_Guidelines_EN.pdf

[26] PR3, Reusable Packaging System Design Standard: Container Washing, Inspection, and Packing for Distribution (RES-002:25/CSA R303:25). The standard addresses washing, inspection after washing, and packing for redistribution in systems where primary packaging is returned, washed, and redistributed for reuse. It is not a universal standard for every reuse arrangement or product type. https://www.pr3standards.org/pr3-washing-standard

Relevant technical guidance

Responsibility for cleaning and maintenance should be clearly assigned. Users should receive appropriate guidance when they are responsible for these activities, while system operators and service providers should ensure safe and consistent performance of activities within their remit.

The assignment of responsibilities should reflect the actual reuse arrangement and applicable legal requirements. Ownership alone does not necessarily determine who is responsible for cleaning, maintenance, or food safety.

International standard RES-002:25/CSA R303:25, referred to earlier, addresses container washing, inspection, and packing for distribution in reusable packaging systems. Where applicable, it can inform the development of cleaning, inspection, and preparation procedures. Specific methods and performance requirements should be appropriate to the asset, its intended use, reuse arrangement, and applicable requirements.

1.4b Assign responsibilities clearly

Clearly assign responsibility for cleaning and maintenance. Users should receive appropriate guidance when they are responsible for these activities, while system operators and service providers should ensure safe and consistent performance of activities within their remit.The assignment of responsibilities should reflect the actual reuse arrangement and applicable legal requirements. Ownership alone does not necessarily determine who is responsible for cleaning, maintenance, or food safety.

1.5 Communicate safety information and responsibilities clearly

Safe reuse depends on clear communication of safety information and an understanding of different actors' responsibilities. Users, businesses, workers, system operators, and service providers should have the information and guidance needed to carry out their roles safely throughout the reuse cycle, including the use, cleaning, storage, return, filling or refilling, and maintenance of reusable assets.

Reusable products and packaging should carry, or be accompanied by, information necessary for safe and intended use. Depending on the application, this may include conditions or limitations of use, cleaning requirements, and guidance on identifying damage or other conditions that make an asset unsuitable for reuse. Where food and beverages are involved, reuse systems should ensure that responsibilities for communicating relevant food information, including ingredients, allergens, and date marking where legally required, are clearly understood.

The required information and individual actors' responsibilities depend on applicable law and the specific reuse arrangement. This guide does not determine legal liability for individual businesses, users, or service providers.

Safety information should be clear, accessible, and appropriate to local contexts. Labels, symbols, pictograms, and other visual communication methods may help convey information where written instructions are insufficient.

1.6 Monitor asset condition and remove unsafe assets

To ensure reusable products and packaging remain safe, functional, and suitable for their intended use, they should be inspected at appropriate intervals and, where relevant, before recirculation. The type and frequency of inspection should reflect the asset, its operating conditions, the risks involved, and the reuse arrangement.

Indicators of possible damage or deterioration may include cracks, deep scratches, corrosion, deformation, persistent odours, discolouration, or loss of transparency. Users and workers should be able to recognise and report such conditions that may compromise an asset's safety or performance.

If an asset is found to be unsafe or unsuitable, it should be withdrawn from reuse circulation. Further, it should be managed in accordance with applicable requirements and environmentally sound practices, taking account of appropriate end-of-life options. An asset should not remain in circulation solely to maximise its lifespan or the number of reuse rotations when doing so would compromise health, safety, or functionality.

Repair, component replacement, reconditioning, or refurbishment may be considered where these can reliably restore an asset's safety and suitability. The asset should return to circulation only when its suitability for its intended use has been established.

1.7 Protect workers involved in reuse systems

Reuse systems should protect the health, safety, and dignity of everyone involved in collection, sorting, inspection, cleaning, washing, repair, maintenance, reconditioning, transport, and other reuse activities.

These protections should extend to formal and informal workers, independent collectors, waste pickers, and workers engaged through third-party service providers.

Reuse systems should identify and address occupational hazards associated with materials, chemicals, equipment, biological contamination, manual handling, and other work-related conditions. Measures should prioritise preventing or minimising risks through safer materials, appropriate equipment, safe work processes and working conditions.

Workers should have access to the training, information, equipment, and facilities needed to carry out their work safely. Depending on the nature of the work and the risks involved, these may include suitable personal protective equipment, clean water and sanitation, adequate ventilation, first-aid facilities, and safe procedures for handling potentially hazardous materials or damaged assets.

Occupational health and safety measures should reflect the scale and nature of the operation and comply with applicable national laws, regulations, and relevant labour and occupational safety standards. Reuse systems should take particular care to ensure that informal workers and independent collectors are not excluded from appropriate safeguards or left to bear health and safety risks because of their employment status or position within the system.[27]

Applying the principle in practice

The following scenarios illustrate how the principle applies across different reuse arrangements. They are intended to support reflection and help identify relevant safeguards, rather than prescribe operating procedures or replace applicable technical standards, regulations, or guidance.

Scenario 1: Open-loop glass bottle reuse

Context:

A beverage company rolls out a returnable glass bottle system in which consumers return bottles through collection points, and the company redistributes them to different retailers or filling facilities for reuse.

Applying the Principle:

Glass bottles can be reused, but their material and appearance alone do not establish that they remain safe for recirculation. Bottles should be suitable for the intended product and conditions of repeated use. Markings can help identify the bottle's intended use and compatibility, but should not be treated as proof of safety.

The system should include arrangements to collect, transport, inspect, clean, and sanitise bottles before refilling. Bottles that are chipped, cracked, otherwise damaged, suspected of contamination, or unsuitable for the intended use should be excluded from circulation unless an appropriate assessment establishes their suitability.

[27] International Labour Organization (ILO), *Training workshop empowers local actors to improve safety and health of waste pickers* (2025). The ILO describes the occupational risks waste pickers face and its Waste and Recycling Module (WARM), a participatory tool for identifying and mitigating workplace risks in the informal waste sector. See also the ILO's resources on occupational safety and health in the informal economy. https://www.ilo.org/resource/article/training-workshop-empowers-local-actors-improve-safety-and-health-waste

Businesses and workers handling the bottles should have clear information on how to identify unsuitable containers and what to do with them. Public authorities and other relevant stakeholders can support safe reuse by facilitating appropriate infrastructure, guidance, and training.

Relevant sub-principles:

1.1 Choose safe and reuse-compatible materials
1.2 Prevent contamination through appropriate use and handling
1.5 Communicate safety information and responsibilities clearly
1.6 Monitor asset condition and remove unsafe assets

Scenario 2: An inclusive returnable food-container system

Context:

A local authority, community organisation, or business network establishes a shared returnable food-container system for restaurants, food vendors, and consumers. Containers circulate between participating businesses and users, with arrangements for collection, cleaning, and redistribution.

Applying the Principle:

The system should establish safeguards appropriate to the foods served, the containers used, and the ways in which containers move between businesses and users. These may include identifying suitable containers, preventing incompatible uses, separating returned containers from unused containers, and ensuring appropriate cleaning, inspection, and handling before recirculation.

The system should also consider the needs and practices of the communities using it. Where relevant, container selection, handling, and circulation arrangements should take account of religious and dietary requirements, including halal or kosher requirements and practices relating to vegetarian, vegan, or Jain diets. These requirements are not interchangeable and should be understood in consultation with the people concerned.

Clearly assign responsibilities for collection, cleaning, inspection, and communication to participating actors. Users and businesses should be provided accessible information on how to use, return, and handle containers, including any conditions to be met to protect food safety or comply with relevant dietary requirements.

Relevant sub-principles:

1.1 Choose safe and reuse-compatible materials
1.2 Prevent contamination through appropriate use and handling
1.5 Communicate safety information and responsibilities clearly
1.6 Monitor asset condition and remove unsafe assets

Scenario 3: Bring-your-own (BYO) containers at a food business

Context:

A restaurant, café, or food vendor allows customers to bring their own containers for takeaway food or beverages, reducing the need for single-use packaging.

Applying the Principle:

The business should communicate its requirements for customer-provided containers and establish appropriate procedures for accepting and filling them. Depending on the food being served and the applicable requirements, these may include checking if containers are suitable for the intended food and temperature, are visibly clean and intact, and can be handled without contaminating food or food-contact surfaces.

Customers may be expected to bring suitable, appropriately cleaned containers. However, ownership alone does not determine responsibility for food safety. The business remains responsible for the food-handling activities and other obligations that apply to it under relevant laws and requirements.

Information should be clear and accessible to both staff and customers. Where required, communicate information about ingredients, allergens, date marking, or other relevant food-safety matters through appropriate arrangements. Also, clarify how staff should handle containers that are unsuitable or cannot be safely accepted.

Relevant sub-principles:

1.2 Prevent contamination through appropriate use and handling
1.4 Ensure safe cleaning and maintenance
1.5 Communicate safety information and responsibilities clearly

Scenario 4: Repair and resale of second-hand electronics

Context:

A repair and resale business, social enterprise, or community-based initiative collects used electronic devices, assesses their condition, repairs suitable items, and resells or redistributes them for continued use.

Applying the Principle:

Assess devices to determine whether they can be safely restored to perform their intended function. Repair and maintenance procedures should address relevant risks associated with batteries, electrical components, and hazardous substances. Devices that cannot be made safe for continued use should not be returned to circulation and should instead be directed to appropriate end-of-life management.

Workers involved in collection, sorting, disassembly, repair, and handling should have suitable training, equipment, and safe working conditions. These protections should extend to informal workers, waste pickers, and third-party workers involved in the system, not just formally employed staff. Buyers or recipients should receive clear information about the device's condition, any relevant limitations, safe use, and maintenance. Where repair or component replacement affects safety or performance, the system should ensure that device-appropriate information and checks are available.

Relevant sub-principles:

1.1 Choose safe and reuse-compatible materials
1.5 Communicate safety information and responsibilities clearly
1.6 Monitor asset condition and remove unsafe assets
1.7 Protect workers involved in reuse systems

Decision check: Is the reuse system safe and non-toxic?

Use the following checks to identify the safeguards in place, areas that need improvement, and the gaps to be addressed before adopting or scaling a reuse system. The checks support reflection and assessment; they are not a certification or compliance mechanism.

