Summary Document

Measuring Reuse – Developing a comprehensive approach for reuse measurement and reporting

Consumers Beyond Waste

An initiative of the Future of Consumption Platform, World Economic Forum

Measuring Reuse

DEVELOPING A COMPREHENSIVE APPROACH FOR REUSE MEASUREMENT AND REPORTING

Table of Contents

Executive Summary

Introduction, Objectives, & Document Overview

- The proliferation of plastic waste is harming our planet, people, and economies. Half of global plastic production is for single-use applications and only 14% of plastic packaging is collected for recycling (with an effective recycling rate of approximately 2% globally)[1]. We cannot rely upon recycling alone to solve the plastic waste crisis, and new solutions are needed.
- The circular economy is increasingly at the center stage of global corporate sustainability agendas, with reuse playing a key role – reusable packaging, designed to be used several times, is required to help reduce total virgin material consumption, emissions, and waste generation by keeping resources in circulation.
- The Consumers Beyond Waste (CBW) initiative has been playing a catalytic role in systemic efforts to eliminate plastic waste by advancing a shift towards reusable models of consumption. The initiative is now focused on building a **standardization, measurement, and reporting framework with guidelines** for businesses to measure and track progress towards reusable models.
- The Consumers Beyond Waste initiative has continued **driving the effort to advance the reuse agenda globally by establishing and facilitating discussions with a multi-stakeholder coalition of public, private, and civil society stakeholders**, comprising (non-exhaustive): Amcor, Coca-Cola, Nestlé, PepsiCo, Unilever, Walmart, as well as the Ellen MacArthur Foundation (EMF), Greenpeace, and the World Wildlife Fund (WWF).
- This effort **defines success as the evaluation and prioritization of metrics to effectively measure reuse, proven through piloting in 2023, and ultimately incorporated into broader packaging disclosures.** In addition, the working group will engage in further discussions to decide whether to formally recommend prioritized reuse metrics across broader ESG and climate disclosure mechanisms in the future. Doing so requires transparency, alignment, and collaboration across the value chain, emphasizing the **importance of having both leading CPG *and* retailer stakeholders working together as part of this coalition.**
- This document is **targeted at corporate stakeholders** (committed to exploring, enabling, and piloting new reuse models), **at policymakers and standard setters** (seeking to better understand how reuse should be measured), **and at a broader ecosystem of actors** (including corporate players, NGOs, reuse solution providers, and investors).
- This summary document provides stakeholders with the following: 1) a **framework for reuse** standardization, measurement, and reporting, 2) an overview of the evaluation conducted to prioritize reuse metrics, and **an initial recommendation of two metrics for piloting in 2023, and 3) an overview of next steps and path forward.**
- Consumers Beyond Waste and its working group acknowledge there are multiple reuse "unknowns" and dimensions to understand further. This document should be considered a "version 1" – a starting point for the reuse community to test, iterate, and build upon. **It is not a document with final recommendations by CBW or its working group.**

Reuse Definition & Scope

- This effort defines reuse as any packaging originally conceived to be reused, and refilled or reused multiple times over its life for **the same purpose for which it was originally conceived.** It follows the framework set forth by EMF: 1) Refill at Home, 2) Refill on the Go, 3) Return from Home, 4) Return on the Go. Refer to our [July 2021 Insight Report](#) (p. 14) for further detail. This is a **working definition, to be updated by CBW and its coalition over the coming months.**
- The scope of this effort is **focused on consumer goods products only, on plastic packaging waste only,** and on primary packaging only (packaging directly in contact with the product). Future efforts may include analysis into other sectors and packaging types.

Reuse Measurement

- Building on work done to-date by core working group stakeholders like EMF, WWF, and Greenpeace, the CBW **initiative initially evaluated a longlist of fifteen reuse metrics**. This longlist of metrics measured reuse by weight, packaging units, share of business (volume or revenue), efficiency (by number of loops), and availability (by progress to track reuse – eg, number of pilots).
- The longlist of metrics was initially **prioritized into a shortlist of five reuse metrics** following three criteria: 1. Range (metrics accounting for the range of ways to measure reuse – eg, weight vs efficiency), 2. Applicability (metrics that effectively measure reuse across industries, products, and reuse models), and 3) Stakeholder Interviews (metrics recurringly identified by stakeholders as high potential metrics worth evaluating and prioritizing further).
- The shortlist of five metrics was then **analyzed using a Benefit vs. Complexity framework.** Across each metric, working group stakeholders analyzed Benefit (the metric's ability to measure reuse accurately and effectively) and Complexity (capabilities, data, and insights required to measure metric, and expected complexity to pilot metric).

Recommendations & Rationale

- The Consumers Beyond Waste and its core multi-stakeholder working group **supports the following outcomes and collective actions:**

  1. Prioritization of two reuse metrics: *% of portfolio reuse* (measuring reuse by efficiency, focusing on the total number of loops a packaging unit achieves over the course of its lifetime) and *Share of volume or product units* (measuring reuse by volume: liters of beverage, kilos of food, or kilos of personal care/home care products designed or developed to be reused – eg, volume that is reusable)
  2. The core community of consumer goods and retail corporate stakeholders will pilot one or both prioritized reused metrics during 2023, working with one another to share lessons learned and challenges encountered. This piloting period should be treated as an opportunity to test and iterate reuse metrics as needed.

