Enabling corporate plastics disclosure

Building a plastics protocol

BCG   ea earth action   south pole   WBCSD World Business Council for Sustainable Development

Table of contents

List of tables

List of figures

Foreword

As countries continue the negotiations on an International Legally Binding Instrument (ILBI) to end plastic pollution, developing a robust corporate plastic disclosure mechanism will enable transparency on plastic flows and the monitoring of corporate and nation-wide progress on treaty targets.

With this publication, we propose a *plastics protocol* to accelerate the transition to plastic circularity and contribute to ending plastic pollution. The plastics protocol seeks to generate alignment among organizations to create common ground for target setting, accounting and roadmap development so that ultimately it simplifies and facilitates company measurement, tracking and disclosure. It will also create a level playing field for companies to compete on performance instead of methodologies. This plastics protocol is a conversation guide and will require further harmonization.

In parallel with this plastics protocol, WBCSD is leading efforts to develop a holistic corporate performance and accountability system (CPAS). Starting with climate for the United Nations Climate Change Conference (COP28), the CPAS will over time encompass different imperatives, including nature, equity and circularity, through a Global Circularity Protocol. A CPAS for plastics will be a useful framework in the context of the ILBI, providing companies with guidance on how to set a baseline with data and circularity and leakage metrics (Accounting), set targets (Ambition), develop roadmaps (Action) and report and disclose plastic-related data (Accountability). The CPAS will provide companies with a coherent system that addresses complexity, clarifies accountabilities and aligns incentives across all areas of sustainability performance. By setting commonly agreed global rules, the *plastics protocol* will be a key enabler of the CPAS for plastics.

We look forward to further collaborating with partners to strengthen this plastic protocol as an easy-to-use, friction-free mechanism that underpins collective action and enables companies to actively mitigate plastic pollution and thus live up to global efforts to reduce plastic waste and leakage.

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Executive summary

Given the mounting global issue of plastic pollution, regulations and voluntary frameworks covering plastics are increasing. However, global alignment currently largely lacks, leading to discrepancies in corporate plastic reporting. This presents an increasing challenge for companies that need to comply with and anticipate upcoming regulation. The drafting of the International Legally Binding Instrument (ILBI) on plastic pollution offers a unique opportunity to harmonize global reporting on plastic management and pollution. With United Nations Member States needing to comply with and implement the guidance outlined in the ILBI at a national level (from 2025 when the ILBI is adopted), these plastic management and pollution reporting requirements will affect companies worldwide.

To that end, this publication presents a **plastics protocol** that seeks to set common rules for stakeholders to further refine the methodology to guide the conversation on the harmonization of plastic accounting, ambition setting and action planning.

The plastics protocol aims to set the rules for the following three building blocks:

1. **Accounting and assessment** gathers over 60 accounting metrics, combining them into two indicators to assess company performance: the *plastic footprint* and *plastic circularity*;
2. **Ambition** recommends the development of science-based target equivalents to streamline target setting for the plastic footprint and plastic circularity and provides corporate guidance on target setting;
3. **Action** proposes the creation of harmonized frameworks for action planning to reduce the plastic footprint and increase plastic circularity while outlining interim guidance for action planning until harmonization is reached;

Given this need for further refinement and regular alignment with mandatory disclosure requirements, this publication also proposes a **Plastic Pollution Accountability Council** to govern a multi-stakeholder process for the development and updating of the plastics protocol.

The above building blocks enable company reporting and disclosure through a fourth building block that is context specific, depending on if companies disclose for regulatory compliance or through a voluntary framework.

4. **Accountability** links the guidance provided in the previous sections to the public disclosure of plastic data, targets and actions. In this publication, we use disclosing in compliance with the European Sustainability Reporting Standards (ESRS) supplementing the Corporate Sustainability Reporting Directive (CSRD) as an example.

The above four building blocks (Accounting and assessment; Ambition; Action; Accountability) will feed into a **Corporate Performance and Accountability System (CPAS) for plastics.** Using the proposed plastics protocol that would set **commonly agreed global rules, this paper aims to** provide operable guidance for companies to identify, assess, manage and disclose their plastic pollution-related issues. The upcoming CPAS for plastics can be a useful framework for reporting on progress against the ILBI goals.

Introduction

Plastic is a useful material but can cause pollution at the end of its life

All industries use plastic and its supply chains are global. (See the glossary for definitions of all terms linked to plastics and its value chain.) The possibility of tailoring the material to many specific needs, its low price and its light weight have led to the widespread use of plastic in a wide range of applications and most sectors.

Among its many uses, plastic has become a tool to limit food waste, produce affordable sanitary healthcare products and supply the energy transition with parts and components. It is also an affordable and practical material to improve living standards.[1] Plastic has further become a mainstream material due to the emergence and increasing use of life-cycle assessments (LCA) as it has a relatively lower environmental impact (such as in terms of carbon footprint) in several applications compared to other single-use alternatives.

Linked to the use of plastic, global plastic pollution is growing rapidly.

Plastic production will likely triple by 2060 and the associated waste will do the same by 2060.[3] The life cycle for plastic is often linear, with only 16% of total plastic waste recycled globally in 2022.[4] Furthermore, estimates show that 42% of short-life plastic will suffer mismanagement in 2023,[5] leading to 6% of produced plastic (21 million metric tons/year) that will leak into the environment.[6] Without action, the amount of plastic ending up in the ocean could triple by 2040.[7] Plastic that ends up in the environment persists there for a long time[8] and pollutes natural ecosystems, directly impacting wildlife and human wellbeing.

> **What is plastic pollution?**
>
> The United Nations Environment Programme (UNEP) working definition for plastic pollution incudes "the negative effects and emissions resulting from the production and consumption of plastic materials and products across their entire life cycle."[2]

The amount of microplastics found in nature has been rapidly increasing, spreading in water, soil, air and living organisms. Scientists have found evidence of this pollution in the snow in the most pristine environments on Earth, in fish and in eggs.[9] While fully understanding the risk associated with microplastic requires further research, concern is growing about the human health implications of exposure to these particles and the many additives in plastic released during use or at the end of its life.[10] Researchers have found plastic particles in human brains and placenta.[11]

The regulatory landscape is tightening

Regulations and waste management practices differ widely between countries. Waste is constantly moving across borders or through the environment but there is a lack of global coordination. It is not possible for individual countries to protect their environment and population from the consequences of plastic waste and leakage alone. Given the demand for plastic across industries and the increasing volumes used globally, it is essential to address the adverse environmental and social impacts of plastic pollution to ensure more responsible management in the future.

> In this document, we consider plastics as a generic material group. But it is important to note that the circularity potential (such as recyclability), waste creation and leakage may differ by plastic type.