Check Area	Key Questions	Status
Material selection and non-toxicity	Does the system prioritise avoiding the use of hazardous chemicals and materials of concern, considering their broader health and environmental impacts and suitability for repeated use?	□ In place □ Requires improvement □ Not in place
Hazardous chemicals and materials of concern	If avoiding hazardous chemicals and materials of concern is not currently feasible, are their use and potential for exposure reduced to the greatest extent possible, informed by scientific evidence, applicable requirements, and the intended application?	□ In place □ Requires improvement □ Not in place
Performance under repeated use	Are materials suitable for their intended use and able to withstand expected conditions of repeated use without compromising safety, functionality, or performance?	□ In place □ Requires improvement □ Not in place

User communication	Are users and other relevant actors provided with clear, accessible information and instructions for safe use, cleaning, storage, return, refilling, or maintenance, as appropriate?	□ In place □ Requires improvement □ Not in place
Worker health and safety	Are workers across the reuse system, including informal and independent workers, protected from relevant occupational hazards and provided with appropriate training, equipment, and facilities?	□ In place □ Requires improvement □ Not in place
Asset condition	Are assets inspected appropriately, with clear criteria for repair, withdrawal from circulation, and end-of-life management?	□ In place □ Requires improvement □ Not in place
Regulatory compliance	Has the system identified and addressed applicable national and local safety requirements, regulations, and relevant standards?	□ In place □ Requires improvement □ Not in place
User communication	Are users and other relevant actors provided with clear, accessible information and instructions for safe use, cleaning, storage, return, refilling, or maintenance, as appropriate?	□ In place □ Requires improvement □ Not in place
Worker health and safety	Are workers across the reuse system, including informal and independent workers, protected from relevant occupational hazards and provided with appropriate training, equipment, and facilities?	□ In place □ Requires improvement □ Not in place
Asset condition	Are assets inspected appropriately, with clear criteria for repair, withdrawal from circulation, and end-of-life management?	□ In place □ Requires improvement □ Not in place

Definitions of Status*

- **In place:** The relevant safeguards adequately address the asset, reuse arrangement, and applicable requirements.
- **Requires improvement:** Safeguards are partially addressed, or gaps remain that need corrective action.
- **Not in place:** Necessary safeguards are absent or inadequate and require corrective action before the relevant activity proceeds or the system is adopted or scaled.

Caution: If critical safeguards relating to material safety, contamination prevention, worker protection, or asset condition are not in place, do not adopt or scale the system until the necessary safeguards are established. If a system is already operating and an immediate risk is identified, suspend or withdraw the affected activity or asset, as appropriate, until the risk is addressed.

2 Strengthen Producer Responsibility and Accountability

Principle statement

Producers and other obligated economic actors should take responsibility for preventing waste at source and enabling the adoption and scaling of reuse systems. This responsibility should extend beyond financing end-of-life waste management to include the designing of products and packaging for reuse, the financing and effective operation of reuse systems, and transparent reporting of their performance. Producer responsibility should help reduce material consumption and environmental impacts, protect human health, safeguard workers and communities, and contribute to a just transition.[28]

For the purposes of this guide, a producer[29] is an economic operator who manufactures, imports, brands, fills or packs, or otherwise places a product, packaged product, or packaging on the market. Depending on the applicable jurisdiction and product category, responsibility may be assigned to or shared among manufacturers, brand owners, importers, fillers or packers, private-label sellers, and other economic operators. Some frameworks also assign obligations to online platforms, marketplaces, or retailers because of their role in placing or facilitating placement of products and packaging on the market.
For the purposes of this guide, the term 'producer' encompasses producers of reusable products and reusable packaging, as well as producers of goods—such as food, beverages, personal care products and household products—supplied through reuse systems.

[28] This principle draws on internationally recognised concepts, including the polluter pays principle (Rio Declaration on Environment and Development, Principle 16), Extended Producer Responsibility (EPR), and the waste hierarchy. These concepts inform approaches to allocating responsibility for environmental costs, preventing waste, and promoting more resource-efficient production and consumption systems. Their application to producer obligations depends on the relevant legal and policy framework.
[29] The working definition of 'producer' is adapted from the OECD's *Extended Producer Responsibility: Updated Guidance for Efficient Waste Management* (2016) and selected legal frameworks, including India's Plastic Waste Management Rules and associated EPR guidelines, and Regulation (EU) 2025/40 on packaging and packaging waste (PPWR). The definition and allocation of producer obligations vary across jurisdictions and product categories

Why this matters

Reuse cannot be achieved through consumer action or voluntary initiatives alone. Producers shape the design of products and packaging, bring them to market, finance them, and manage them throughout their life cycle. Their decisions can enable or constrain the adoption and scaling of reuse systems and influence whether these systems deliver meaningful reductions in single-use consumption and resource use.[30]

Strengthening producer responsibility means ensuring producers contribute to the design and effective operation of reuse systems, take responsibility for reuse-related costs, and are transparent about the outcomes achieved. This means ensuring responsibility is not unfairly shifted to consumers, local authorities, workers, or communities. Producer responsibility also involves supporting environmental and social objectives, including protecting workers and strengthening livelihoods within reuse systems.

Scope of this principle

This principle addresses the responsibilities of producers and other relevant economic actors to enable, finance, and support reuse systems for products and packaging. It covers design for reuse; the resources and services needed to sustain repeated use; appropriate coordination and interoperability; reuse goals and targets; open reporting; and the inclusion of workers and communities affected by the transition to reuse.

The principle applies through different product and packaging categories, ownership arrangements, and reuse contexts. The specific responsibilities of producers and other actors will depend on the product or packaging involved, the reuse arrangement, the actors' roles, and the applicable legal and policy context.

This principle does not prescribe a single financing mechanism, governance model, target-setting methodology or reporting framework. Instead, it sets out criteria to guide responsible producer participation and accountability, and helps identify gaps in producer responsibility. Applicable laws and policies may establish specific obligations. The principle also provides a basis for assessing voluntary initiatives.

[30] Although Extended Producer Responsibility (EPR) has traditionally focused on the collection and management of waste, an increasing number of policy frameworks recognise that EPR can also be used to incentivise waste prevention and reuse. See, for example, the OECD Guidance Manual for Extended Producer Responsibility (2016), the OECD Global Plastics Outlook (2022), the UNEP Single-Use Plastics Roadmap (2023), and the EU Packaging and Packaging Waste Regulation (PPWR).

What this requires

2.1 Design Products and Packaging for Reuse

Design products and packaging intended for reuse to remain safe, durable, functional, and, where appropriate, repairable throughout their intended lifespan, while minimising unnecessary material use and waste generation.

Claims that products or packaging are reusable should be supported by evidence. This includes consideration of functional performance, material compatibility, health and safety, and the conditions required to maintain the asset through successive use cycles. The fact that an item can physically be used more than once does not, by itself, establish that it is suitable for reuse.

Producers should promote or claim packaging as reusable only if it has been designed and assessed for repeated use, and not simply because consumers may choose to use it again. Producers should also not rely on the alternate use of single-use products or packaging as a substitute for designing and enabling genuine reuse systems. Where single-use packaging remains in the market, information provided should not encourage uses that might compromise health or safety.

2.2 Take Full Financial Responsibility

Producers should finance the infrastructure, services, and activities needed to establish, operate, and sustain reuse systems. Financial responsibility should extend beyond providing reusable products and packaging to include activities that enable repeated use, such as collection, transport, sorting, inspection, washing, repair, maintenance, redistribution, consumer information, and monitoring and reporting, as relevant to the reuse arrangement.

2.2a Cover the full costs of providing reuse services

Financing arrangements should reflect the actual costs of establishing and operating a reuse system over time, rather than focusing only on the initial supply of reusable assets or the costs of individual activities. Actual costs may include the cost of infrastructure, equipment, facilities, logistics, labour, cleaning, maintenance, asset replacement, and administrative functions needed to keep the system operating effectively. They should also cover monitoring, reporting, and other activities needed to gauge performance and maintain accountability.

The costs of providing reuse services should be recognised and allocated fairly among the relevant actors. Do not unfairly transfer costs to consumers, local authorities, workers, or communities, particularly where these actors already bear the costs of managing single-use products and packaging or deal with their impacts.

2.2b Recognise workers and community-based service providers

Financing arrangements should recognise the labour, expertise, and resources that workers and service providers contribute throughout the reuse cycle. These workers and service providers include waste pickers, informal workers, repair workers, small retailers, cooperatives, community enterprises and other actors involved in collection, sorting, cleaning, repair, transport, and redistribution.

The costs of these services should cover fair remuneration, safe working conditions, appropriate equipment and facilities, and other assistance required for meaningful participation. Where relevant, arrangements should also recognise the costs of accessing land, storage, washing facilities, and other infrastructure. Workers and community-based organisations should not be expected to absorb additional costs or provide services without appropriate compensation.

2.2c Ensure financing supports long-term operations

Reuse systems need sustained resources to support repeated use, not just initial investment or short-term pilots. Financing arrangements should cover ongoing operating costs, maintenance, and replacing assets that can no longer be used safely or effectively. They should also allow systems to adapt as user participation, operating needs and the roles of workers, service providers and other participating actors evolve.

The appropriate financing mechanism will depend on the reuse arrangement, product or packaging category, and local context. Producers may contribute through direct investment, service fees, collective financing arrangements, or other mechanisms established through law, policy or agreement. Whatever the arrangement, funding should be sufficient to support the effective operation of the system and should be linked to clear responsibilities and outcomes.

2.2d Separate financial responsibility from control over governance

Financial responsibility should not give producers or other commercial actors disproportionate control over the governance, priorities, or operation of reuse systems. Financial contributions should support the system's agreed environmental and social objectives, not determine them or exclude other actors from decision-making.

Public authorities should retain appropriate regulatory and oversight functions. Where governance is shared or delegated, arrangements should provide for transparency, meaningful participation by affected stakeholders, and accountability for how funds are apportioned and used. Workers, community organisations, reuse service providers, and other relevant actors should have opportunities to contribute to decisions that affect their participation and livelihoods.

Financial responsibility should therefore be understood as an obligation to ensure that reuse systems have the resources needed to operate effectively and fairly, while

supporting governance arrangements that serve the public interest and the objectives of reuse.

2.3 Enable Standardisation and Interoperability Where Appropriate

Producers should collaborate, where appropriate, to improve the compatibility and interoperability of reusable products, packaging, and supporting infrastructure. Shared arrangements can make collection, return, cleaning, redistribution, and repeated use more efficient, accessible, and affordable.

Standardisation should support reuse systems without becoming an end in itself. It should not create unnecessary barriers for small enterprises, community-based initiatives, local service providers, or existing reuse practices. Nor should it require uniform designs or operating models where these are unnecessary or unsuitable.

The form and extent of standardisation and interoperability should reflect the products and packaging involved, user needs, and the local infrastructure and arrangements through which reuse takes place. Standardisation is one way to enable reuse, not a prerequisite for every reuse system.

2.4 Set Ambitious and Inclusive Reuse Targets

Producers should help set and achieve ambitious, measurable, time-bound reuse targets that support waste prevention and the transition away from single-use products and packaging. Targets should be based on the actual adoption and performance of reuse systems, including repeated use, the displacement of single-use products and packaging, and the environmental and social outcomes achieved.

Prioritise actual reuse and waste prevention: Reuse targets should measure whether products and packaging are being used repeatedly for their intended purpose, rather than simply counting the number of reusable items produced, sold, distributed, or made available. The targets set should encourage reuse systems that achieve meaningful reductions in single-use consumption and material use. Such reductions can be measured by taking account of the number of reuse cycles achieved and the extent to which reusable products and packaging replace single-use alternatives.