Path Forward

- The Consumers Beyond Waste initiative and its core multi-stakeholder working group aligned on the following path forward, centered around three phases (timeline and phases are provisional):

  1. **Phase 1 (H2 2022):** CBW and its core multi-stakeholder working group will engage in a series of working sessions to delve more deeply into key dimensions required to pilot reuse metrics in 2023 (e.g., pilot structure, reporting requirements, capabilities/tools, and collaboration models). Based on strategic input from the working sessions, CBW will develop a pilot playbook to support corporate stakeholders in piloting reuse metrics and enable other community stakeholders, like NGOs, to provide feedback on pilots.
  2. **Phase 2 (2023-2025):** Corporate stakeholders will pilot one or both prioritized reuse metrics to test, learn, and iterate. CBW will provide input and support to consumer goods and retail stakeholders during this phase. This phase will be an opportunity share lessons learned and challenges encountered between the core members of the working group. In addition, this phase may also present the opportunity to start updating prioritized metrics into existing voluntary reporting frameworks like EMF's Global Commitment Progress Report.
  3. **Phase 3 (2024–):** Assuming positive pilot results, the working group will start to engage in further discussions to decide whether to formally recommend prioritized reuse metrics to inform government policies, regulations, and standards (e.g., integrating prioritized reuse metrics into broader ESG and climate disclosure mechanisms).

I.   Introduction

The Plastic Waste Crisis

The proliferation of plastic waste is harming our planet, people, and economies. Half of global plastic production is for single-use applications and only 14% of plastic packaging is collected for recycling (with an effective recycling rate of approximately 2% globally)[1]. We cannot rely upon recycling alone to solve the plastic waste crisis and new solutions are needed. There is an urgent need to drive a systemic shift towards reuse consumption models as an integral part of the reduce-reuse-recycle agenda. Whilst the transition to reusable packaging is still in its early stages, it is quickly gaining traction globally as an alternative to single-use models. Initial data indicates that by reusing just 10% of plastic products, the equivalent of 50% of annual plastic ocean waste can be prevented[2].

However, on our current trajectory it is anticipated that there will be more plastic than fish in the world's oceans by 2050, with an additional eight million tons of plastic waste entering the ocean each year[3]. Aside from the alarming waste footprint, the production of plastic increases carbon emissions, since it is a by-product of petroleum; by 2050, plastic production is expected to be responsible for up to 13% of the world's total carbon budget (defined as the maximum amount of CO2 emissions to keep within a certain temperature)[4]. The impact of plastic waste on human health is also becoming clearer, with scientists finding microplastics in human blood for the first time in March 2022[5].

Shifting away from single use plastics into reusable models of consumption represents a significant opportunity to solve the plastic waste crisis. Reusable packaging, designed to be used several times, is required to help reduce total virgin material consumption, emissions, and waste generation by keeping resources in circulation. Some reports estimate that the lifetime cost of plastic (including managed waste cost, market cost, emissions cost, and ecosystem costs) could be up to ~$2-4 trillion[6] – despite required infrastructure investments, shifting to reusable models of consumption is expected to reduce many of the key lifetime plastic cost drivers outlined above.

Consumers Beyond Waste – Ambition & Role

Consumers Beyond Waste is a multistakeholder initiative hosted by the World Economic Forum's Future of Consumption platform in collaboration with Kearney. The initiative engages a coalition of public, private, and civil society stakeholders committed to empowering consumers to, by 2030, access innovative consumption models at scale that offer aspirational, affordable, convenient, and more sustainable alternatives to single-use.

The Consumers Beyond Waste initiative has been playing a catalytic role in systemic efforts to eliminate plastic waste by advancing a shift towards reusable models of consumption. The initiative has amplified efforts of early innovators such as Loop and Algramo, and continues to support breakthrough companies like MIWA and Muuse. In 2021, the initiative established a reuse viability framework to enable an economically feasible transition to reuse, and also launched community-authored papers on design, health and safety, and municipal guidelines to facilitate the market adoption of reuse models.

The Consumers Beyond Waste initiative is now focused on building a comprehensive standardization, measurement, and reporting framework with guidelines for businesses to measure and track progress towards reusable models of consumption. Thus far, the community has collectively **focused on evaluating, prioritizing, and recommending a set of reuse metrics for consumer goods and retail core corporate stakeholders to pilot in 2023.** This summary document provides an overview of progress to-date, initial recommendations on how to measure reuse, and a detailed path forward for the Consumers Beyond Waste community.

II. Document Overview

Purpose and Audience

This summary document serves as a high-level overview of the ongoing reuse standardization, measurement, and reporting effort led by Consumers Beyond Waste and supported by its multi-stakeholder community of public, private, and civil society stakeholders. The document is targeted at:

- **Corporate stakeholders** committed to exploring, enabling and/or piloting new reuse models of consumption, particularly within the consumer goods and retail sectors.
- **Policymakers and standard setters** seeking to better understand how reusable models of consumption should be measured (including risks and trade-offs), and what metrics should be incorporated into future legislation and standards.
- **The broader set of ecosystem actors** (including other corporate players, NGOs, reuse solution providers, investors, etc.) interested in understanding thinking to-date on reuse standardization, measurement, and reporting, and in collaborating with the Consumers Beyond Waste working group to accelerate reuse solutions at scale.