The number of national and regional regulations on environmental disclosure is growing and increasingly includes plastic disclosure, especially in the European Union (EU). As EU regulations affect all goods sold and traded in the bloc, they have global relevance (see *Figure 1*; we provide a more comprehensive list of existing and upcoming regulations in Appendix 1). As the EU is often an early adopter of environmental regulation, companies can expect further disclosure requirements to arrive progressively worldwide. For example, drafting has started on the United Nations (UN) Plastic Treaty, which will provide global rules and guidance on plastic pollution.
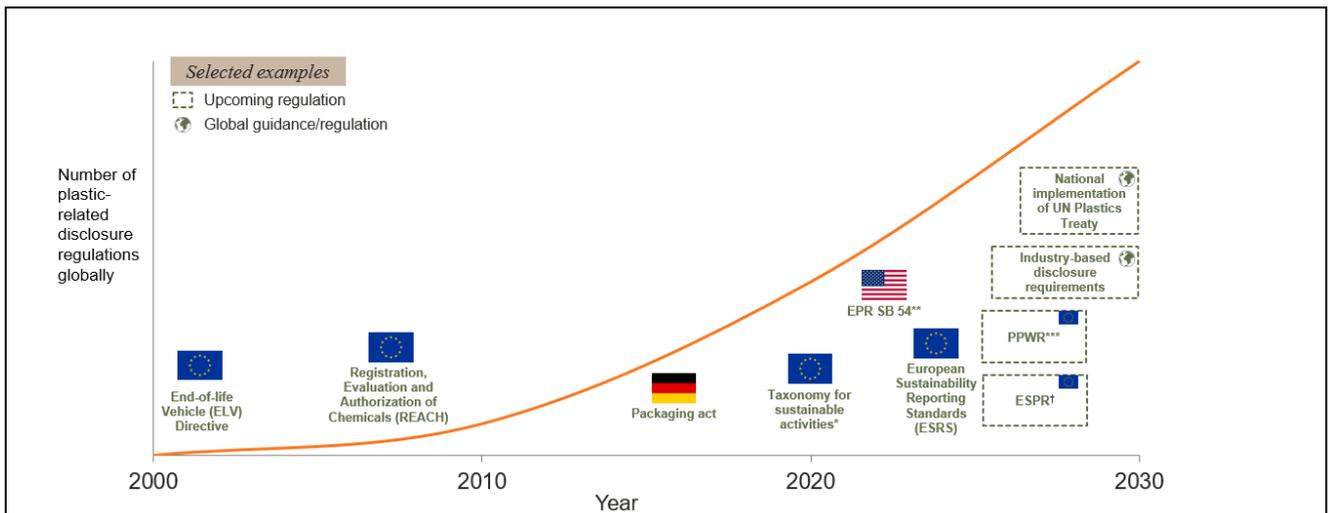
Figure 1: Increasing environmental disclosure regulations, including plastic-related disclosure

Plastic-related regulation beyond disclosure requirements is increasing and may require accounting for plastic (e.g., the UK Plastic Packaging Tax).

Notes: *Requires disclosure under NFRD (Non-Financial Reporting Directive); **Extended producer responsibility bill 54 in California for plastic packaging; ***PPWR = Packaging & Packaging Waste Regulation; †ESPR = Eco-design for Sustainable Products Regulation

The Intergovernmental Negotiating Committee (INC) is developing a Legally Binding Instrument (ILBI) on plastic pollution also known as the Global Plastics Agreement or the UN Treaty on plastic pollution. As shown in Figure 2, negotiations are ongoing and address the whole plastic value chain. The INC is a forum for nations to negotiate on what to include in the treaty. The two first INC conferences have been on track to fulfilling the resolution's ambition. INC-3 will convene in November 2023 to discuss the first draft of the treaty.[12] The INC released a zero draft to support these negotiations in early September 2023.[13] Via the national implementation/compliance of the UN rules and guidance, the UN Plastic Treaty will impact companies worldwide and across the plastic value chain.
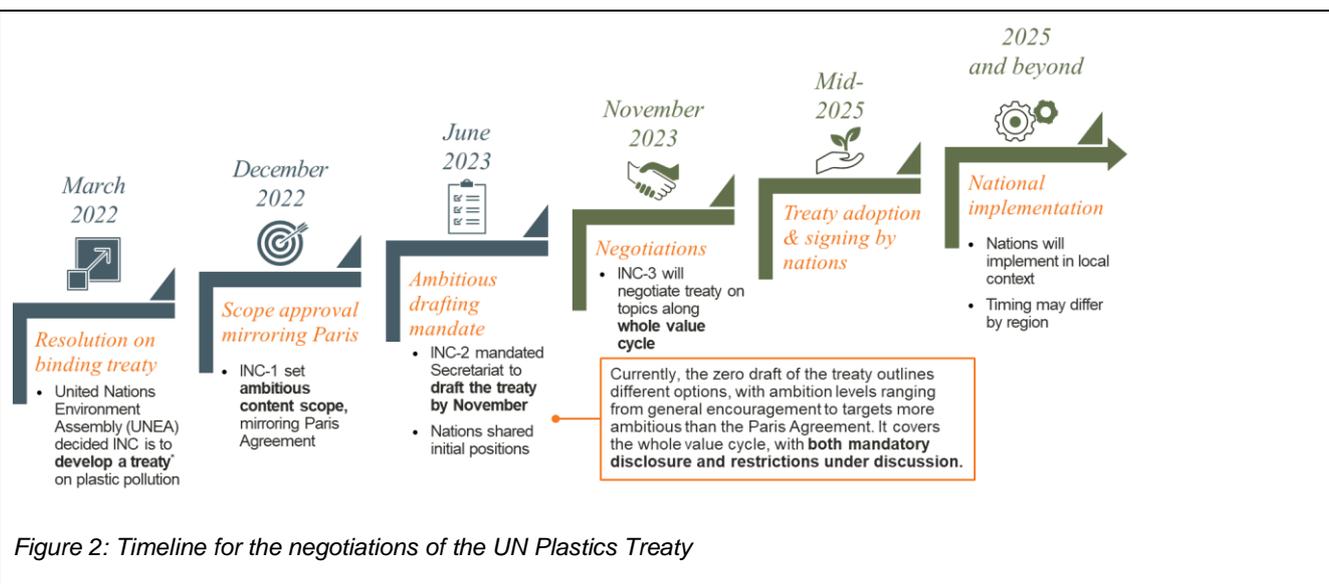
Figure 2: Timeline for the negotiations of the UN Plastics Treaty

Addressing plastic pollution is a business imperative (performance and accountability)

Plastic fulfills many purposes and is an essential part of how everyone lives today. Yet the associated rise in plastic waste and pollution is one of the most pressing environmental issues globally, presenting a societal challenge that will ultimately need a combination of actions from governments, producers, users, waste managers and more. With governments already implementing initial regulations and plastic bans and the UN Plastic Treaty on the horizon, plastic pollution and disclosure is a core part of the political agenda.