Set targets that reflect different contexts: Targets should account for differences in product and packaging categories, existing reuse practices, infrastructure, market conditions, and local capacities. The contribution of established reuse systems, including informal and community-based systems, should be recognised, rather than assuming that reuse must be introduced through new, centralised, or formal commercial models. Where appropriate, targets should strengthen and support existing reuse practices, supporting their continued operation, improvement and expansion.

Make targets measurable and accountable: Targets should be supported by clear definitions, appropriate indicators, accountable reporting, and credible methods

for assessing progress. Reporting formats should distinguish between reusable assets placed on the market, assets returned or refilled, and products or packaging that have actually completed cycles of repeated use. Where claims are made about cutting single-use consumption or environmental impacts, these should be supported by evidence of the outcomes achieved.

Ensure targets support a just transition: The implications for workers, including wastepickers, small businesses, and community-based service providers, should be considered in the development and implementation of reuse targets. Targets should strengthen existing livelihoods and create decent work, and should not incentivise changes that displace workers, concentrate control over reuse systems, or undermine effective local practices.

Targets established through legislation or policy should be accompanied by appropriate implementation measures, monitoring, and accountability mechanisms. The scope, baseline, time frame, and intended outcomes of voluntary and mandatory targets should also be transparent, so that progress can be assessed meaningfully.[31]

2.5 Ensure Transparency and Appropriate Reporting Processes

Producers should be transparent about the performance and outcomes of reuse systems. Clear, consistent, and verifiable indicators should be used in reporting, so that stakeholders understand whether reuse is happening and whether it is delivering meaningful reductions in single-use consumption and material use.

Depending on the system, relevant indicators may include return rates, average reuse rotations, asset loss rates, reductions in the production or consumption of single-use products and packaging, and other relevant environmental and operational outcomes. As mentioned earlier, reporting formats should distinguish between reusable assets placed on the market, actual repeated use, and demonstrated reductions in single-use consumption. Where relevant, worker participation, working conditions and the distribution of economic benefits should also be monitored.

Claims about reuse and its benefits should be supported by credible evidence. Independent verification can strengthen confidence in reported outcomes, particularly progress against targets or environmental claims. Reporting and verification arrangements should match the scale and nature of the reuse system while providing enough transparency for interested parties to assess performance.

2.6 Support a Just Transition for Workers and Community Actors

Producers should support a just transition by protecting existing livelihoods, strengthening worker-led organisations, and helping create decent work opportunities within reuse systems.

[31] Mandatory reuse targets are increasingly being adopted as policy instruments to accelerate waste prevention and the transition away from single-use packaging. Examples include the EU Packaging and Packaging Waste Regulation (PPWR) and emerging national reuse policies in several jurisdictions.

Where the transition to reuse affects existing livelihoods, affected actors including waste pickers, informal workers, repair workers, and small retailers should be meaningfully involved in shaping and implementing reuse arrangements. Their participation should not be limited to employment within producer-led or Producer Responsibility Organisation (PRO)-led operations.

Reuse systems should create opportunities for cooperatives, associations, worker organisations, community enterprises, and other existing actors to independently provide and manage reuse-related services, including collection, sorting, logistics, washing, repair, and redistribution. Recognise existing knowledge, relationships, and forms of collective organisation as potential strengths in developing and sustaining reuse systems.

Producers should support such participation through fair and transparent contracting, equitable remuneration, safe working conditions, access to social protection, and meaningful opportunities to influence decisions that affect livelihoods. The specific forms of participation will vary by context. However, reuse should not be considered successful if it achieves its environmental objectives by shifting costs or risks onto workers and communities or by undermining their existing livelihoods.

2.7 Prevent False Solutions[32] and Greenwashing

Producer responsibility should support genuine reuse and demonstrable waste prevention. Activities that do not constitute reuse, or that do not demonstrate actual repeated use and reductions in single-use consumption, should not be misrepresented as evidence of achieving reuse outcomes or targets.

The following should not, in themselves, be treated as evidence of achieving reuse outcomes or targets:

- **Alternate use of products or packaging:** Using an item for a different purpose does not, by itself, establish that reuse has occurred.
- **Recycling or other waste management activities:** These may contribute to waste management but are distinct from reuse.
- **Reusable products or packaging placed on the market without evidence of actual repeated use:** Availability alone does not demonstrate that reuse is taking place.

[32] Reuse should be distinguished from recycling, downcycling, and other waste management activities. International guidance consistently recognises that reuse requires the repeated use of products or packaging within a system intentionally designed for that purpose. Also see Glossary of key terms Compilation of Key Terms Relevant for the Negotiation of a Treaty to End Plastic Pollution; ISO 59004; and the terminology and classification framework presented in this guide.

- **Refill systems that rely on disposable refill packaging without accounting for the overall packaging arrangement:** Increased sale of refill packaging alone should not be treated as proof of reduced single-use packaging. Refilling a user-retained container with a product supplied in disposable packaging can constitute reuse of the retained container. However, claims about the arrangement's overall waste-prevention benefits should account for the full packaging arrangement and demonstrate actual displacement of single-use packaging.

Reuse claims should be transparent about what is being reused, how repeated use occurs, and what outcomes have been demonstrated. The presence of a reusable product or refill option should not, by itself, be taken as proof that a system has achieved meaningful reuse or waste-prevention outcomes.

Applying the principle in practice

The following scenarios illustrate how producer responsibility and accountability may apply across different reuse arrangements. They are intended to support reflection and identify relevant considerations; they do not prescribe a single operating model or replace applicable laws, regulations, or technical guidance.

Scenario 1: Producer-financed returnable takeaway container system

Context:

In a city, food businesses and delivery platforms collaborate with an independent reuse service provider to replace single-use takeaway packaging with standardised containers designed and assessed for repeated use. Participating businesses finance the system through service fees that cover container provision, collection, transport, washing, inspection, redistribution, and monitoring.

Applying the Principle:

Customers can return used containers to participating restaurants or hand them to waste pickers who provide collection services. Local waste picker cooperatives and small service providers participate in collection, cleaning, and redistribution through arrangements that recognise their expertise and support fair remuneration, safe working conditions, and meaningful autonomy over their operations.

Service fees are developed in consultation with waste pickers and relevant worker organisations so they fairly reflect the costs of providing reuse services. Workers need not be employees of the reuse service provider; cooperatives and community-based organisations can also provide and manage services in their own right.

Participating businesses and the reuse service provider report on indicators such as container return rates, reuse rotations, and reductions in disposable packaging. Where appropriate, independent verification confirms reported results. Reporting distinguishes between the number of containers supplied and their actual repeated use, and considers whether the system is delivering demonstrable reductions in single-use packaging.

Relevant sub-principles:

2.1 Design Products and Packaging for Reuse
2.2 Take Full Financial Responsibility
2.3 Enable Standardisation and Interoperability Where Appropriate
2.5 Ensure Transparency and Reporting

Scenario 2: Transition from disposable sachets to refill systems

Context:

A city seeks to lessen reliance on disposable sachets of household cleaning products. Producers work with neighbourhood retailers and independent refill service providers to make refill options more accessible. The transition is made in consultation with impacted businesses, workers, consumers, and community actors, taking into account local conditions and the practical requirements for operating refill systems.

Applying the Principle:

Producers contribute to the costs of establishing and operating refill infrastructure, including dispensing equipment, bulk product transport, retailer training, consumer information, and monitoring.

Refill arrangements support repeated use of retained containers while preventing unnecessary disposable packaging in product supply and replenishment.

Progress is assessed using evidence of the actual volume of products supplied through refill systems and the associated changes in single-use packaging consumption. Reporting accounts for disposable packaging used in bulk product transport and supply and in replenishing the refill system, rather than counting refill of user containers alone as proof of waste prevention.

The system's performance is reviewed to determine whether it genuinely reduces reliance on single-use packaging and whether refill arrangements remain accessible and workable for participating retailers and consumers. Where evidence identifies continued dependence on disposable packaging or other unintended outcomes, producers and participating actors should change their approach. Claims of progress should reflect demonstrated reductions in single-use packaging, not simply the availability or growth of refill options.

Relevant sub-principles:

2.2 Take Full Financial Responsibility
2.4 Set Ambitious and Inclusive Reuse Targets
2.5 Ensure Transparency and Reporting
2.7 Prevent False Solutions and Greenwashing

Decision check: Is Producer Responsibility Being Advanced?

Use the following checks to identify where the reuse system addresses producer responsibility, where gaps remain, and which areas may need strengthening before the system is adopted or scaled.

The checks support reflection and assessment; they are not a certification or legal compliance mechanism.

Check Area	Key Questions	Status
Design for reuse	Are products and packaging suitable for safe, durable, and repeated use while minimising unnecessary material use?	□ In place □ Requires improvement □ Not in place
Financial responsibility	Are the costs of establishing and operating the reuse system adequately recognised and financed, including relevant worker protections and support?	□ In place □ Requires improvement □ Not in place
Operational responsibility	Are the responsibilities and resources needed to operate and sustain the reuse system clearly established?	□ In place □ Requires improvement □ Not in place
Standardisation and interoperability	Where appropriate, does the system support compatibility and shared infrastructure without creating unnecessary barriers for smaller or community-based actors?	□ In place □ Requires improvement □ Not in place
Reuse goals and targets	Are clear, measurable goals in place, and are applicable targets being addressed in ways that support genuine reductions in single-use consumption?	□ In place □ Requires improvement □ Not in place

Reuse goals and targets	Are clear, measurable goals in place, and are applicable targets being addressed in ways that support genuine reductions in single-use consumption?	□ In place □ Requires improvement □ Not in place
Transparency and reporting	Are system performance and environmental outcomes reported using clear, credible, and verifiable indicators?	□ In place □ Requires improvement □ Not in place
Just transition	Are workers, including waste pickers and informal economy workers, meaningfully involved and able to participate in the system through fair employment or independent service provision?	□ In place □ Requires improvement □ Not in place
Integrity of reuse claims	Are claims based on actual repeated use and demonstrated reductions in single-use consumption, rather than recycling, alternate use, or the availability of reusable products alone?	□ In place □ Requires improvement □ Not in place

Definitions of Status*

- **In place:** The relevant consideration is appropriately addressed for the reuse system and its context.
- **Requires improvement:** The consideration is partially addressed, or gaps remain that need corrective action.
- **Not in place:** The consideration is absent or inadequately addressed. Corrective action should be taken before proceeding with the relevant activity or adopting or scaling the system.

Caution: If reuse claims cannot be substantiated, or workers are not adequately protected, do not treat the relevant claims or activities as demonstrating successful reuse outcomes. Address significant gaps in producer financing, accountability, or worker protection before adopting or scaling a system.