This document provides stakeholders with a summary of the following three areas:

- A **framework for** reuse standardization, measurement, and reporting.
- An overview of the analytical evaluation conducted by the Consumers Beyond Waste working group to **prioritize reuse metrics, and an initial recommendation of two metrics for piloting in 2023.**
- An overview of **next steps and path forward.**

Format

The present document should be considered as a starting point, an initial foundation upon which the reuse community can build in the months and years ahead, not a document with final recommendations by the Consumers Beyond Waste initiative or its working group.

It is a current snapshot of insights drawn from work conducted to-date by the Consumers Beyond Waste initiative's core working group focused on reuse standardization, measurement, and reporting. This insight report is an aggregation of in-depth stakeholder interviews conducted by the Consumers Beyond Waste initiative with leading public, private, and civil society stakeholders, as well as feedback and recommendations collected during two working sessions hosted during May and June 2022.

Reuse Definition & Scope

- **Reuse Definition:** This effort defines reuse as any packaging originally conceived to be reused, and refilled or reused multiple times over its useful life for the same purpose for which it was originally conceived. For example, a soft drink plastic bottle refilled with water would not count as reuse. Although this definition is consistent with definitions of reuse set forth by core working group members like the Ellen MacArthur Foundation, it is **working definition, to be updated by CBW and its coalition over the coming months.**
- **Reuse Framework:** This effort follows the reuse framework set forth by the Ellen MacArthur foundation. In this framework, four models of reuse are considered across refill (packaging refilled by user) and return (packaging returned to a business): 1) Refill at Home, 2) Refill on the Go, 3) Return from Home, 4) Return on the Go. All analyses on reuse metrics evaluation and prioritization, including the initial prioritization of reuse metrics, consider the four reuse modalities outlined above. Refer to our July 2021 Insight Report (p. 14) for further detail.
- **Plastic Waste:** This effort focuses on plastic waste only. All other forms of packaging (eg, glass, paper, others) were excluded from any analysis conducted. Future efforts may include additional forms of packaging.

- **Primary Packaging:** This effort focuses on primary packaging only, defined as the type of packaging directly in contact with the product (e.g., consumer-facing packaging). All secondary and tertiary packaging were excluded from any analysis conducted. Future efforts may include analyses into secondary and tertiary packaging.
- **Consumer Goods Focus:** This effort focused only on consumer goods products. All other sectors were excluded from any analysis conducted. Future efforts may include analyses into other industries and sectors.

III.   Reuse Measurement

Stakeholder Interview Summary

The Consumers Beyond Waste initiative team conducted two rounds of extensive 1:1 stakeholder interviews with public, private, and civil society stakeholders to capture a wide range of perspectives on reuse metrics and calculation methodologies. Stakeholder interview insights were used both as input into two working sessions conducted with the core working group (during May and June, 2022), and to ensure group alignment when prioritizing and recommending reuse metrics for piloting in 2023.

This section follows a chronological order, summarizing aggregated insights for Round 1 and Round 2 interviews. In the following two sections ("Reuse Metrics Shortlist" and "Reuse Metrics Prioritization Framework") this high-level summary document will then zoom into specific elements summarizedin the aggregated stakeholder interviews.

The **first round of stakeholder interviews** were aimed at understanding the following three elements:

- **Reuse Metrics (North Star Ambition):** What should our collective ambition for reuse metrics be? What core traits should our prioritized reuse metrics have to ensure we achieve this ambition?
- **Metric Definition & Calculation Methodology:** How should we define and calculate priority reuse metrics? What key elements must we measure to accurately track progress?
- **Role of Standardization in Reuse Metrics:** What role should standardization play in selecting reuse metrics?

Aggregated **round one stakeholder interview insights** are included below:

Reuse Metrics: North Star Ambition	Metric Definition & Calculation Methodology	Role of Standardization in Reuse Metrics
• Ambition is to select **comparable reuse metrics aligned-upon upfront** by key stakeholders, consistently reported on across industries • Metric selection should **build on work done to-date** by core stakeholders (eg, EMF and WWF) • Reuse metrics should, where possible, be **packaging-type, industry/sector, product category agnostic** to ensure accurate comparison • Suggestion from multiple stakeholders to get to a **metrics "Version 1" that should be piloted and improved over time** • Pilots should focus on a **smaller subset of product categories initially to test & learn**, and capture key lessons to then apply more broadly	• Accurate reporting hinges on **crystal clear definitions of metrics and calculation methodologies** across selected reuse metrics • **Calculations are mostly unchartered territory** – we should expect to address and solve for obstacles such as data availability, data quality, tools and capabilities • **Calculation methodologies need to be pragmatic** – grounded in existing capabilities, available data, and know-how • Metrics definition and calculation should be a **"living document" iterated/updated over time** • Depending on the reuse modality, we will need to **be comfortable making assumptions** (eg, consumer behavior, reuse cycles) given lack of data	• Metrics **standardization is critical** to achieve reuse metric comparability • Reuse metric definition and calculation methodology should be **applied consistently when stakeholders measure and report**

The **second round of stakeholder interviews** aimed at understanding the following two elements:

- **Capability, Tools, Collaboration Models Required for Reuse Metrics Piloting in 2023:** What capabilities, tools, and collaboration models are required to pilot the two prioritized reuse metrics in 2023? How can this working group best support corporate stakeholders to pilot the prioritized metrics? What key challenges are expected?
- **Reporting Framework & Governance:** Which existing reporting framework should reuse reporting be incorporated into? What are the roles and responsibilities of each stakeholder group in this process? What key challenges are expected?