Business progress will be key to achieving the goal of the UN Treaty on plastic pollution. To that end, WBCSD is working to set out a corporate performance and accountability system (CPAS) for plastics. The CPAS for plastics is likely to consist of four phases that frame the journey for companies to end plastic pollution and transition to a circular economy for plastics (1. Accounting and Assessment; 2. Ambition; 3. Action; 4. Accountability). Enabling this CPAS for plastics requires a plastics protocol to set commonly agreed rules on target setting, accounting and roadmap development so that it ultimately creates a level playing field for companies to compete on performance instead of methodologies. The proposed globally harmonized approach will significantly simplify and facilitate company measurement, tracking and disclosure and help ensure all operators are subject to the same rules.

The scope of this publication: a plastics protocol (conversation guide)

Corporate guidance will complement international agreements and enable companies to unlock value from the increased transparency on their plastic management and pollution. Although greenhouse gas emissions remain the main environmental indicator in the corporate discourse, the urgency to address plastic pollution has led companies to focus transparency efforts on plastics and pollution across their value chain over the last few years, in particular since 2018, through the New Plastics Economy Global Commitment launched by the Ellen MacArthur Foundation and the UN Environment Programme and more recently in 2023 through the CDP Plastic questionnaire. Additionally, the recommendations of the Taskforce on Nature-related Financial Disclosures include a plastic pollution indicator (linked to Target 7 of the Global Biodiversity Framework). Unlike greenhouse gas emissions for which globally accepted accounting, disclosure and target-setting standards exist, such standards largely lack in the plastic space. Yet, applying a similar approach to plastics could enable synergies. Therefore, a **plastics protocol** enabling the corporate performance and accountability system for plastics (CPAS for plastic) would harmonize accounting, target setting and action planning on plastic circularity and pollution reduction. This would enable companies to gain increasing transparency, make more informed decisions and contribute to limiting plastic pollution while disclosing their performance in compliance with existing and upcoming regulations.

Alignment on accounting for plastic could enable an array of advantages for companies, including:

- Alignment on definitions and plastic accounting across the complex global plastic value chain;
- Harmonized reporting and data exchange across the typically large number of companies in the value chain;
- Simplified and more efficient reporting;
- Increased transparency across the value chain;
- Optimized decision-making and investment allocation to reduce plastic mismanagement and leakage where such mitigations would have the largest impact;
- Transparency on competitiveness with peers on a set of comparable plastic metrics, motivating companies to become leaders in limiting plastic pollution and thereby creating a competitive advantage;
- Improved communication of pollution reduction efforts and improvements in reputation;
- Ability to respond to investor and consumer pressure;

- Compliance with and anticipation of upcoming regulations;
- Management of risks associated with plastic management and pollution.

This publication is part of a wider push for plastic accountability, building on and enhancing the thinking presented in *Enabling Corporate Plastics Disclosure: Opening the debate for the adoption of universal metrics* and *Enabling Corporate Plastics Disclosure: Building a corporate accountability system for plastic pollution* published by WBCSD in November 2022 and May 2023 respectively. This publication is based on and combines existing best practices, with the aim of serving as a conversation guide for harmonizing corporate guidance on plastic circularity and pollution.

Part A outlines the need for a plastics protocol. Part B contains the initial draft of a protocol and Part C provides a detailed list of harmonized plastic metrics.

A key focus of this publication is on plastic accounting, as increasing the transparency on plastic use, management and pollution is a key step in improving resource management, circularity and waste management across value chains and country borders. Therefore, the publication includes a list of harmonized metrics proposed for the accounting of corporate plastic circularity and pollution data. Moreover, the protocol introduces initial thinking on target setting and building road maps for improved plastic circularity and provides a link between plastic data accounting and public disclosure.

While some of the guidance introduced in this publication is advanced, all of it requires further refinement and adoption at a global level. We aim for the protocol to guide the conversation on harmonizing corporate plastic guidance, with the ultimate goal of developing it further in the future and aligning it with the UN Plastic Treaty. This would ensure global buy-in and create a tangible guide helping companies worldwide increase plastic circularity and limit pollution to minimize adverse impacts while keeping the benefits of plastic use.

What are *plastic footprint* and *plastic circularity*?

The term *plastic footprint* refers to the measure of the effect that plastic used within a product, company, activity or country has on the environment or on human health over its life cycle. Accurately evaluating the ecological effect of plastics in natural ecosystems is an intricate endeavor due to its dependence on many variables, notably those encompassing physical attributes, like material size and characteristics, and chemical attributes, such as polymer type and the presence of additives, including their toxicity.

Until the science further advances in this field, the proxy metric to measure this potential impact is the leakage metric. This metric measures the volume of plastic material that ultimately finds its way into the environment, including the ocean, water bodies, soil and terrestrial compartments, manifesting as both macroplastics and microplastics. Computing it requires a range of supplementary metrics, including total plastic production, waste generation and the proportion of waste mismanaged. [14]

Plastic circularity encompasses the elimination of all problematic and unnecessary plastic items; innovation to ensure that the plastics needed are reusable, recyclable or compostable; and the circulation of all the plastic items used to keep them in the economy and out of the environment.

Part A: Why stakeholders need a plastics protocol

A1 Enabling plastic flows and accounting transparency

As plastic pollution increases globally, companies need to gain transparency on plastic flows, circularity and sources of leakage.[15] This holds true for companies that need to understand their plastic circularity and footprint in increasing detail and for policy-makers, investors and consumers who could benefit from greater transparency on plastic across value chains and country borders. Harmonization would ensure consistency, continuity and interoperability.

For policy-makers, increased transparency and harmonization could enable more tailored and impactful regulations and incentives to promote plastic circularity and the tracking of progress on national and global plastic pollution reduction targets. And companies need policies and government support to contribute to national and global targets and account for and disclose their progress.

If publicly disclosed, harmonized corporate plastic accounting and target setting would allow investors and stakeholders to make more informed investment decisions while supporting consumers in their plastic product purchasing, use and discarding decisions.

As corporate plastic reporting currently largely focuses on inflow and design practices, harmonization would encourage companies to ensure the technical suitability of plastic for circularity and its effective collection and recovery. It is therefore necessary for companies to publicly disclose plastic data across the full value chain to ensure transparency on plastic inputs, production, use, disposal, treatment and leakage because decisions made upstream translate into the recovery of materials downstream, while minimizing leakage across all stages.

To promote a level playing field and link global guidance to national targets and corporate contributions, a global plastics protocol similar to the GHG Protocol could set the rules for accounting, target setting and action planning. This link between global guidelines and corporate accounting has proven strong in the case of international climate agreements.

The GHG Protocol

The Greenhouse Gas (GHG) Protocol for corporate disclosure of emissions complements the global commitments from the Kyoto Protocol and Paris Agreement. Developed by the World Resources Institute (WRI) and WBCSD in a multi-stakeholder collaboration involving companies, academia and regulators, the first GHG Protocol corporate standard came out in 2001 after companies and NGOs identified the need for corporate accountability guidance to create the necessary transparency to meet international climate goals. The governance principles of the GHG Protocol show a clear commitment to following the latest science and global climate goals. The GHG Protocol now plays a key role in ensuring transparency on climate impacts for businesses, cities and other organizations, which is essential to making progress on global climate goals.