3 Centre Justice and Inclusion for Workers and Communities

Principle statement

Reuse systems should contribute to both social and environmental outcomes. They should create fair, safe, and inclusive opportunities while recognising and strengthening the knowledge, livelihoods, and contributions of workers and communities already engaged in waste prevention and in the collection, repair, reuse, retail, and recovery of reusable assets.

Why this matters

Reuse systems change the ways in which products and packaging are produced, distributed, consumed, collected, and managed. These changes can create new economic activities and employment opportunities, but they can also affect existing livelihoods, particularly those of waste pickers, informal economy workers, small retailers, second-hand traders, and other workers whose incomes depend on existing waste management systems.

A transition to reuse therefore requires more than replacing single-use products and packaging with reusable alternatives. It requires ensuring that the benefits and opportunities of reuse are shared fairly, existing livelihoods are strengthened rather than displaced, and workers and communities can meaningfully influence decisions that affect them.

Justice and inclusion must be considered throughout the design, implementation, and scaling of reuse systems. This includes recognising existing knowledge and practices, ensuring decent working conditions, addressing barriers to participation, and preventing environmental and economic burdens from being shifted onto disadvantaged workers and communities.

What this requires

3.1 Ensure Meaningful Participation and Inclusive Decision-Making

Reuse systems should be planned, designed, implemented, monitored, and evaluated with the meaningful participation of affected workers, communities, and other relevant stakeholders. Those affected may include waste pickers, informal economy workers, small retailers, second-hand traders, repair workers, cooperatives, community organisations, and local governments.

Participation should go beyond consultation. Workers and communities should have genuine opportunities to influence decisions, contribute their knowledge and experience, and help shape the design and operation of systems that affect their livelihoods and access to resources. Participation should reflect the system's scale,context, and the people it affects.

Waste pickers and other workers engaged in collection, sorting, repair, reuse, and recovery should be recognised as environmental service providers and knowledge holders. Their experience can strengthen reuse systems, inform locally appropriate solutions, and help identify potential impacts on existing livelihoods.

2.5 Ensure Decent Work and Dignified Livelihoods

Reuse systems should support decent work, dignified livelihoods, and fair economic opportunities across their operations, including collection, transport, sorting, cleaning, repair, refurbishment, retail and redistribution.

This entails ensuring safe working conditions, fair remuneration, reasonable working hours, access to appropriate social protection, and respect for fundamental rights at work. Reuse systems should recognise different forms of work and service provision, including formal employment, independent work, cooperatives, community enterprises, small businesses, and informal economic activities.

Producers should assess automation and other technological changes to reuse systems for their potential impacts on workers and livelihoods. Where existing work may be displaced, consider alternatives and appropriate safeguards. Decisions about efficiency and technology should account for their social consequences, rather than treating reduced labour costs as the sole criterion.

Reuse systems should recognise the labour, skills, and contributions of the people who make repeated use possible and ensure fair distribution of the economic value generated.

3.3 Support a Just Transition

Governments, producers, and other relevant actors should support a just transition to reuse by identifying workers, enterprises, and communities whose livelihoods may be affected by changes to existing systems.Those who are already engaged in reuse and related activities should also be identified and supported.

Transition planning should begin before significant changes are introduced. It should identify potential risks and opportunities, provide for meaningful participation, and establish appropriate support and safeguards. Measures may include skill development, access to finance, land, and facilities, investment in infrastructure, institutional support, and policies that enable workers, cooperatives, and small businesses to participate in reuse systems.

Planning should also consider how reuse systems would change material flows, access to products and packaging, and the organisation of collection, logistics, cleaning, repair, and redistribution. System design should avoid unintentionally excluding waste pickers, informal economy workers, and community enterprises from activities they already undertake or could meaningfully contribute to.

A just transition should build on existing capabilities and livelihoods wherever possible, while creating opportunities for workers and communities to shape and benefit from the transition. Do not assume that all affected groups will enter new forms of employment or that existing livelihoods can be replaced without adequate support.

3.4 Ensure Equity, Accessibility and Affordability

Reuse systems should be affordable, convenient, and accessible to users across income groups and communities, regardless of gender, age, ability, geographic location, or social status.

Affordability should be assessed in terms of the full cost and practical requirements of participating in a reuse system, not just the price of an individual product. Accessibility considerations should include the location, convenience, and usability of services, as well as the ability of different groups to participate in ways that suit their circumstances.

System design should identify and address barriers to participation. These may include upfront deposits or purchase costs, minimum purchase quantities, limited access points, inconvenient return arrangements, restricted opening hours, inaccessible facilities, and reliance on digital technologies or payment methods not available to everyone.

Reuse systems should consider diverse needs and local conditions when determining pricing, payment options, collection and return arrangements, and service locations. Equitable access is essential to ensuring that the benefits of reuse are not limited to people or communities with greater financial resources or access to infrastructure.

3.5 Prevent Waste Colonialism and the Unfair Transfer of Environmental Burdens

Reuse systems should not justify transferring unwanted products, environmental risks, or economic costs from one community or country to another. Cross-border and domestic transfers of products for reuse should be in response to a genuine need in the receiving market or community.The products transferred should be safe, functional, and suitable for their intended purpose.

Such arrangements should consider local market conditions, existing businesses and livelihoods, and the receiving communities' capacity to use and manage the products responsibly. They should not undermine local production, repair, reuse or second-hand markets, or impose disproportionate burdens on local workers and communities.

The responsibilities and costs associated with transferred products that become unsuitable for reuse, remain unsold, or reach the end of their useful life should be clearly allocated. These costs should not be unfairly transferred to importing communities, local governments, second-hand traders, or waste workers. Cross-border transfers should comply with applicable legal requirements, including rules governing transboundary movement of waste where these apply.

The aim is to support reuse arrangements that meet real needs, strengthen local capabilities and livelihoods, and distribute environmental and economic responsibilities fairly.

Applying the principle in practice

Reuse systems should be affordable, convenient, and accessible to users across income The following scenarios illustrate how the principle can inform decisions across different reuse arrangements. They highlight relevant considerations and safeguards rather than prescribe complete operating procedures.

Scenario 1: Affordable and Accessible Refill Systems for Essential Household Products

Context:

In a low-income neighbourhood, a refill service provider collaborates with local retailers to offer household cleaning products, such as laundry detergent and dishwashing liquid, as alternatives to products sold in single-use packaging.

The service provider seeks to make refill accessible and affordable while building on existing neighbourhood retail networks and creating livelihood opportunities for participating retailers.

Applying the Principle:

The refill arrangement should accommodate different household budgets and purchasing practices by allowing customers to purchase products in small, affordable quantities. Customers can bring suitable reusable containers or access returnable containers through participating retailers for a small deposit or fee. Cash and locally accessible digital payment options should be available so that participation does not depend on access to particular payment technologies.

Participating retailers should receive an agreed sales margin that fairly reflects their contribution to operating the refill service and provides an additional income opportunity. Their roles, responsibilities and commercial arrangements should be developed through consultation rather than imposed by the service provider.

The service provider should engage retailers and community members when identifying suitable locations for expansion, selecting additional products, and addressing barriers to convenience and accessibility. The arrangement should be assessed not only for its ability to reduce single-use packaging but also for its affordability, accessibility, and effects on the livelihoods of participating retailers.

Relevant sub-principles:

3.1 Ensure Meaningful Participation and Inclusive Decision-Making
3.2 Ensure Decent Work and Dignified Livelihoods
3.3 Support a Just Transition
3.4 Ensure Equity, Accessibility and Affordability

Scenario 2: Accountability of Fashion Brands in Clothing Reuse System

Context:

In a city, fashion brands establish clothing take-back arrangements in collaboration with existing second-hand traders, repair enterprises, and waste worker cooperatives.

Collected clothing is sorted into garments suitable for direct reuse, those requiring repair or refurbishment before resale, and items unsuitable for reuse. The arrangement seeks to support clothing reuse through existing second-hand markets while recognising the roles of workers and community-based enterprises.

Applying the Principle:

Fashion brands should engage existing second-hand traders, repair enterprises and waste worker cooperatives in designing and operating take-back arrangements, recognising their knowledge, skills and existing contributions to clothing reuse. New arrangements should strengthen rather than displace viable second-hand markets and livelihoods.

Service fees should be negotiated with participating cooperatives and service providers, taking into account the costs of collection, sorting, repair and other services, including fair remuneration, safe working conditions, equipment, facilities and operational requirements. Brands should also support reuse-related activities and costs that existing second-hand markets cannot viably finance.

Clothing unsuitable for reuse should be directed to appropriate management channels in accordance with applicable health, safety and environmental requirements. Brands should contribute to the costs of managing these items rather than transferring the burden to second-hand traders, waste workers or local governments.

Relevant sub-principles:

3.2 Ensure Decent Work and Dignified Livelihoods
3.3 Support a Just Transition
3.5 Prevent Waste Colonialism and the Unfair Transfer of Environmental Burdens

Decision check: Is Producer Responsibility Being Advanced?

Use the following checks to identify where the reuse system addresses producer responsibility, where gaps remain, and which areas may need strengthening before the system is adopted or scaled.

Check Area	Key Questions	Status
Meaningful participation	Are waste pickers, informal workers, small retailers, vendors, and affected communities meaningfully involved in decisions about the design, governance, and implementation of the system? Can they influence decisions that affect their work and livelihoods?	□ In place □ Requires improvement □ Not in place
Decent work and livelihoods	Does the system support safe working conditions, fair remuneration, reasonable working hours, appropriate social protection, and respect for workers' rights across different forms of work and service provision?	□ In place □ Requires improvement □ Not in place
Just transition	Have potentially affected workers, enterprises, and communities been identified? Are appropriate safeguards, support measures, and opportunities to participate in reuse activities ensured for them before significant changes are introduced?	□ In place □ Requires improvement □ Not in place
Equity, accessibility, and affordability	Is the system affordable, convenient, and accessible to people across different income groups and communities? Have financial, geographic, physical, social, and technological barriers to participation been addressed?	□ In place □ Requires improvement □ Not in place

Equity, accessibility, and affordability	Is the system affordable, convenient, and accessible to people across different income groups and communities? Have financial, geographic, physical, social, and technological barriers to participation been addressed?	□ In place □ Requires improvement □ Not in place
Environmental justice	Does the system respond to genuine local needs, respect existing livelihoods and markets, and ensure that the risks and costs associated with unwanted or end-of-life products are not unfairly transferred to other communities?	□ In place □ Requires improvement □ Not in place

Definitions of Status*

- **In place:** The condition is adequately addressed.
- **Requires improvement:** The condition is partially addressed and should be strengthened before scaling the system.
- **Not in place:** The condition is absent, and corrective action is needed before adoption or scaling.

Caution: If affected workers and communities are excluded from meaningful decision-making, existing livelihoods are displaced without appropriate safeguards, access is inequitable, or environmental and economic burdens are unfairly transferred to other communities, the identified risks should be addressed before the system is adopted or scaled. The response should reflect the severity of the risk and the context of the system.