Aggregated **round two stakeholder interview insights** are included below:

Capabilities, Tools, & Collaboration Models Required for Reuse Metrics Piloting in 2023	Reuse Reporting Framework & Governance Guiding Principles for Broader Scaling
• Piloting the prioritized reuse metrics gives us a **unique opportunity to pre-empt legislation** (eg, testing/learning <u>before</u> legislation/standards are mandatory) • Most corporate stakeholders are aligned with a **2023 timeline to pilot reuse metrics**, where results would potentially be reported in late 2024 or 2025 • Pilots should be treated as an opportunity to **learn internally** – sharing progress/lessons/challenges within this working group, **but not publicly** • Pilots should be **as standardized as possible across corporations**, accounting for elements like reuse modality, geographic focus, and product categories • Two major challenges were recurringly identified: 1) Establishing a **clear definition of what is in scope <u>before</u> piloting** (definitions, inclusions/ exclusions), and 2) Assumptions required to **measure reuse efficiency** • This working group's **commitment (particularly corporate stakeholders) to piloting prioritized reuse metrics** is key for this effort to succeed long-term	• Full stakeholder alignment that reuse metric reporting should be **integrated into existing reporting frameworks** – the goal is to be as streamlined as possible, not to overload corporations with reporting requirements • Awareness that **different legislations/standards** will be introduced – a "problem for later" (not today) will be how to adapt to potential overlap • **Reuse disclosures** must include quantitative and qualitative information – we need to go beyond the numbers and look at progress/challenges /lessons/etc. • Stakeholder consensus that further discussion is required to determine whether prioritized reuse metrics **should be recommended for broader ESG and climate disclosure mechanisms** • Path to full scale will take time, and requires corporations to shift over time – **we should expect progress driven by iterations and "trial and error", but not an "overnight success"** • Long-term success **requires transparency, alignment, and collaboration across the value chain** (eg, CPGs, Retailers, Governments/Cities, etc)

Reuse Metrics Shortlist

Building on work done to-date by core working group stakeholders like the Ellen MacArthur Foundation, the World Wildlife Fund, and Greenpeace, the Consumers Beyond Waste initiative initially evaluated a longlist of fifteen reuse metrics. The longlist of reuse metrics was segmented into the following four ways to measure reuse:

- **Weight and Packaging Units:** Measuring reuse based on weight or units (eg, reusable packaging weight or units, or by weight or units of packaging avoided through reuse models).
- **Share of Business:** Measuring reuse based on share of business (eg, share of volume or product units, or share of total revenues).
- **Efficiency:** Measuring reuse based on the number of loops an individual packaging unit achieves (eg, number of times a reusable package is reused across its lifecycle).
- **Availability:** Measuring reuse based on early indicators of overall level of effort and progress to track reuse (eg, number of stores using reuse systems, number of ongoing reuse pilots).

Prior to extensively evaluating reuse metrics, the longlist of reuse metrics was initially prioritized into a shortlist of five metrics based on the following three criteria:

- **Range:** Metrics that represent the range of ways to measure reuse (eg, by weight, share of business, and efficiency). Metrics measuring reuse by Availability were deliberately excluded from

the evaluation process because metrics do not effectively measure the overall impact, scale, and take-up of reuse given their focus on effort vs. impact.

- **Applicability:** Metrics that effectively measure reuse across industries, product types, and different reuse modalities (as defined by EMF).
- **Stakeholder Interviews:** Metrics recurringly identified by core stakeholders interviewed as high potential metrics worth evaluating and prioritizing further.

Based on the criteria above, the following five metrics were shortlisted by the working group for further evaluation and prioritization:

Metric	Calculation Method	Potential Benefits	Potential Complexities
Share of volume or product units (that are reusable)	*Volume (e.g., liters of beverage, kilos of food, or kilos of personal care/home care products designed or developed to be reused)*	- Covers all four reuse model types - Gives a meaningful sense of scale and focus in a business - Avoids weight-based skews related to reusable packaging being heavier - Some corporate stakeholders already report this metric - Relatively straightforward calculation and easy to understand metric - Data likely available to measure and track metric	- More challenging to ensure consistency across different businesses / product categories (eg, volumes of beverages vs. food vs. personal care/home care) - Could be subject to "gaming" without good guidelines well applied – eg, what constitutes a unit in a given business or for a given product category - Doesn't reward efficiency of a reuse model (eg, compact refills, which may come in individual plastic packaging, would be treated equally with any other type of refill, and there's no reward for having many use cycles) - Most business are too small scale in reuse to be able to report anything above 0% - so they are unlikely to report voluntarily because it won't look good
Share of revenues	*Share of revenues (%) from reuse models*	- Covers all four reuse model types - Gives good sense of scale in a business - Avoids weight-based skews related to reusable packaging being heavier - Relatively straightforward calculation and easy to understand metric - Data likely available to	- Doesn't reward efficiency of a reuse model (eg, compact refills, which may come in individual plastic packaging, would be treated equally with any other type of refill, and there's no reward for having many use cycles) - More likely to be subject to pushback that the data is too commercially sensitive for businesses - Most business are too small scale in reuse to be able to report anything above 0% - so they are unlikely to