A2 The aim of the plastics protocol

The aim of the plastics protocol is to set common rules for companies on accounting, setting ambitions, planning actions and, ultimately, enabling disclosure. Therefore, the protocol strives to answer the following questions:

1. How should companies track their plastic design, management and pollution?
2. How should companies choose the targets they set?
3. How can companies link their targets to actions that improve plastic management and mitigate pollution?
4. How can companies leverage the protocol to publicly report plastic information in line with existing national and global disclosure requirements or on a voluntary basis?

Part B provides an initial draft of what a plastics protocol could contain, focusing on increasing plastic circularity and pollution transparency holistically across the value chain to contribute to mitigating negative environmental impacts. It follows the 4A principle of the performance and accountability for plastics approach proposed in previous WBCSD publications: accounting, ambition, action and accountability, each of which represents a key step for companies to address their plastic management:

1. **Accounting & Assessment**: Collect primary data to track plastic performance and assess the overall plastic footprint and circularity of the company.
2. **Ambition:** Set a clear target to increase plastic circularity and mitigate plastic pollution.
3. **Action:** Develop a roadmap to achieve the target, with clear improvement and mitigation actions.
4. **Accountability (reporting and disclosure):** Leverage the protocol to publicly disclose relevant information based on existing disclosure requirements (or voluntarily) to increase transparency on plastic.

Figure 3 provides an overview of the methodology covered in the protocol. The protocol does not prescribe disclosure requirements. Rather, it enables reporting in line with existing and upcoming disclosure requirements. We divide the assessment, ambition and action guidance by footprint and circularity. This differentiation allows companies to gain transparency and tackle the urgent issue of plastic pollution via the plastic footprint framework and ensure systemic change via the circularity framework.

While this draft provides initial thinking and a proposal for harmonization of plastic accounting, several topics need additional refinement or are under further development in parallel (see Figure 3), such as on how to set targets, ensure aligned action and require public disclosure of plastic-related information. The aim of the open questions or existing alternatives highlighted throughout the text is to inspire dialogue between companies, policy-makers and other stakeholders on how to further harmonize the protocol across the value chain and across countries globally.

To guarantee the global harmonization of accounting, target setting and action planning across the plastic value chain, the protocol aims to apply to all value chain actors involved in the production and distribution and end-of-life handling of plastic. Figure 4 outlines all value chain actors that are in scope of the plastics protocol. Including the full value chain in the corporate guidance increases plastic circularity and pollution transparency and necessitates collaboration, data exchange and shared responsibility.
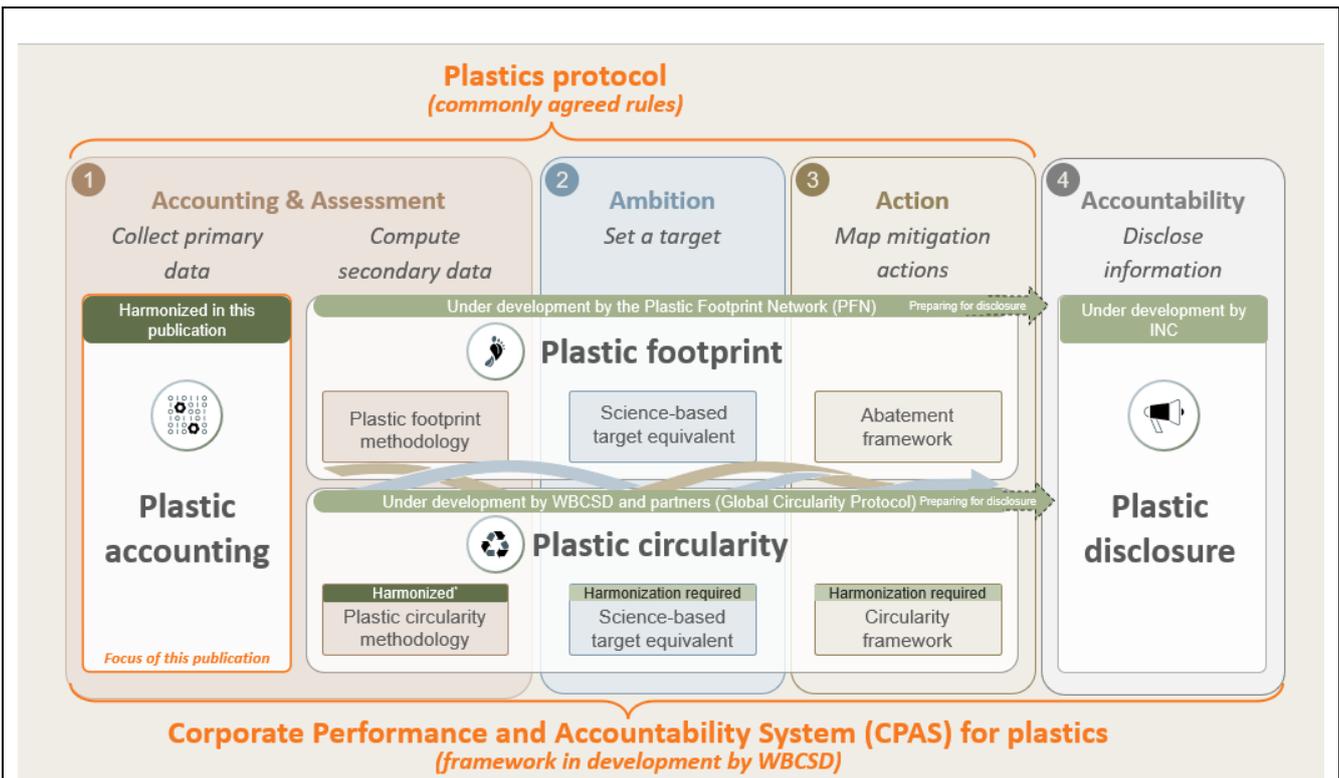
Figure 3. *Overview of the protocol and CPAS for plastics (under development)*

The core methodologies in the protocol are metrics for plastic accounting and the plastic footprint and circularity framework (both of which span assessment, ambition and action).