4 Ground Reuse Systems in Local Contexts and Realities

Principle statement

Reuse systems should be grounded in local environmental, social, economic, and cultural realities. They should build on existing material flows, infrastructure, livelihoods, knowledge systems, and community priorities, rather than relying on imported or one-size-fits-all models.

Why this matters

Reuse systems do not operate in isolation. Their effectiveness depends on the infrastructure, resources, markets, institutions, livelihoods, and social practices in which they operate. A model that works in one location may be inaccessible, costly, environmentally inefficient, or unsuitable in another.

When reuse systems are designed without understanding these local realities, they can create unnecessary parallel infrastructure, overlook existing capabilities, and unintentionally displace repair, refill, recovery, and community-based reuse practices that already contribute to waste prevention and local livelihoods.

Grounding reuse in local contexts means understanding what already exists, identifying what needs to change, and adapting system design to local conditions. It does not mean preserving existing arrangements despite their limitations. Rather, the goal is to strengthen local capabilities and develop solutions that are appropriate, inclusive, and effective in their specific context.

What this requires

4.1 Understand and Build on Existing Local Systems

Reuse system design should start with an understanding of how products and packaging currently move through the local economy. This includes mapping existing reuse practices, refill systems, repair networks, rental and sharing models, second-hand markets, retail structures, waste management systems, informal recovery routes, and other relevant infrastructure and service providers.

Where reuse systems and related practices already exist, new initiatives should prioritise strengthening and building on them. This may involve addressing gaps in infrastructure, safety, accessibility, coordination, or operational capacity, rather than creating parallel systems that undermine existing services or livelihoods.
Waste picker organisations, cooperatives, community enterprises, small retailers, and other local actors should be recognised as contributors to the local reuse ecosystem and meaningfully involved in decisions about how these systems evolve. Their existing infrastructure, knowledge, and networks may provide a foundation for expanding reuse, where appropriate.

The degree of centralisation of the system should be determined based on local conditions, taking into account environmental performance, accessibility, costs, operational requirements, and worker livelihoods. Assess existing systems for their suitability and potential to support reuse, rather than assuming they are either inherently appropriate or unsuitable.

4.2 Adapt System Design to Local Operating Conditions

Reuse systems should be designed and adapted to local operating conditions, including population density, geography, settlement patterns, climate, water availability, energy access, transport infrastructure, institutional capacity, market conditions, consumer behaviour, and regulatory frameworks.

These conditions influence the feasibility, accessibility, costs, and environmental performance of different reuse arrangements. System design should consider, for example, the resources required for cleaning, transport, maintenance and redistribution; the availability of suitable facilities; the distances between collection, washing and distribution points; and the capacity of existing services to support repeated use.

Models developed in one context should not be replicated elsewhere without assessing their suitability and adapting them where necessary. Adaptation may involve changes to collection and return arrangements, washing infrastructure, logistics, deposit systems, service locations, staffing, communication methods, or cost structures.

Where uncertainty remains, local testing and evaluation can help determine whether a proposed model is workable and what changes it needs before adoption.

4.3 Respect Local Knowledge, Culture, and Practices

Reuse systems should recognise and draw on local knowledge, cultural practices, and established ways of using, maintaining, sharing, repairing, refilling, and transferring products and packaging.

System design should consider how people actually purchase, use, and return products; preferences for product types and quantities; attitudes toward shared or previously used items; cultural, religious, and dietary practices; and established

approaches to cleaning, maintenance, repair, and redistribution.

Workers, communities, local businesses, and other people with practical experience of these activities should have opportunities to contribute their knowledge to system design and implementation. This knowledge can help identify barriers to participation, inform appropriate service models, and strengthen the relevance and acceptance of reuse arrangements.

Solutions should adapt to local practices and preferences while meeting applicable health, safety, and environmental requirements. Where existing practices pose risks or barriers, make changes in collaboration with affected persons, considering their needs and circumstances, rather than imposing standardised approaches devoid of local engagement.

Applying the principle in practice

The following scenarios illustrate how the principle can inform decisions across different reuse arrangements. They highlight relevant considerations and safeguards, and do not prescribe complete operating procedures.

Scenario 1: Decentralised Reuse Infrastructure Utilising Existing Material Recovery Facilities

Context:

In a city introducing a returnable packaging reuse system, producers and reuse system operators consider establishing a separate collection network.

Civil society organisations and waste worker cooperatives propose assessing whether the new reuse system can utilise existing decentralised material recovery facilities (MRFs) and associated collection networks, rather than creating entirely parallel infrastructure.

Applying the Principle:

Producers and reuse system operators should assess the suitability of the existing MRFs in consultation with the workers, cooperatives, facility operators, and other actors involved in their operation. The assessment should consider available space, existing activities, operational capacity, contamination risks, worker safety, and the requirements of handling reusable packaging.

Where suitable, selected facilities can be upgraded with dedicated areas for receiving, segregating, inspecting, and temporarily storing returnable packaging separately from waste streams. Packaging can then be transported to appropriate washing facilities for cleaning, further inspection, and redistribution.

Producers should contribute to the costs of necessary infrastructure upgrades and service arrangements, while ensuring that additional responsibilities do not compromise existing waste management services or worker safety.

The decision to integrate reuse activities into MRFs should depend on whether the facilities can meet the relevant operational and safety requirements and whether the arrangement supports existing livelihoods and service networks.

Relevant sub-principles:

4.1 Understand and Build on Existing Local Systems
4.2 Adapt System Design to Local Operating Conditions

Scenario 2: Adapting a Deposit Return System to Local Practices

Context:

In a city introducing a deposit return system for returnable beverage packaging, designated return points are established across neighbourhoods. However, many return points remain underused because households find it inconvenient to travel to them and some points are poorly maintained.

A review identifies that many households already rely on waste pickers for regular doorstep collection of recyclable materials, presenting an opportunity to adapt the return arrangements to existing local practices.

Applying the Principle:

Rather than relying exclusively on designated return points, the system operator should explore arrangements that allow participating households to return eligible deposit-bearing containers through waste pickers during their regular collection rounds.

The adapted system should be designed in consultation with waste pickers, their organisations, households, and other relevant actors to understand existing collection practices, operational requirements, and barriers to participation.

Clear arrangements should be established for identifying and tracking eligible containers, ensuring reliable deposit refunds to consumers, and fairly remunerating waste pickers for collection and related services. The arrangements should also address safe handling, storage, transfer of containers, and the responsibilities of participating actors.

Relevant sub-principles:

4.1 Understand and Build on Existing Local Systems
4.2 Adapt System Design to Local Operating Conditions
4.3 Respect Local Knowledge, Culture, and Practices

Decision check: Is the Reuse System Grounded in Local Contexts and Realities?

Before designing, adopting, funding, or scaling a reuse system, consider the following questions.

Check Area	Key Questions	Status
Understanding local material flows	Has the system assessed how products and packaging currently move through local reuse, refill, repair, retail, recovery, and disposal networks?	□ In place □ Requires improvement □ Not in place
Building on existing systems	Does the system strengthen suitable existing infrastructure, services, livelihoods, and community-based practices, rather than creating unnecessary parallel systems?	□ In place □ Requires improvement □ Not in place

Local operating conditions	Does the system account for local geography, settlement patterns, transport, water and energy availability, infrastructure, institutional capacity, and environmental requirements?	□ In place □ Requires improvement □ Not in place
Local knowledge, culture, and practices	Have workers, communities, and relevant local actors contributed their knowledge and experience? Does the system reflect local practices, preferences, and needs while meeting applicable safety requirements?	□ In place □ Requires improvement □ Not in place
Local adaptation and testing	Has the proposed model been assessed and, where necessary, adapted or tested in the local context, rather than copied from another region without appropriate evaluation?	□ In place □ Requires improvement □ Not in place

Definitions of Status*

- **In place:** The condition is adequately addressed.
- **Requires improvement:** The condition is partially addressed and should be strengthened before scaling the system.
- **Not in place:** The condition is absent, and corrective action is needed before adoption or scaling.

Caution: If a proposed system creates unnecessary parallel infrastructure, undermines existing livelihoods or community-based practices, or is not adapted to local operating conditions, address these concerns through meaningful engagement and system redesign before adoption or scaling. Also, assess existing local systems for relevant safety, accessibility, and environmental considerations and build on them to strengthen their contribution to effective and inclusive reuse.

5 Design for System and Material Efficiency

Principle statement

Reuse systems should be designed to deliver genuine environmental and resource benefits by maximising the useful life of products and packaging and using materials, energy, water, infrastructure, and transport efficiently.

Products and packaging should be designed for durability, maintenance, and repair where feasible. Reuse systems should minimise unnecessary material use, resource consumption, transport, asset losses, and waste without compromising on health, safety or performance.

Why this matters

A product or package designed for repeated use does not automatically deliver environmental benefits. Outcomes depend on the durability and useful life of reusable assets, how frequently and effectively they are reused, and how the systems supporting their repeated use are designed and operated.

Poorly-designed systems may require excessive transport and water use, energy-intensive cleaning, inefficient logistics, or frequent replacement of reusable assets. These demands can reduce the environmental benefits of reuse and, in some circumstances, undermine them.

System and material efficiency therefore require attention to both the design of reusable products and packaging and the infrastructure and activities that enable their repeated use. Decisions should be based on the resources required throughout the reuse cycle, opportunities identified to reduce avoidable impacts, and improve performance over time while maintaining safety, accessibility and functionality.

What this requires

5.1 Design for Environmental and Resource Efficiency

Design and operate reuse systems in ways that minimise unnecessary resource consumption and environmental impacts across the activities required to enable repeated use. These activities include the production of reusable assets, their collection, transport, cleaning, maintenance, redistribution, and replacement, as relevant to the system.

System design should consider how infrastructure location and organisation, transport distances, cleaning methods, energy and water requirements, logistics, and asset management influence environmental performance. Where appropriate to the local context, consider opportunities to reduce avoidable transport, share suitable infrastructure, improve asset utilisation, and minimise losses.

Where relevant, assess environmental performance across the life cycle of reusable products and packaging, accounting for the impacts of producing reusable assets and the activities required to keep them in circulation. Assessment should consider the extent to which reuse displaces single-use products and packaging, as well as the number of reuse cycles achieved. The approach should be proportionate to the system's scale and complexity and informed by available evidence.

Evaluate efficiency measures alongside health, safety, accessibility, and social considerations. Reducing costs or resource use should not compromise safe cleaning, product quality, worker safety, or the system's effective operation. Monitor and improve system performance as evidence becomes available.

5.2 Design for Durability, Maintenance, and Material Efficiency

Products and packaging intended for repeated use should be designed to withstand their intended operating conditions.Where technically feasible, the design should also enable maintenance, repair, refurbishment, and replacement of individual components rather than requiring replacement of the entire asset.