		measure and track metric	report voluntarily because it won't look good
% Reusable packaging (by weight)	*Weight of packaging that is reusable (according to the definition used in the Global Commitment reporting guidelines) / total weight of new (i.e. not reused) packaging*	• Can be consistently applied (tonnages are homogenous) • Already part of the metrics captured in Global Commitment reporting • Relatively straightforward calculation and easy to understand metric • Data likely available to measure and track metric	• Reusable packaging being heavier creates skews using weight-based metrics to give a sense of scale • Arguably underrepresents reuse, since reusable packaging is only counted once, regardless of number of use cycles (eg, a business with 15% reusable packaging may be delivering 50% of their revenues or product volumes through reuse, depending on efficiency, but this is not well conveyed by the 15%)
Total functional units delivered by reuse system	# of reusable packages x average # of uses reusable packaging achieves (loops)	• Robust metric – captures scale and efficiency of reuse • Can be consistently applied (metric that cuts across product categories) • Metric likely difficult to tell a compelling public story given more complex calculation methodology	• Difficult to measure across some reuse modalities (driven by need to measure loops/efficiency) • Likely requires several assumptions (not fully based on data-driven insights) • Data availability likely an issue • Piloting in the short-term likely difficult given difficulty in capturing data • Different reuse modalities may require different assumptions
% portfolio reuse	Functional units delivered by reuse / total functional units delivered by all packaging types	• Robust metric – captures scale and efficiency of reuse • Transparent (comparable and difficult to game but likely difficult to understand calculation/what the metric is saying) • Can be consistently applied (metric that cuts across product categories) • Builds upon "total functional units" metric – more robust version	• Difficult to measure across some reuse modalities (driven by need to measure loops/efficiency) • Likely requires several assumptions (not fully based on data-driven insights) • Data availability likely an issue • Piloting in the short-term likely difficult given difficulty in capturing data • Different reuse modalities may require different assumptions

Reuse Metrics Prioritization Framework

Shortlisted reuse metrics were then analyzed using a Benefit vs. Complexity framework, with the objective of clearly mapping and understanding tradeoffs across metrics. Benefit and Complexity parameters were co-created with the core working group, and developed leveraging work done to-date by the Ellen MacArthur Foundation on key factors to consider when evaluating reuse metrics.

By prioritizing reuse metrics using this framework, the working group was able to both understand the benefits and complexities of each individual metric, but more importantly to compare metrics relative to each other using the same parameters and criteria. Benefit and Complexity are defined as follows:

- **Reuse Metric Benefit:** Comparing metrics by absolute and relative benefit, focusing on the metric's ability to measure reuse accurately and effectively.

    a) *Metric is robust and captures the key elements of reuse, including potential efficiency and scale (e.g., magnitude of packaging reduction <u>and</u> impact to business growth)*
    b) *Metric can be accurately tracked and measured across multiple reuse modalities*
    c) *Metric is transparent – easy to understand, with a straightforward calculation methodology, comparable, and difficult to "game"*
    d) *Metric enables businesses to tell a positive public story (where appropriate).*

- **Reuse Metric Complexity:** Comparing metrics by absolute and relative complexity, focusing on capabilities, data, and insights availability to measure, and on estimated piloting complexity.

    a) *New capabilities, processes, tools required to measure metric.*
    b) *Data and insights availability required to measure metric*
    c) *Estimated piloting complexity to test & learn and measure metric.*

The core working group applied the Benefit vs. Complexity framework above to the shortlist of reuse metrics with the objective of prioritizing a subset to pilot via reuse pilots in 2023. This process consisted of three sequential steps.