Note: *Plastic circularity metrics proposed in the plastics protocol align with WBCSD's Circular Transition Indicators (CTI)
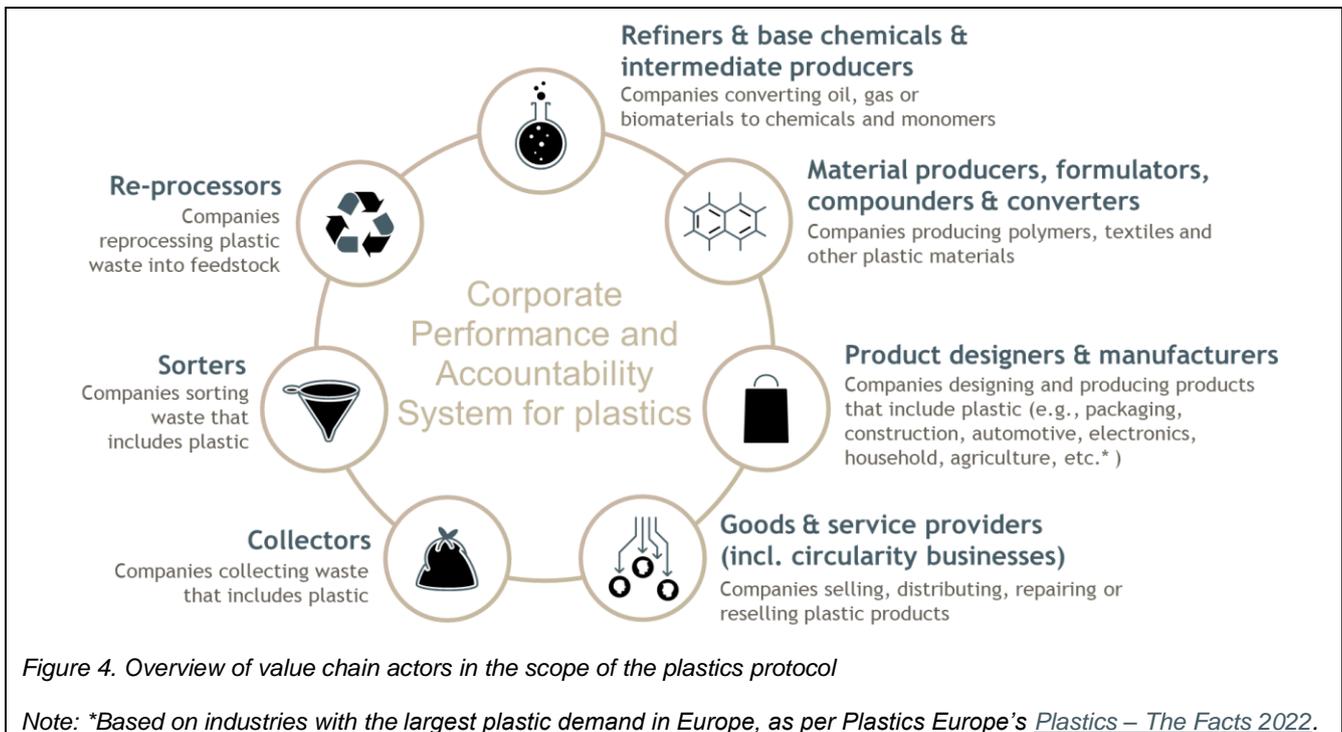
Figure 4. Overview of value chain actors in the scope of the plastics protocol

*Note: *Based on industries with the largest plastic demand in Europe, as per Plastics Europe's Plastics – The Facts 2022.*

A3 The case for a Plastic Pollution Accountability Council

While a plastics protocol could harmonize plastic accounting for companies and guide policy discussions, arriving at such a framework requires a multi-stakeholder effort involving companies, policy-makers, NGOs, academia and more.

Enabling it will require strong governance facilitated by a designated governance body, such as a Plastic Pollution Accountability Council, that could perform the following activities:

- Involve companies in proposing how to measure corporate contributions to UN Plastic Treaty obligations to ensure companies have workable metrics;
- Further detail and update metrics after the adoption of the treaty and other regulations to ensure consistency;
- Ensure alignment of corporate standards with the latest science and UN regulations so company efforts to disclose progress are in harmony and can effectively contribute to treaty implementation;
- Facilitate broad testing of new guidelines for corporate accounting;
- Validate targets and actions that companies can implement, similar to the Science Based Targets initiative (SBTi) for climate.

While the development of such a council should include a broad stakeholder dialogue, it could leverage lessons learned from other accountability systems as a starting point, such as the GHG Protocol, and other global governance models, like the SBTi for climate or the Science Based Targets Network (SBTN):

- The governance should include balanced stakeholder involvement in both the highest decision-making bodies and any technical working groups, including companies, policy-makers and NGOs;
- Clear terms of reference should ensure transparency about who is involved and how the body makes decisions;
- Decision-making criteria should include alignment with UN agreements and the latest science;
- It may be relevant to formally link the council to the UN, whose representatives should be involved with voting rights or in an advisory role;
- The protocol should support companies that move faster than UN treaties; it is possible to embed this in the decision-making criteria and in the processes for testing new guidance.

Although arriving at a final protocol will require further refinement, the initial draft outlined in Part B can facilitate discussions on the topic. Business communities, companies, NGOs and other organizations should support this refinement process to ensure the best possible outcome. Only via strong engagement from all stakeholders can global action on plastic pollution be workable for companies and countries while ensuring positive impact on society at large.

Part B: Initial draft of a plastics protocol

B1 A protocol draft building on and combining existing best practices into one document

To initiate a focused discussion on harmonized corporate guidance, Part B outlines an initial version of a plastics protocol. It builds on previous publications by WBCSD and covers plastic accounting, ambition and action, while also linking to accountability (see Figure *3* in section A2.)

The protocol differentiates between the *plastic footprint* and *circularity* to specifically address plastic pollution via the footprint framework and the prolonged use of plastic and reduction of waste more broadly via the circularity framework (Global Circularity Protocol). The aim is to allow companies to track and tackle the pressing issue of plastic pollution while increasing the circular management of plastic more holistically across the full value chain. Given the interlinkage between the plastic footprint and circularity, companies may track and target them separately to differentiate between plastic leakage and optimized resource use, but there will always be (welcomed) spill-over between the two. Lastly, we cover accountability to outline how the draft can support public reporting and links to existing disclosure requirements (such as the European Sustainability Reporting Standards (ESRS) in Europe).

The core part of the draft protocol centers on specific metrics for primary data collection to increase plastic circularity and pollution transparency and to enable the public disclosure of data. This is based on alignment with existing frameworks for plastic and circularity accounting outlined in section C1. We have enriched it with metrics proposed in existing and upcoming regulations and finalized it by adding metrics needed to holistically capture plastic circularity and pollution across the entire plastic value chain (see Appendix 2 for an illustration of which metric we have added based on which criterion). Based on these criteria, we have compiled the list of proposed harmonized metrics for primary data collection shown in section B2.2.

Beyond accounting, the protocol further outlines an interim approach to corporate plastic target setting while global harmonization is still ongoing by building on the parallel between the climate and plastic pollution space by consulting the SBTi and the Net Zero Initiative (NZI) Framework for Collective Carbon Neutrality. For most sections of the protocol, we used the GHG Protocol for inspiration as many aspects of it are applicable to plastic accountability, with modifications due to the difference between how GHG emissions and plastic pollution occur in the value chain. To enrich that thinking, this paper also extracts information and guidance from the PFN Plastic Leakage Project Methodological Guidelines. We have consulted the Taskforce on Nature-related Financial Disclosures (TNFD) and *Life Cycle Assessment (LCA): Theory and Practice* by Hauschild et al. in specific sections as they propose a higher level of detail than the GHG Protocol. Appendix 3 provides an overview of the different frameworks that inspired the contents and structure of this draft.