Design considerations may include material selection, structural strength, wear resistance, ease of cleaning, access to spare parts, repairability, and the availability of maintenance instructions and services. For packaging, this may include replaceable lids, caps, seals, pumps, handles, or closures. For products, it may include modular designs, accessible components, spare parts, and repair services.

Material choices should consider durability, resource use, and environmental impacts over the useful life of the asset. These choices must also protect human health and safety and ensure that products and packaging remain suitable for their intended purpose throughout repeated use. Do not pursue durability through unnecessary material use or design features that make cleaning, repair, or eventual material recovery more difficult.

Reuse systems should allow appropriate inspection, maintenance, and repair, and should replace or withdraw assets when they can no longer be used safely or effectively. Prioritise extending useful life where it delivers meaningful benefits, rather than retaining assets that are unsafe, unsuitable, or inefficient to maintain.

Applying the principle in practice

Scenario 1: Reducing Transportation Impacts Through Localised Filling Arrangements

Context:

A beverage brand operates a returnable glass bottle system using standardised bottles. Used bottles are collected and washed within a city, but then transported 200 km to a central production facility for refilling. The filled bottles are subsequently transported back to the city for distribution.

Although the system enables repeated use of bottles, the arrangement involves considerable transportation of both empty and filled containers. The brand considers whether filling closer to the point of distribution could improve the system's environmental and resource efficiency.

Applying the Principle:

The brand should assess alternative filling arrangements rather than assuming that existing centralised infrastructure is necessarily the most resource-efficient option.

One possibility is to establish an arrangement with a qualified local facility capable of filling the beverage to the required quality and safety standards. This could reduce the need to transport empty and filled bottles over long distances, while maintaining appropriate oversight of product quality, safety, and compliance.

However, reduced transportation distances alone should not be treated as sufficient evidence of improved environmental performance. The assessment should also consider the local facility's production capacity, energy and water requirements, operational efficiency, and the transport and resource requirements of the revised arrangement.
The decision should be informed by whether local filling delivers an overall improvement in environmental and resource efficiency without compromising product safety or system performance.

Relevant sub-principles:

5.1 Design for Environmental and Resource Efficiency

Scenario 2: Extending Product Lifespan Through a Repair Ecosystem

Context:

A company operating an equipment rental and lending service finds that products are frequently withdrawn from circulation because of damage to individual components such as wheels, handles, switches, and electrical connections.

The equipment remains largely functional in many cases, but limited repairability or unavailability of components lead to their premature withdrawal and replacement.

The company explores how equipment design and supporting repair services could enable products to remain in circulation for longer.

Applying the Principle:

The service provider should consider durability, repairability, and maintenance requirements when selecting equipment for rental and lending. This can include working with manufacturers to procure products with durable and replaceable components, accessible repair instructions, and reliable availability of suitable spare parts.

The company can also establish arrangements with local repair enterprises to inspect, maintain, and repair equipment between rental cycles. These arrangements should include appropriate safety procedures and assessments to determine whether repaired equipment remains suitable for further use.

Repair and maintenance decisions should be made considering the condition of the asset, the resources required for its repair, and the expected extension of its useful life. Equipment that cannot be safely or effectively repaired should not be returned to circulation solely to increase the number of reuse cycles.

The service provider should monitor repair frequency, asset condition, service life, and replacement rates to assess whether the interventions are reducing premature product replacement and unnecessary material consumption.

Relevant sub-principles:

5.2 Design for Durability, Maintenance, and Material Efficiency

Decision check: Is Producer Responsibility Being Advanced?

Before designing, adopting, or scaling a reuse system, consider the following questions.

Check Area	Key Questions	Status
Environmental and resource efficiency	Has the system considered the resource requirements and environmental impacts associated with producing, transporting, cleaning, maintaining, redistributing, and replacing reusable assets? Are opportunities to reduce avoidable impacts being pursued?	□ In place □ Requires improvement □ Not in place
Asset durability and material efficiency	Are reusable products and packaging designed to withstand repeated use without unnecessary material consumption, while remaining safe and suitable for their intended purpose?	□ In place □ Requires improvement □ Not in place
Maintenance, repair, and refurbishment	Are appropriate arrangements for inspection, maintenance, repair, refurbishment, and replacement of components available, where needed?	□ In place □ Requires improvement □ Not in place

Infrastructure and operational efficiency	Has the system considered its requirements in terms of appropriate infrastructure locations, logistics, transport distances, and asset utilisation? Has it assessed opportunities to share infrastructure or coordinate operations?	□ In place □ Requires improvement □ Not in place
Reuse performance and useful life	Does the system track relevant indicators such as actual reuse cycles, asset losses, return rates, utilisation, useful life, and replacement rates to identify opportunities for improvement?	□ In place □ Requires improvement □ Not in place

Definitions of Status*

- **In place:** The condition is adequately addressed.
- **Requires improvement:** The condition is partially addressed. It should be strengthened, as appropriate, before the system is adopted or scaled.
- **Not in place:** The condition is absent, and corrective action is needed before adoption or scaling.

Caution: Where important efficiency measures are not yet in place, a reuse initiative may still proceed where appropriate, provided that essential health, safety, and environmental safeguards are met. Monitor relevant performance, address avoidable impacts, and progressively improve system design as evidence becomes available. Do not assume environmental benefits solely because products or packaging are reusable.

Annexure I

OPERATIONAL ATTRIBUTES OF REUSE SYSTEMS

This annexe provides additional explanations of the operational attributes referenced in Part I of this publication, particularly in the section ‘Practical Applications of the Reuse Taxonomy’. Operational attributes describe how reuse systems may be designed and operated, including differences in infrastructure, system configuration, and responsibility for reconditioning.

The following are selected operational attributes of reuse systems, illustrating how reuse arrangements may differ in their design and operation.

Infrastructure Model and System Design

Infrastructure Model describes whether the infrastructure supporting a reuse system is established for the exclusive or primary use of one system or operator, or shared across multiple reuse systems or operators.

Infrastructure Model	Explanation	Examples
Dedicated Infrastructure	Infrastructure such as collection points, washing facilities, logistics, storage, or digital systems is established primarily for a specific reuse system or operator.	• A reusable cup company operates its own washing facility, storage, and logistics network solely for its cup reuse system. • A reusable nappy service exclusively operates its own collection, laundering, and delivery facilities.
Shared Infrastructure	Infrastructure is used by multiple reuse systems, operators, businesses, or service providers.	• A commercial washing hub cleans reusable cups and food containers for several restaurants and reuse operators. • A shared laundry facility provides washing and sanitisation services for several reusable nappy services and nurseries.

System Design describes whether the technical and operational features of a reuse system are developed specifically for a particular operator, or follow common specifications that can be adopted across multiple operators or systems.

Type	Definition	Examples
Bespoke	A reuse system designed around packaging, dispensing equipment, return arrangements, or operating procedures developed for a particular brand, retailer, event, or operator.	• The Coca-Cola brand designed their glass bottles for reuse and developed specific operating and performance requirements suited to meet their needs.
Standardised	A reuse system that uses common packaging specifications, dispensing interfaces, return requirements, or operating protocols that can be adopted by multiple brands, retailers, restaurants, or service providers.	• Germany's reusable beer-bottle system, where more than 1,000 breweries use standardised reusable bottle formats that can be sorted and returned to the same breweries.

Interpretive Note

- Interoperability describes the ability of different reuse systems to function together across multiple operators or platforms, thereby improving the efficiency of reuse systems. Standardisation and shared infrastructure may facilitate interoperability, but does not guarantee always. For instance, if two systems use the same washing facility, but maintain separate tracking systems or return arrangements,they have shared infrastructure but are not interoperable.

3.2.2 Ownership and Circulation Model

Within system-retained packaging reuse, arrangements may be described as closed-loop or open-loop depending on how ownership of packaging is retained or transferred as it circulates between participating actors.

Both arrangements involve the recovery and recirculation of reusable packaging within a reuse system. They are not separate categories within the reuse taxonomy but describe different arrangements through which system-retained packaging reuse may operate.

Closed-Loop System

A reuse system in which reusable packaging circulates within a defined system operated by a system operator or cooperating group of participants, without a change in ownership of the packaging. Different actors may possess, collect, transport, wash, fill, or distribute the packaging, but the packaging remains within the ownership arrangement of the system and is returned to that system for subsequent reuse.

Open-Loop System

A reuse system in which reusable packaging can circulate among an unspecified number of system participants, with ownership changing at one or more points as the packaging moves through the reuse process. Packaging is therefore not tied to a single owner or cooperating group of participants and may move between different participating businesses, informal works or users who could recover and sometimes recondition it to enable reuse. Open-loop systems are often enabled by common or standardised packaging specifications and compatible return, sorting, reconditioning, or other infrastructure that allow packaging to be used across different participating actors.

Interpretive Note

- The distinction between open- and closed-loop systems relates primarily to **how ownership and circulation of reusable packaging are organised,** rather than to the number of actors handling the packaging or the

geographic area in which it circulates.

- In both open- and closed-loop systems, packaging may pass through multiple actors, including users, retailers, collectors, transporters, washing facilities, and refillers. In a closed-loop system, these transfers of physical possession do not result in a change in ownership of the packaging. In an open-loop system, ownership may transfer between system participants as the packaging circulates.

- For example, in Germany's open-loop reusable beer bottle system, standardised bottles are used by numerous breweries. Bottles may move through wholesalers and retailers and, after use, be collected, sorted, and returned to any participating brewery using the same bottle format rather than necessarily returning to the brewery that originally filled them. This enables the packaging to circulate across participating actors rather than remaining tied to a single operator or a cooperative's packaging pool.

- The change in what the packaging contains does not determine whether the system is open or closed, provided the packaging is suitable and legally permitted within a specific jurisdiction to be used for different applications. For example if a cooperative owns a pool of standardised glass bottles where some participating businesses use them for gin, others for vinegar, juice, or sauces, and the bottles are returned, reconditioned, and redistributed while remaining under the same ownership arrangement, the system is closed loop.

  By contrast, if a gin bottle is recovered by an independent collector, sold to a vinegar producer, reconditioned, and refilled for vinegar; it would be an open-loop system because ownership changes as the bottle moves between participants.

System Boundaries

System boundaries define the operational perimeter within which packaging moves, is used, and re-enters the system

Type	Definition	Examples
On-site Circulation/ Closed-environment	A configuration in which packaging is used and returned within the same physical setting or a closely controlled environment. Users typically return the packaging at or near the location where it was provided.	A cafeteria provides reusable plates, cups, and cutlery for on-site dining.[34] After use, the assets are returned, washed, and reused within the same cafeteria.
Networked Circulation/ Open-environment	A configuration in which packaging can move beyond the point of service. Packaging can be returned through multiple participating locations within a broader network rather than a single return point.	A reusable takeaway cup can be borrowed from one café and returned to the same café or another participating location within the network. The cup is then collected, washed, and redistributed for reuse.[35]

Interpretive Note

Closed-environment and Open-environment circulation should not be confused with Closed-loop and open-loop arrangements.The former involves the physical and operational boundaries of circulation, while the latter concerns the ownership arrangements within packaging reuse systems.