First, the core working group **provided extensive feedback** on each individual shortlisted metric (aggregated working group feedback is included in the far-right column in the table below).
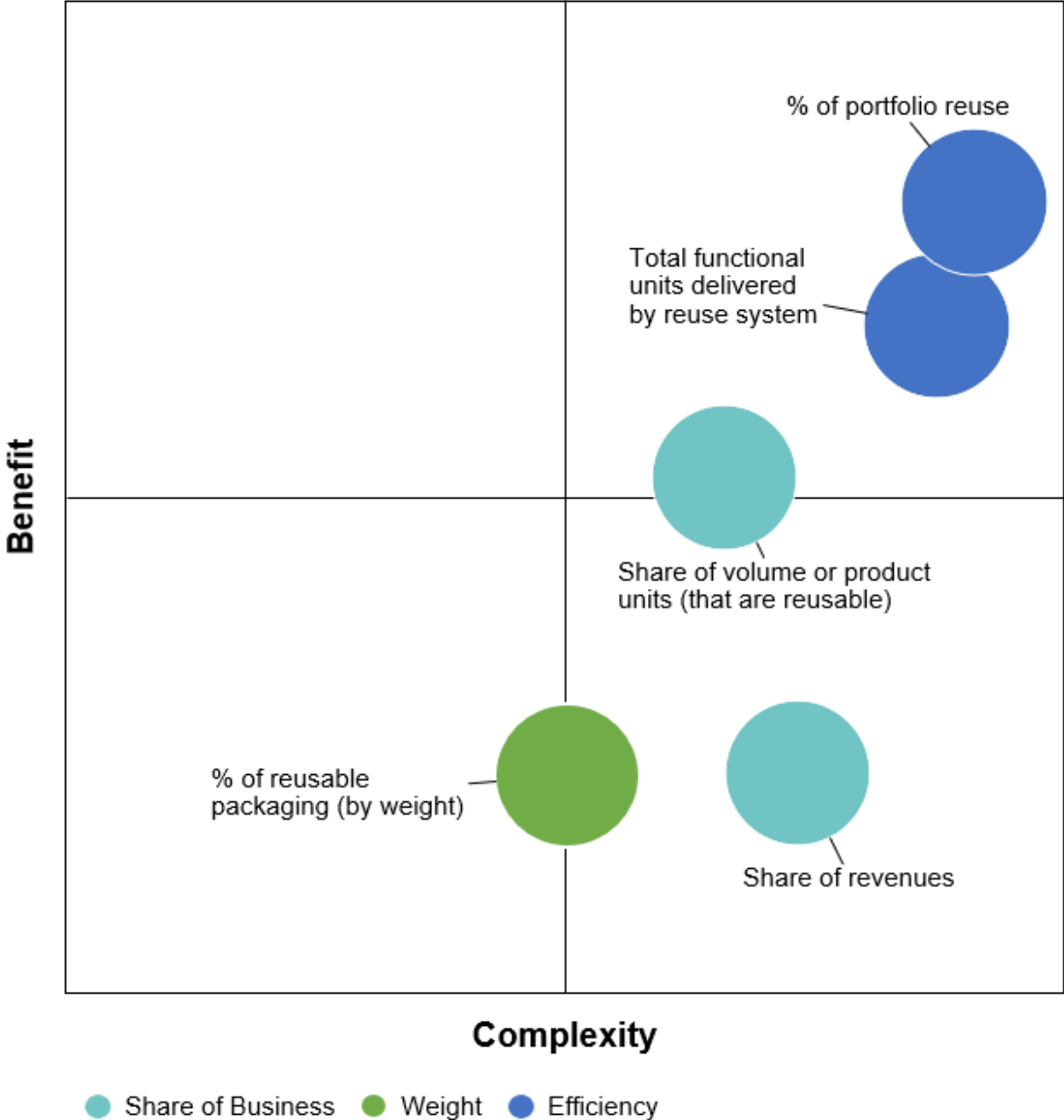
Metric	Calculation Method	Potential Benefits	Potential Complexities	Core Working Group – Aggregated Feedback
Share of volume or product units (that are reusable)	*Volume (e.g., liters of beverage, kilos of food, or kilos of personal care/home care products designed or developed to be reused)*	• Covers all four reuse model types • Gives meaningful sense of scale and focus • Avoids weight-based skews related to reusable packaging being heavier • Some corporates already report on this metric • Relatively straightforward calculation and easy to understand metric • Unlikely to allow companies to tell a positive story from the onset (low starting point)	• Challenging to ensure consistency (eg, volume of beverages vs. foods vs. personal care/home care) • Could be subject to gaming – need to clearly define what a "unit" is in this context • Doesn't reward reuse model efficiency – compact refills (can come in single use plastic packaging) could be treated in the same way • Data likely available to measure metric	• Metric measures total volume that *could* be reusable, but does not take into account actual loops • Metric would be *more* useful if presented in relation to total packaging volume (to show there has been a decrease overall) • Functional units likely make more sense to use vs. volume of food, beverages, or personal care/home care products (better view of reuse) • Metric not suitable for products delivered in concentrated form – difficult to capture volume • Metric could bring consistency challenges across sectors but also within a company's business units • If goal is to measure share of business, metric is more robust than using share of revenues (see below) • Good metric so long as baseline measurement of volume is defined
Share of revenues	*Share of revenues (%) from reuse models*	• Covers all four reuse model types • Gives meaningful sense of scale and focus • Avoids weight-based skews related to reusable packaging being heavier • Relatively straightforward	• Doesn't reward reuse model efficiency – compact refills (can come in single use plastic packaging) could be treated in the same way • Data is potentially commercially sensitive to make	• Very difficult to compare, driven by FX, inflation, and other factors • Comparing across countries difficult – will not be "apples to apples" • Provides a worse sense of scale vs. share of volume – does not indicate how much packaging was reduced • Can create skews depending on consumer segment targeted

		calculation and easy to understand metric • Unlikely to allow companies to tell a positive story from the onset	public • Data likely available to measure metric	– high-end, more expensive, product segments can create skews as metric is based on value • Data is sensitive – less likelihood of reporting these figures
% reusable packaging (by weight)	*Weight of packaging that is reusable (according to the definition used in the Global Commitment reporting guidelines) / total weight of new (e.g., not reused) packaging*	• Can be consistently applied (tonnages are homogenous) • Already part of the metrics captured in Global Commitment reporting • Relatively straightforward calculation and easy to understand metric • Unlikely to allow companies to tell a positive story from the onset (low starting point)	• Creates significant weight-based skews • Could under-represent reuse (does not take cycles and loops into account) • Data likely available to measure metric	• Data may <u>not</u> be available, or be inaccurate if it is available – very difficult to measure how many reusable bottles are in circulation • Difficult to measure certain modalities (e.g., refill, dispenser models) • Difficult to measure depending on product concentration (e.g., products may be sold in small cartridges) • Large "negative" of this metric is the weight-based skews (e.g., light packaging vs. heavier packaging) • As standalone metric, could create issues (does not reward efficiency, focuses on design not sourcing)
Total functional units delivered by reuse system	*# of reusable packages x average # of uses reusable packaging achieves (e.g., loops)*	• Robust metric – captures scale and efficiency of reuse • Relatively difficult to understand calculation • Can be consistently applied across product categories • Likely more difficult to tell compelling story – multiple assumptions required	• Difficult to measure across some reuse modalities (driven by need to measure loops and efficiency) • Likely requires several assumptions (not fully based on data-driven insights)	• Good metric to "cut across" industries, sectors, and products – however, likely requires several assumptions across modalities • Good metric to show environmental impact, but requires clarity on calculation and reporting (otherwise could "mask" calculation approach) • Requires understanding of consumer behaviour to measure loops