B2 Accounting & assessment: Collect and compute plastic data

B2.1 Principles, objectives and process

The set of principles detailed in Table 1 provide guidance on how to implement the standards in practice to make the collection of primary data for plastic metrics as trustworthy and comparable as possible.

Table 1: Principles for data collection for plastic metrics
(Inspired by the principles in section 1 of the GHG Protocol Corporate Accounting and Reporting Standard.[16])

Principle	Explanation
Relevance	The tracked metrics follow the principle of materiality and cover the company's most important plastic flows and activities.
Completeness	The methodology ensures the analysis of the whole product portfolio and all steps of the value chain. No significant material streams or other sources of plastic management and pollution are missing from the calculations. The solution to a lack of data is to use proxy data with transparent sources.
Consistency	The applied methodologies are consistent between all product types, all parts of the organization and all time periods used for the inventory.
Transparency	All methodological choices are transparent to the reader. Clearly state and justify all assumptions and data.
Accuracy	The methodology reduces uncertainties as far as practicable.
Conservativeness	When choosing between equally uncertain assumptions, choose the more conservative assumptions, such as overestimating plastic pollution rather than underestimating it.

To ensure compliance with these principles, we propose a four-step process for companies to approach the plastic accounting and assessment (see Figure 5):

Four-step process for corporate plastic accounting & assessment

Determine objectives

Identify plastic use activities

Collect data per metric
Plastic accounting

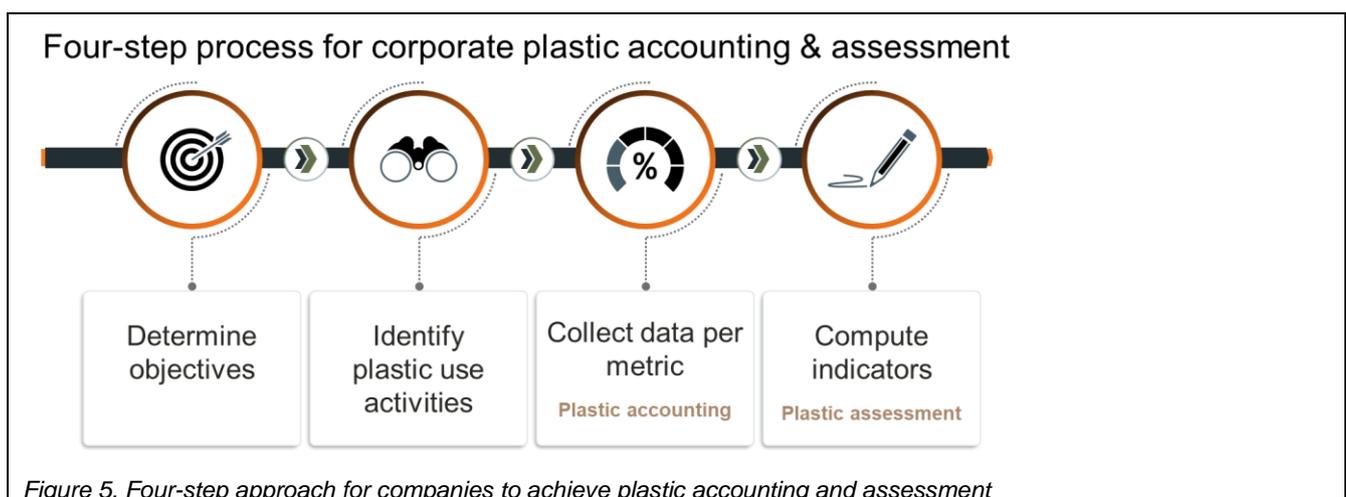Compute indicators
Plastic assessment

Figure 5. Four-step approach for companies to achieve plastic accounting and assessment

1. **Determine objectives:** The objectives to conduct plastic accounting and assessment can vary widely and often include the need to comply with national and international regulations for plastic disclosure, the wish to voluntarily disclose data to communicate plastic pollution mitigation efforts or the aim to create transparency to optimize plastic management. Although company objectives will evolve over time, it is important to set initial objectives to ensure alignment with accounting practices. Objectives may also require data collection beyond what we propose here, further highlighting the need for companies to fully understand their objectives.
2. **Identify use activities:** Companies need to identify where and how they use and manage plastic across the organization and from other actors across the value chain to understand where they need data collection and exchange.
3. **Collect data per metric:** Having identified the plastic use activities, companies should collect primary data throughout the full organization and across the value chain in line with the metrics outlined in section B2.2 and the company's overall objective for plastic accounting. Companies may use secondary data where they are unable to reliably collect primary data.
4. **Compute assessment indicators:** Companies should combine the plastic data collected to enable the calculation of the overall plastic footprint and overall plastic circularity outlined in section B2.3.

In certain situations, the company may need to recalculate plastic metrics from previous years, such as if it has undergone significant structural changes or if it discovers errors in the previous data. To make data from different years comparable, companies must set clear rules for when to recalculate metrics and state clearly if it has performed any recalculations. The plastics protocol follows the same standards for recalculating metrics as section 5 of the GHG Protocol Corporate Accounting and Reporting Standard. Examples of valid reasons for recalculating plastic metrics may include mergers, acquisitions, divestments, insourcing, well-justified changes in calculation methodology, or the discovery of significant errors in previous accounts.

B2.2 Plastic accounting: Corporate metrics for data collection

This section details the data companies need to collect data on a set of corporate accounting metrics. As all metrics are a proposal of what such a protocol could include, they are subject to further refinements to achieve global alignment and adoption. We propose the continuous updating of the metrics (such as by a Plastic Pollution Accountability Council as proposed in section A3) to align with UN guidance, disclosure requirements and global best practices.

Figure 6 provides an overview of all metrics that the company should collect. Part C describes them in more detail, including proposed definitions and calculations. We have organized the metrics around the value chain to make it easy for companies to understand which metrics to collect according to the value chain step. While it is crucial for the company to collect the data related to these metrics internally, it should also exchange relevant data across the value chain, meaning with upstream and downstream activities and actors. This is important as most value chain actors do not have the transparency they need to collect primary data on all metrics (for example, refiners and converters often lack transparency on the end-of-life treatment of their products; collectors and recyclers lack transparency on the nature of inflows into their operations). Where reliable primary data is not available, companies may use secondary data, such as from governments, municipalities and statistics bureaus, to compute the metric. The guidance on when secondary data use is acceptable and how to reliably compute the metrics based on secondary data needs further refinement. For initial guidance on calculating waste-related metrics (incinerated, landfilled, improperly disposed, uncollected and littered) refer to the more detailed guidance in the PFN Methodology.

The company should collect data for each metric at a meaningful and actionable level (such as by polymer type, product group, material type, etc.) to ensure high-quality data and enable data collection throughout the organization. Companies should involve auditors to ensure high-quality data, actionability and streamlined metric tracking and disclosure practices.