For example, a closed-loop packaging reuse arrangement may operate across an extensive network of retailers and collection points, despite ownership remaining with the same company throughout. Similarly, an open-loop arrangement may operate within a geographically limited area.

[34] Illustrative examples of closed-loop systems include We Use (Hong Kong), Cupable (India), Rent-A-Cutlery (India), , and community crockery banks, where reusable assets are returned within a defined service arrangement before being prepared for subsequent use.

[35] Illustrative examples of open-loop systems include reusable cup and container programmes that allow packaging to be returned through multiple participating locations, such as Taiwan's Plasticircular® reusable cup programme, as well as the collection and redistribution of returnable beer bottles through waste picker and aggregator networks in India. Case Study on Reusable Takeaway Packaging and Unpacking Reuse in Asia

Neither the number of participating actors nor the geographic extent of circulation determines whether an arrangement is closed-loop or open-loop.

Asset Reconditioning

Asset reconditioning[36] describes how assets are cleaned, maintained, repaired, or otherwise prepared for subsequent use cycles. Depending on who is responsible for asset reconditioning, they can be categorised into the following three:

Type	Definition	Examples
System-led Reconditioning	Cleaning, inspection, repair, or refurbishment is organised and carried out by the system operator or a designated service provider.	A reusable cup or tableware service collects used assets, cleans and sanitises them for redistribution.
User-led Reconditioning	Users are responsible for cleaning and maintaining assets for subsequent use.	A user refills and cleans their own refillable detergent bottle, spice jar, or water container between uses.
Shared Reconditioning	Responsibility for reconditioning is shared between users and a service provider or system operator.	Users clean reusable tableware after use before returning it, while the system conducts final inspection or sanitisation before recirculation.[36]

[36] In this taxonomy, reconditioning refers to activities undertaken to restore an asset to a functional state for subsequent use cycles. Depending on the asset and system, this may include cleaning, sanitisation, inspection, maintenance, repair, refurbishment, or other activities necessary to prepare the asset for reuse. This interpretation is broadly consistent with the definition of reconditioning in the EU Packaging and Packaging Waste Regulation (PPWR), that defines reconditioning as an operation necessary to restore reusable packaging to a functional state for the purpose of reuse.

Annexure II

MATERIALS AND CHEMICALS OF CONCERN FOR REUSABLE PACKAGING

This Annexe provides indicative guidance on materials and chemical groups to avoid, restrict, or carefully assess when selecting materials for reusable packaging. It draws primarily on PlastChem'sState of the Science on Plastic Chemicals report, UNEP's Chemicals of Concern in Plastics and Plastic Products, applicable food contact legislation and guidance, Zero Waste Europe's ReuSe Blueprint, the Understanding Packaging (UP) Scorecard, and other emerging reusable packaging guidance including the final and draft standards of the PR3 Global Alliance to Advance Reuse.

This Annexe should be read together with applicable national legislation, food contact regulations, product safety requirements, and relevant technical standards. Because scientific understanding and regulatory requirements continue to evolve, the Annexe should not be regarded as exhaustive and should be reviewed periodically.[37]

[37] UNEP, PlastChem, and other scientific bodies recommend regularly updating chemicals-of-concern lists as new hazard information becomes available.

A. Materials Requiring Avoidance or Careful Assessment

Reusable packaging should avoid, or where appropriate progressively phase out, materials that present concerns for repeated safe use, chemical safety, recyclability, or environmental performance unless their suitability for repeated reuse has been demonstrated.[38]

Examples include:

- Melamine
- Polycarbonate (PC)
- Polystyrene (PS)
- Expanded Polystyrene (EPS)
- Polyurethane (PU)
- Polyvinyl Chloride (PVC)
- Polyvinylidene Chloride (PVDC) and Polyethylene Terephthalate Glycol (PETG)[39]
- Materials containing oxo-degradablxe additives
- Organometallic additives or stabilisers of concern

Note: Inclusion in this Annex does not necessarily mean that a material is prohibited in every jurisdiction. Rather, these materials have been identified through scientific evidence, regulatory frameworks, technical guidance, or emerging policy discussions as requiring avoidance or careful assessment for repeated-use applications.

B. Chemicals of Concern

Reusable packaging should avoid chemicals of concern wherever feasible, and progressively phase them out in accordance with applicable legislation and evolving scientific knowledge.[40]

Priority chemical groups include:

- Endocrine-disrupting and reproductive toxicants
- Bisphenols (including BPA, BPS and BPF)
- Alkylphenols (including nonylphenols and octylphenols)
- Phthalates
- Parabens

[37] Material selection should consider repeated-use performance, chemical migration, degradation, recyclability, and compatibility with intended applications. Similar principles are reflected in Zero Waste Europe's ReuSe Blueprint, EFSA guidance, EU food-contact legislation, and the PR3 draft standards.
[38] PVDC and PETG are included because they appear in the Swiss Confederation's Concept Paper on Product Design Criteria and Chemicals of Concern, submitted to the fourth session of the Intergovernmental Negotiating Committee (INC-4). Their inclusion reflects an emerging policy proposal rather than a universally agreed international restriction.
[40] Chemical groups of concern are drawn from the PlastChem database and report, UNEP's Chemicals of Concern in Plastics and Plastic Products, food contact legislation, internationally recognised hazard classifications, and emerging reusable packaging guidance. Several listed substances or chemical groups are also regulated under international agreements. For example, certain polybrominated diphenyl ethers (PBDEs), polychlorinated biphenyls (PCBs), short-chain chlorinated paraffins (SCCPs), and specific per- and polyfluoroalkyl substances (PFAS), including PFOS, are regulated under the Stockholm Convention on Persistent Organic Pollutants, while mercury and mercury compounds are regulated under the Minamata Convention on Mercury.

Persistent chemicals

- Per- and polyfluoroalkyl substances (PFAS)
- Chlorinated paraffins (including short-chain chlorinated paraffins)

Halogenated flame retardants

- Polybrominated diphenyl ethers (PBDEs)
- Polychlorinated biphenyls (PCBs)
- Other halogenated flame retardants of concern

Heavy metals

- Lead and lead compounds
- Cadmium and cadmium compounds
- Mercury and mercury compounds
- Hexavalent chromium compounds

Monomers, solvents, and process chemicals

- Formaldehyde
- Diisocyanates
- Toluene
- Perchlorate

UV stabilisers and additives

- UV stabilisers
- Benzophenones and related compounds
- Benzotriazoles

Pigments and dyes

- Carbon black pigments where impurities or contamination are of concern[41]
- Azo dyes capable of releasing carcinogenic aromatic amines
- Aromatic amines

Other substances of concern

- Acetophenones
- Benzothiazoles
- Salicylate esters
- Aralkyl aldehydes
- Aromatic ethers

[41] Carbon black pigments are included because certain grades, particularly those produced from recovered feedstocks, may contain polycyclic aromatic hydrocarbons (PAHs) or other contaminants. Their suitability should therefore be assessed in accordance with applicable food contact legislation and relevant safety guidance.

C. Material Complexity and Emerging Chemicals

While this Annex identifies major materials and chemical groups of concern, it should not be regarded as exhaustive.

The **PlastChem** project identified **more than 16,000 chemicals associated with plastics**, many of which remain insufficiently characterised, assessed, or regulated.[42] As scientific understanding continues evolving, restricted-substance lists cannot be considered complete.

Material selection should therefore not rely solely on screening against known hazardous substances.

In addition to avoiding known chemicals of concern, material selection should also consider:

- chemical complexity;
- material stability;
- The durability under repeated use;
- The likelihood that substances may migrate, degrade, or be released during repeated use, washing, heating, storage, or transport.

Many plastics and some fibre-based packaging formats may contain numerous additives, coatings, adhesives, processing aids, degradation products, and non-intentionally added substances (NIAS), many of which remain insufficiently characterised.

Where feasible, reusable packaging should therefore prioritise materials that are:

- simple in composition;
- chemically stable;
- durable under expected conditions of repeated use; and
- supported by well-characterised safety data.

Materials such as **glass**, **stainless steel**, and **ceramics** generally have simpler chemical makeup and more established safety profiles for repeated use, although they should also comply with applicable food-contact legislation and product safety requirements.[43]

[42] Wagner, M., Monclús, L., Arp, H. P. H., Groh, K. J., Løseth, M. E., Muncke, J., Wang, Z., Wolf, R., & Zimmermann, L. (2024). State of the Science on Plastic Chemicals – Identifying and Addressing Chemicals and Polymers of Concern (PlastChem).

[43] Materials with relatively simple and well-characterised chemical compositions generally present fewer uncertainties regarding chemical migration and repeated-use performance than chemically complex materials. However, no material is inherently risk-free, and all reusable products should comply with applicable food contact legislation and product safety requirements. Similar approaches are reflected in EFSA guidance, EU food contact legislation, Zero Waste Europe's ReuSe Blueprint, and the Understanding Packaging (UP)

D. Review and Update

This Annex should be reviewed and updated regularly to reflect:

- emerging scientific evidence;
- new chemicals and polymers of concern;
- updates to international conventions;
- changes in national and regional regulations;
- developments in reusable packaging standards; and
- advances in safer materials and product design.

Material selection should follow a precautionary approach and seek continual improvement rather than relying solely on existing restricted-substance lists.[44]

[44] This precautionary approach is consistent with recommendations in the PlastChem report, UNEP's Chemicals of Concern in Plastics and Plastic Products, the Global Framework on Chemicals, and ongoing discussions under the Global Plastics Treaty, all of which recognise that existing regulatory lists do not capture all chemicals and polymers that may pose risks to human health or the environment.

Annexure III

GLOSSARY OF TERMS

This reference section allows readers to quickly locate definitions used throughout the publication, including terminology from Part I and Part II. The glossary is organised into two parts.

Part A: Core Terms includes the key terms defined and explained in Part 1 of this guide. These terms are central to understanding the reuse terminology and taxonomy framework. Concise definitions are provided here for quick reference. Readers are encouraged to refer to the relevant sections of Part 1 for detailed explanations, examples, and interpretive guidance.

Part B: Ancillary Terms includes supporting terms used throughout the guide that may not be explicitly defined or discussed in detail. These definitions are provided for clarity and consistent interpretation.