			• Data availability likely an issue to measure metric • Piloting in the short-run likely difficult given data availability • Different reuse modalities may require different assumptions	• Potential opportunity to embed this metric into *% portfolio reuse* as opposed to being standalone • Could create environmental drawbacks if number of loops is not accurately measured
% portfolio reuse	*Functional units delivered by reuse / total functional units delivered by all packaging types*	• Robust metric – captures scale and efficiency of reuse • Transparent (comparable and difficult to game, depending on modality) • Can be consistently applied across product categories • Likely more difficult to tell compelling story – requires multiple assumptions / difficult to explain calculation • Builds on *total functional units* metric (more robust)	• Difficult to measure across some reuse modalities (driven by need to measure loops and efficiency) • Likely requires several assumptions (not fully based on data-driven insights) • Data availability likely an issue to measure metric • Piloting in the short-run likely difficult given data availability • Different reuse modalities may require different assumptions	• Metric that *most* removes the biases shown in the previous metrics • Data availability may not be an issue – some stakeholders already have it • However, will require significant effort to clean and standardize data across different industries and sectors • Clear benefit is that metric will show how reuse has contributed to <u>overall</u> reduction of plastic waste • Metric helps with comparability – looks at proportion of total (builds on share of volumes / product units via greater flexibility – e.g., concentrates) • Requires clear definitions of what accounts as a "loop", and how to measure metric

Second, the core working group **compared the metrics' benefits and complexities *relative to each other* in order to inform the prioritization process**. This process involved extensive debate, where each working group participant was asked to provide an opinion and rationale. The final Benefit vs. Complexity evaluation is shown in the matrix below:
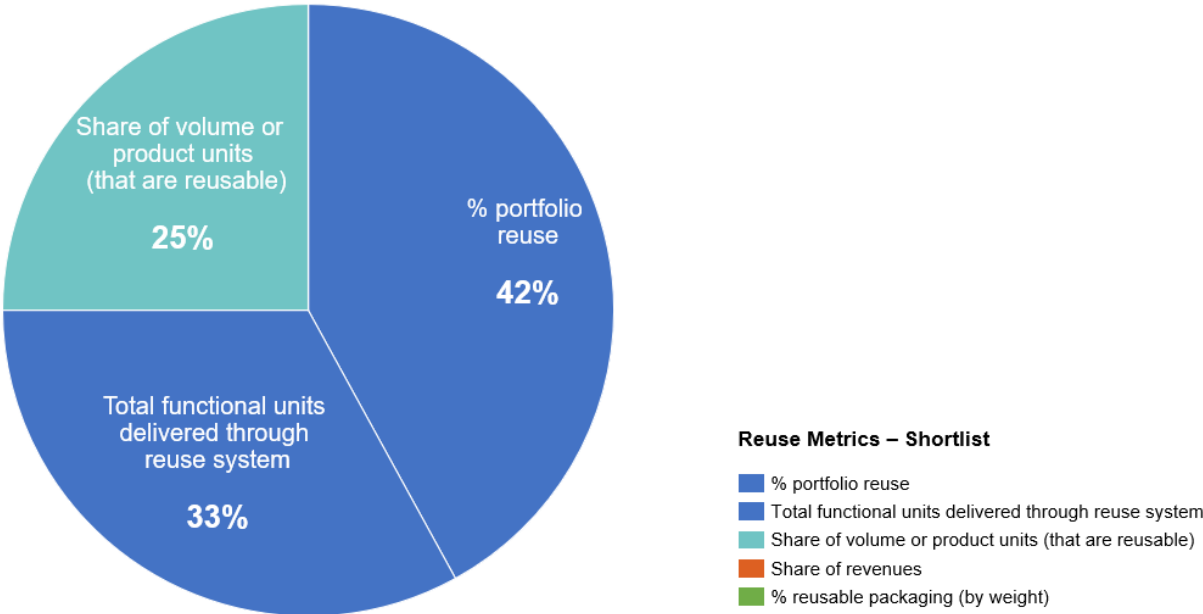
Reuse Metrics – Benefit vs. Complexity Evaluation

Several key takeaways emerged from the Benefit vs. Complexity evaluation on the 2x2 Matrix:

- Metrics **measuring reuse by efficiency** (*% of Portfolio Reuse and Total Functional Units)* were considered the most robust in measuring reuse accurately and effectively, but also the most complex. The high level of estimated benefit was mostly driven by the metrics' ability to best capture reuse efficiency and scale (considering the number of loops) relative to other metrics, as well as the applicability of the metric across industries and product types. On the other hand, the estimated complexity was driven by the number of required assumptions to calculate the metrics (eg, number of loops across some reuse modalities), the difficulty in tracking data across certain modalities, as well as the potential difficulty to pilot the metric.
- Metrics **measuring reuse by share of business** *(Share of volume / product units and Share of Revenue)* both scored relatively high in complexity. *Share of Revenue* was deprioritized given the low estimated benefit (driven by the metric's lower ability to provide a sense of scale of overall packaging reduced, and by potential skews driven by FX across countries and currencies). On the other hand, *Share of volume or product units* has a higher estimated benefit driven by the metric's ability to measure different reuse modalities, and present an accurate measurement of overall packaging reduced driven by reuse. This metric measures the total volume that is reusable, but does not take loops into account.
- Finally, **the single metric measuring reuse by weight** (*Weight of packaging that is reusable)* was deprioritized by the core working group given its low estimated benefit and medium estimated complexity. While low benefit was driven by significant weight-based skews the metric can generate (eg, light packaging vs. heavier packaging), complexity was driven by the metric's inability to track reuse efficiency (e.g., driven by weight-based skews)

Finally, after collectively aligning on the benefits and complexities of reuse metrics relative to each other, each organization voted on their top two reuse metrics. Each participating organization was given two votes, and could not vote for the same metric. Aggregated voting results are shown below:

Reuse Metrics – Shortlist

- % portfolio reuse
- Total functional units delivered through reuse system
- Share of volume or product units (that are reusable)
- Share of revenues
- % reusable packaging (by weight)

Metrics measuring reuse by efficiency (*% of Portfolio Reuse and Total Functional Units*) received 75% of the total votes (every participating organization voted on one, or both, of these metrics). One metric, measuring reuse by share of business (*volume or product units)*, received the remaining 25% of votes. No organization voted for *share of revenues* or *% of reusable packaging (by weight)* metrics. These results indicate that a combination of metrics measuring reuse by efficiency <u>and</u> by share of business is likely to provide the most holistic view of progress as organizations measure reuse moving forward.

Once reuse metric prioritization and voting was finalized, each participating organization was given the opportunity to provide additional commentary and feedback. An aggregated summary of final stakeholder feedback is included below:

- All core group stakeholders were aligned that at least one prioritized reuse metric should measure efficiency (and account for the number of loops).
- *Total Functional Units* metric should be rolled up into *% Portfolio Reuse metric. % Portfolio Reuse* builds upon the calculation and logic set forth by the *Total Functional Units* metric.
- Select stakeholders voiced that there is likely opportunity to track additional metrics beyond the prioritized top-2 reuse metrics to measure reuse in a fully holistic way in the future (e.g., measuring *weight of packaging avoided through reuse models).* Further discussion is needed.
- Calculating *% of portfolio reuse* requires the participation of key partners like retailers, and additional legislation because metric requires end-to-end visibility across the value chain (e.g., estimating # of loops).

IV.   Summary & Recommendations

Recommendation and Rationale

Informed by the evaluation and prioritization process described above, by final core working group input, and by a final analysis conducted by the CBW initiative team, two reuse metrics were recommended to be tested during piloting in 2023. All recommendations presented in this high-level summary document are preliminary and require further validation via the pilot period in 2023.

The Consumers Beyond Waste core working group supports the following outcome and collective action:

1. **Prioritization of two reuse metrics**: *% of portfolio reuse* (measuring reuse by efficiency, focusing on the total number of loops a packaging unit achieves over the course of its lifetime) and *Share of volume or product units* (measuring reuse by volume of liters of beverage, kilos of food, or kilos of personal care/home care products designed or developed to be reused – eg, volume that is reusable).

2. **The core community of corporate stakeholders will pilot** one or both prioritized reused metrics during 2023, working with one another to share lessons learned and challenges encountered. This piloting period should be treated as an opportunity to test and iterate reuse metrics as needed, with an ultimate objective of integrating reuse metrics into broader ESG and climate disclosure mechanisms.

V.   Path Forward

Three-Phased Approach

In collaboration with the core working group, the Consumers Beyond Waste initiative outlined a path forward centered around three phases (timeline and phases are provisional):

- **Phase 1 (H2 2022):** During the second half of 2022, the core community will engage in a series of working sessions to delve more deeply into key dimensions required to pilot reuse metrics in 2023 (e.g., pilot structure, reporting requirements, capabilities/tools, and collaboration models). Based on strategic input from the working sessions, CBW will develop a pilot playbook to support corporate stakeholders in piloting reuse metrics and enable other community stakeholders, such as NGOs, to effectively engage with corporate stakeholders and provide feedback on the piloting process, outcomes, and next steps.
- **Phase 2 (2023-2025):** During 2023, corporate stakeholders will pilot one or both prioritized reuse metrics to test, learn, and iterate. CBW and the rest of the working group will provide input and support to consumer goods and retail stakeholders during this phase. This phase will be an opportunity to share lessons learned and challenges encountered between the core members of the working group. In addition, this phase may also present the opportunity, depending on pilot results, to start integrating prioritized metrics into existing voluntary reporting frameworks such as EMF's Global Commitment Progress Report.
- **Phase 3 (2024–):** Beyond 2023, assuming positive pilot results, CBW and the working group will start to engage in further discussions to decide whether to formally recommend prioritized reuse metrics to inform government policies, regulations, and standards (e.g., integrating prioritized reuse metrics into broader ESG and climate disclosure mechanisms).

Disclaimers, Acknowledgements, & Contributors

Disclaimers

This working document serves as a contribution to a World Economic Forum project, insight area or interaction. The findings, interpretations and conclusions expressed herein are a result of a collaborative process facilitated and endorsed by the World Economic Forum.

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