Part A: Core Terms

Term	
Alternate Use	The use of a product or packaging for a purpose different from its intended functional purpose, in a way that compromises its ability to return to its intended purpose through normally applicable reconditioning processes.
Asset	A product or packaging item that is subject to repeated use within the reuse framework.
Closed-Loop Packaging Reuse	A form of packaging reuse in which reusable packaging circulates through a reuse system operated by one actor or a cooperating group of actors, without change in ownership of the packaging.
Consumable Product	A product intended to be ingested, applied, consumed, depleted, or otherwise progressively used up. Examples include food, beverages, personal care products, household cleaning products, ink, and other consumable substances used within a product.
Maintenance	Activities that preserve or restore an asset's condition and functionality so it can continue to perform its intended purpose.
Open-Loop Packaging Reuse	A form of packaging reuse in which reusable packaging circulates among different actors within a reuse system, with ownership of the packaging changing at one or more points in the reuse process.
Ownership Transfer	The transfer of ownership of a reusable product or packaging from one actor to another to enable its continued use. Ownership transfer may occur through sale, resale, donation, gifting, exchange, or other arrangements.
Ownership Transfer Pathway	An arrangement in which ownership of a reusable product passes from one owner to another, enabling the product to continue performing its intended functional purpose.
Packaging	Assets used to contain, protect, carry, or serve another product as part of its supply or distribution to a recipient, through commercial or non-commercial arrangements.
Producer	An economic operator who manufactures, imports, brands, fills, packs, or otherwise places a product, packaged product, or packaging on the market.

Product	An asset designed, produced, or used to fulfil a particular function or purpose.
Product Reuse through Ownership Transfer	Continued use of a reusable product enabled by the transfer of ownership from one owner to another, while the product continues to perform its intended function.
Reconditioning	Operations undertaken to restore a product or reusable packaging to a condition suitable for another safe and functional use cycle. These may include inspection, cleaning, washing, sanitisation, maintenance, repair, or refurbishment, as applicable.
Refill	The act of replenishing a container, packaging, receptacle, product, or product component that is retained for repeated use.
Refillable Packaging	Reusable packaging retained by a user and refilled multiple times for its intended functional purpose, without requiring its return for recirculation among users.
Refurbishment	The modification or restoration of a product to improve or restore its performance, functionality, or compliance with applicable technical, safety, or regulatory requirements, so that it remains suitable for its intended purpose.
Repair	The operation of fixing a specified fault or replacing defective components to restore a broken product or reusable packaging to a fully functional state suitable for its intended purpose.
Returnable Packaging	Reusable packaging that is returned and recirculated for subsequent use. Its reuse is generally facilitated by a packaging reuse system that involves processes such as collection, reconditioning, refilling where applicable, and redistribution.
Reusable Alternatives to Single-Use Products	Products specifically designed to replace single-use products by performing the same intended functional purpose over repeated use cycles. Examples include reusable menstrual pads, cloth nappies, reusable water bottles, and reusable cutlery.
Reusable Packaging	Packaging intentionally designed and suitable for repeated use for its intended functional purpose, including through any necessary processes such as return, collection, reconditioning, refill, or recirculation.
Reusable Products	Products designed to be durable and suitable to perform their intended functional purpose over multiple use cycles and capable of remaining in use over time, including with maintenance, repair, or other necessary care where applicable.

Reuse	Examples include clothing, furniture, electronics, reusable menstrual products, and household appliances.
Reuse Economy	The use of a product or packaging again for the same intended functional purpose for which it is designed and suitable, including after any necessary maintenance or reconditioning.
Reuse Ecosystem	The economic activities, actors, transactions, and value flows associated with keeping products and packaging in repeated use and providing the goods and services that enable reuse.
Reuse-Enabling Actions	The interconnected actors, systems, infrastructure, policies, economic and market conditions, social practices, and wider environmental and institutional contexts that collectively influence how reuse is organised, enabled, practised, and scaled..
Reuse Practice	Supporting activities that make another cycle of reuse possible, but do not themselves constitute acts of reuse. These may include collection, sorting, cleaning, repair, redistribution, and ownership transfer, undertaken by users or other actors.
Reuse System	An action through which a user uses a product or packaging again for its intended functional purpose. Reuse practices describe reuse from the perspective of the end user. They may occur independently or within an organised reuse system.
Returnable Packaging Reuse System	An organised arrangement of actors, infrastructure, and activities that work together to enable the repeated use of products or packaging. Depending on the reuse category, systems may operate through mechanisms such as return and redistribution, refill, lending, rental, or ownership transfer.
Single and Limited use Packaging	An organised system in which reusable packaging is provided for use and, after use, is returned through an established return pathway so that it can be collected, reconditioned as necessary, refilled, and made available for subsequent use cycles.
Single and Limited Use Products	Packaging designed or intended for a single use or a limited number of uses before being discarded, rather than being designed and suitable for sustained repeated use.
System-retained Pathway	Products designed or intended to perform their functional purpose for a single use or a limited number of uses before being discarded. Examples include wet wipes, plastic straws, disposable razors, and single-use menstrual pads.

System-retained Packaging Reuse	An arrangement in which a reusable asset is returned to or otherwise recovered within an organised reuse system after use, and is made available for subsequent use cycles.
System-retained Product Reuse	Reuse in which reusable packaging is returned to or otherwise recovered within a reuse system after use, reconditioned, refilled if necessary, and recirculated for subsequent use cycles.
User-retained Pathway	Reuse in which a product is made available to one or more users for temporary use and, after use, is returned to or recovered within an organised reuse system for further use.
User-retained Packaging Reuse	An arrangement in which a reusable asset is retained and used by the same user across successive use cycles for its intended functional purpose.
User-retained Product Reuse	Reuse in which reusable packaging is retained and used by the same user across successive use cycles for its intended packaging function, with replenishment where relevant. Repeated use of a product retained by the same user across successive use cycles.

Part B: Ancillary Terms

Term	
Chemicals of Concern	Chemical compounds or substances that have hazardous properties and cause concern to human health or the environment. Among chemicals of concern, three categories can be distinguished: 1. Chemicals for which risk reduction action has been agreed at an international level, such as chemicals listed under the Stockholm Convention on Persistent Organic Pollutants. 2. Chemicals for which scientific evidence exists to advance risk reduction action, including chemicals regulated at national or regional level. 3. Chemicals for which evidence of risk to human health or the environment is emerging from scientific research, but which are not yet regulated. Chemicals of concern under categories 1 and 2 are subject to mandatory regulations, such as bans or limit values. Addressing the third category can form part of a high-ambition and proactive approach to chemicals management that goes beyond regulatory compliance. [Source]
Extended Producer Responsibility (EPR)	EPR is a policy approach that makes producers responsible for their products along the entire life cycle, including at the post-consumer stage1. This specially designed environmental policy approach shifts the burden of managing certain end-of-life products from municipalities and taxpayers to the producers who place those products in the market. (SOURCE: UNEP)
False Solution	Approaches that fail to address the root causes of plastic pollution, perpetuate plastic overproduction, generate additional pollution, and divert attention from effective solutions. (Source: Adapted from GAIA (2020), False Solutions to the Plastic Pollution Crisis.)
Infrastructure	This refers to the physical or service arrangements that support repeated use, such as collection and sorting facilities, washing stations, refill kiosks, storage spaces, and transport networks.

Interoperability	The ability of reusable packaging, assets, or supporting systems to function across multiple operators, service providers, or participating actors, rather than being restricted to a single proprietary system.
Just Transition	A process of moving towards an environmentally sustainable economy that contributes to decent work, social inclusion, and poverty eradication. (Source: ILO)
Microplastics	Solid particles made of synthetic polymers, typically smaller than 5 mm. (Source: UNEP (2020))
Point of Service	A location or interface through which users can obtain, return, refill, or transfer assets within a reuse system. Access points may include retail outlets, collection kiosks, refill stations, pickup services, or digital interfaces, depending on the reuse category.
Primary Packaging	Packaging that comes into direct contact with the product.
Producer Responsibility Organisation (PRO)	A legal entity that organises the fulfilment of extended producer responsibility (EPR) obligations on behalf of multiple producers, through financial arrangements or a combination of financial and operational arrangements, in accordance with applicable laws and regulations (Adapted from EU Packaging and Packaging Waste Regulation (PPWR), 2025)
Reverse Logistics	The arrangements and processes through which products or packaging are collected and transported from users back to system actors for activities such as inspection, reconditioning, redistribution, or further reuse.
Rotation	A complete cycle undertaken by reusable packaging within a returnable packaging reuse system, from its supply along with a product to the point at which it is ready for another use cycle. Rotation may include processes such as return and reconditioning. (Adapted from Regulation (EU) 2025/40, Article 3(29)).
Return Rate	The percentage of reusable containers returned to the packaging reuse system after use, calculated over a defined period of time.
Reuse System Standardization	The adoption of common technical specifications, operational procedures, and monitoring protocols to improve compatibility and interoperability across reuse systems. These may include specifications for packaging dimensions, shapes, capacities, and materials, as well as common approaches to identification,

	tracking, collection, reconditioning, transport, and redistribution, enabling shared infrastructure and services.
Reuse Targets	Quantitative, time-bound objectives established through regulations to increase the proportion or volume of products or packaging reused, or of goods delivered through reuse systems, within a defined sector, market, or product category.
Service Provider	An individual, business, cooperative, organisation, or other entity that provides services to enable or support the reuse of products or packaging. The services provided may include rental, lending, collection, transportation, cleaning, maintenance, repair, reconditioning, storage, or logistics.
System	An organised configuration of infrastructure, actors, and processes that enables repeated use of assets. Depending on the category, a system may coordinate provisioning, refill, return, reconditioning, redistribution, or transfer of ownership.
System Participants or System Actors	All individuals, groups, and organisations involved in the functioning of a system. This includes users, producers, retailers, system operators, service providers, waste pickers, community organisations, producer responsibility organisations (PROs), and workers.
System Operators	An entity, natural person, or group of actors responsible for coordinating the overall functioning of a system. Depending on the system, their responsibilities may include supplying assets for use, managing collection or return, coordinating reconditioning, enabling refill or transfer, and overseeing redistribution or recirculation. The role of a system operator may exist across reuse, refill, and transfer-based reuse systems.
User	An individual, household, business, institution, organisation, community group, or other entity that uses a product or packaging for its intended functional purpose. The user is not necessarily the owner of the asset.
Waste	Any substance or object that the holder discards, or intends to or is required to discard. (Source: European Parliament and Council of the European Union (2008). Directive 2008/98/EC of 19 November 2008 on waste and repealing certain Directives (Waste Framework Directive).
Waste picker	Individuals who collect reusable and recyclable materials (either segregated or mixed) from residential and commercial waste bins, large generators, dumpsites, and public spaces to

	repurpose these materials or direct them to recycling, thereby earning a living.
Zero Waste	The conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials. without burning, and with no discharges to land, water, or air that threaten the environment or human health. (Source: Global Alliance for Incinerator Alternatives (GAIA). (2020). The Zero Waste Masterplan: A Guide to Building Just and Resilient Zero Waste Cities.)
Zero Waste Hierarchy	A progression of policies and strategies to support the Zero Waste system, from highest and best to lowest use of materials. (Source: ZWIA — Zero Waste Hierarchy of Highest and Best Use, Version 8.1 (2025))

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