Figure 6. Overview of accounting metrics for primary plastic data collection

The current list of metrics is aligned with WBCSD's Circular Transition Indicators methodology and the Plastic Footprint Network. BCG has reviewed plastics-related and circularity metrics from different open source frameworks (see Figure 15) and structured the metrics around inflow; production; product design; business model & use; and end of life, using the framing from Circelligence, BCG's proprietary methodology.

The metrics are in alignment with the areas outlined in the zero draft of the UN Plastic Treaty and is compatible with the EU European Sustainability Reporting Standards (ESRS) supplementing the Corporate Sustainability Reporting Directive (CSRD) (see section B5.2 for further detail). View *Appendix 2* for additional detail on the criteria for inclusion for each metric.

materiality to determine where it is necessary to collect primary data needs for which metrics. Regardless of the approach chosen, future versions of the protocol should ensure the collection and exchange of data across the full value chain to ensure the transparency needed to reliably assess the corporate plastic footprint and circularity and to support the development of plastic materials and products that companies can optimally recirculate at the highest possible value to minimize plastic pollution.

B2.3 Plastic assessment

To assess the company's plastic performance, companies can compute two overall indicators from the proposed accounting metrics: the plastic footprint and plastic circularity.

B2.3.1 Computing the corporate plastic footprint

The plastic footprint allows the assessment of the degree of mismanagement of a company's materials or products at their end of life. The Plastic Leak Project first developed the Plastic Footprint Methodology in 2020; the PFN has since updated it.

This plastics protocol proposes the use of the PFN methodology for companies to calculate their plastic footprint. This entails two steps: compiling the relevant primary and secondary data and computing the total leakage. For further guidance on how to compute the corporate plastic footprint, please refer to the Plastic Footprint Network.

Figure 7. Typical plastic footprint calculation

Source: Plastic Footprint Network (PFN)
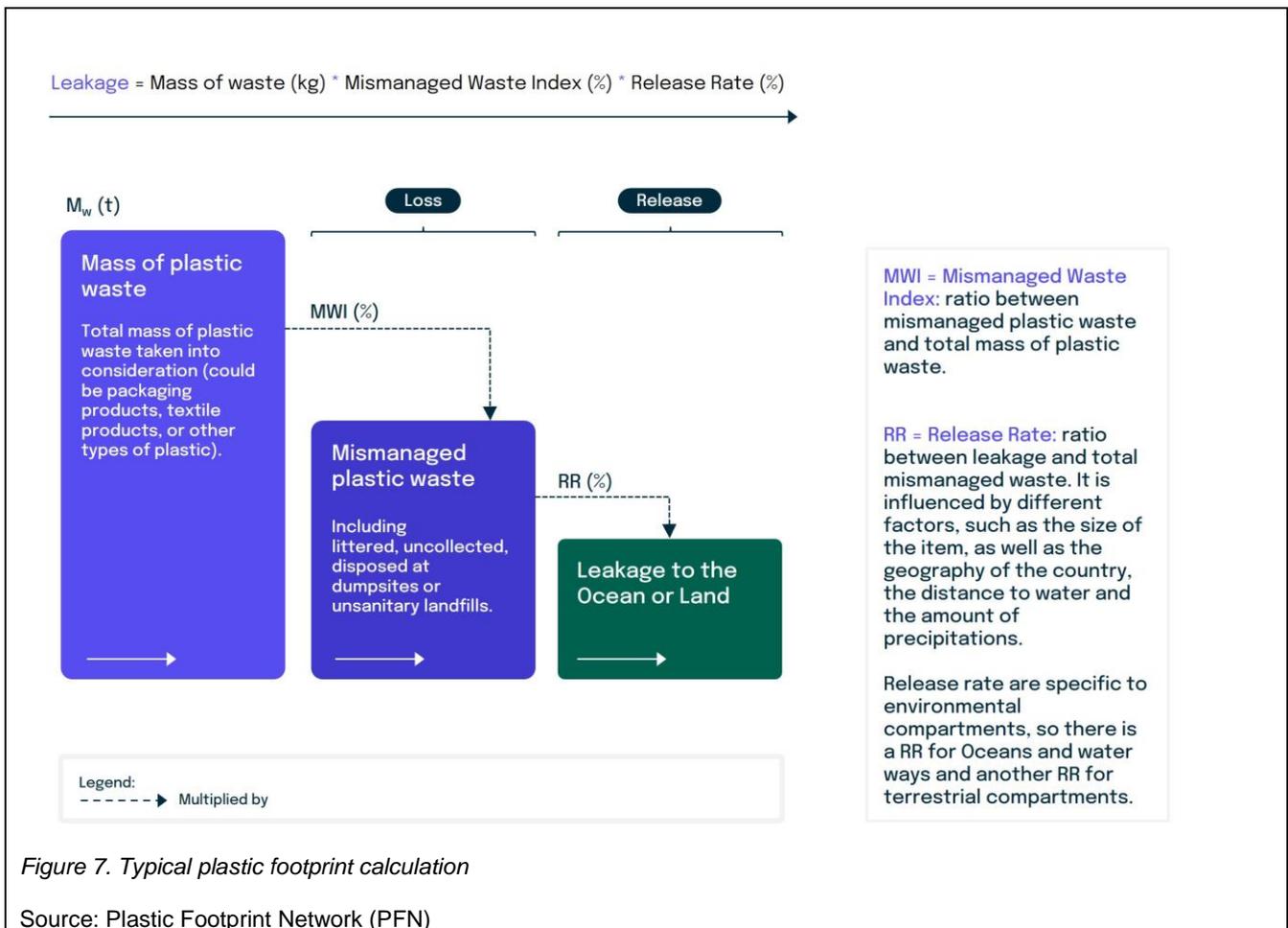
Note:

As part of updating the [Plastic Footprint Methodology](#), the PFN proposes a scope logic similar to those in the GHG Protocol to establish the operational parameters for a company's plastic footprint analysis. A fundamental commonality between the GHG Protocol's scopes and the proposed plastic footprint scopes lies in the degree of control wielded by the company over various activities. Consequently, this level of control dictates the corresponding degree of responsibility and priority for the company in addressing its plastic pollution across the different scopes. Plastic footprint scopes 1 and 2 revolve around activities where the company maintains a higher level of control, referred to as direct plastic usage of the company. In contrast, scope 3 encompasses activities where the company's control is limited or non-existent, categorized as indirect plastic usage of the company. See Figure 8 for an initial view of what the final scopes may look like. Note that this is subject to additional iterations and changes and should not be regarded as final scope logic
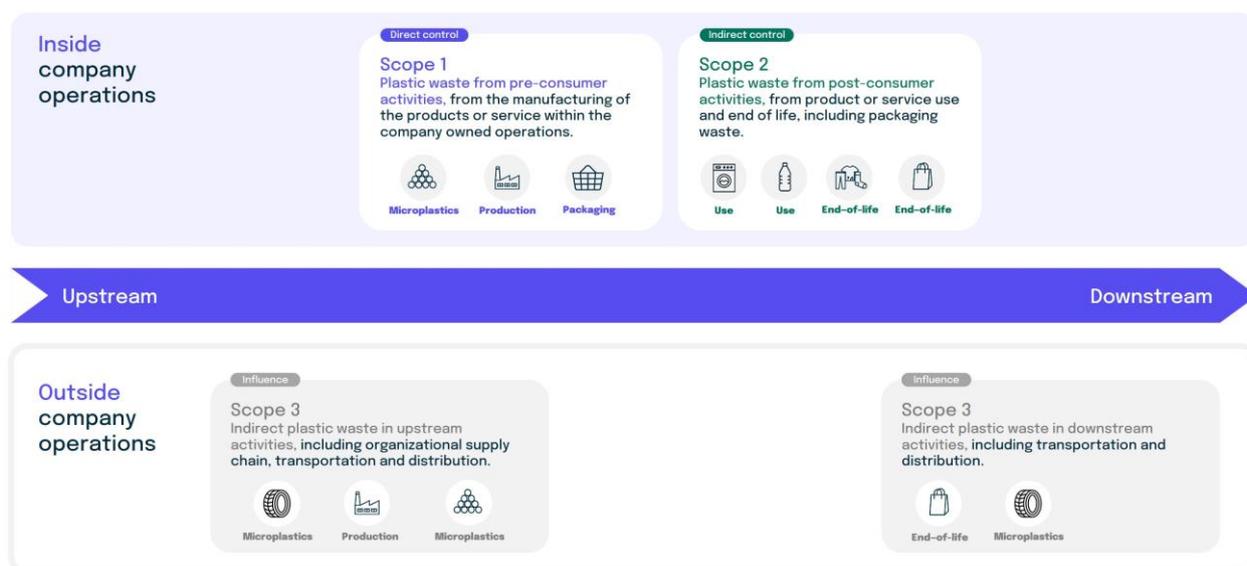
Figure 8. Illustration of plastic footprint scopes

Note that the value chain steps where the company has direct control depends on the company's specific activities. Therefore, the value chain steps included in each scope differ by company.

Source: PFN

B2.3.2 Computing corporate plastic circularity

Beyond computing the plastic footprint, the protocol encourages companies to assess their plastic performance by quantifying their overall plastic circularity score. For this purpose, companies can refer to the WBCSD Circular Transition Indicators (CTI) framework.
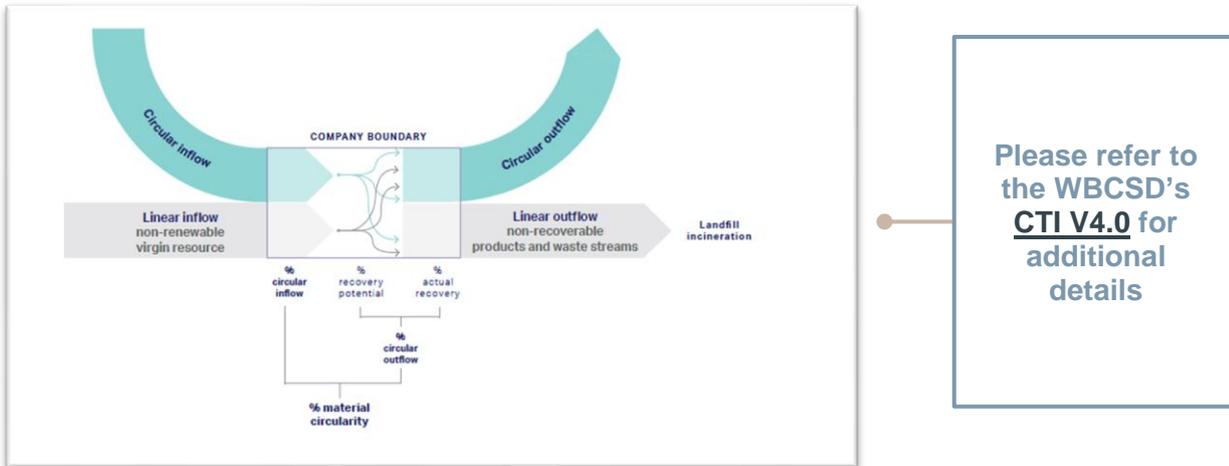
Figure 9. Illustration of material flows from the CTI methodology logic

Source: CTI V4.0

The Circular Transition Indicators (CTI) framework, developed by WBCSD, proposes common indicators for circularity performance and provides guidance for the assessment and interpretation of results. A self-assessment that determines a company's circular performance is central to the CTI. It focuses primarily on the circular and linear mass that flows through the company and in which design, procurement and recovery models are crucial levers to determine how well it performs. In addition to the ability to close the loop, CTI provides insights into overall resource use optimization and the link between the company's circular material flows, its business performance, and impact on GHG savings and nature.

Note: Several professional services companies have developed tools based on the CTI framework, such as the CTI Tool (by Circular IQ), Circelligence (by BCG) and the Circularity Tracker (by KPMG).

B3 Ambition: Set a target

This section outlines the need to have a standardized way to set targets (B3.1) in the plastics protocol. This section provides interim guidance for companies (B3.2) during the development of the harmonized target setting.

B3.1 The need for a standardized way to set targets

Setting a corporate plastic target is the logical follow-up to developing a plastic inventory, accounting and assessment. Unlike for carbon emissions, companies lack a target-setting framework that:

- Sets ambitions for corporate actions on plastic pollution;
- Establishes rules for the speed at which corporations should reduce their contribution to plastic pollution;

- Details under which circumstance and limits companies can use investment and plastic waste reduction activities outside of their value chain to compensate for their plastic footprint;
- Ensures corporate accountability.

Several initiatives and frameworks have emerged, such as the Ellen MacArthur Foundation and UNEP's Global Commitment and 3R Initiative, that aim to set targets for plastic and provide practical and consistent guidelines on target setting and credible claims. These initiatives tend to focus on:
1. Reducing plastic production and consumption;
2. Promoting circularity;
3. Ensuring proper plastic waste management.

Given the current lack of harmonized targets for plastic, there is a need for further research and alignment. Therefore, an SBTi equivalent for plastic may be necessary. While ultimately there may be separate science-based target (SBT) equivalents for plastic footprint reductions and circularity improvements, the overall need for target harmonization remains the same for both. Therefore, this section includes both circularity and footprint targets when referring to plastic targets.

Note
The Corporate circular target-setting guidance by the Circular Economy Indicator Coalition outlines initial circularity-specific target-setting guidance and companies should thus consult in the development of a science-based target (SBT) equivalent for plastic circularity.

Note
The 3R Initiative's Guidelines for Corporate Plastic Stewardship, for example, proposes targets with associated claims such as net-zero plastic leakage, net 100% recycled at end of life and net circular plastic. The Ellen MacArthur Foundation and UNEP's Global Commitment proposes targets such as 100% reusable, recyclable. Beyond that, the PFN is revisiting such claims and working on harmonizing plastic targets globally by drawing on lessons from the carbon space. Based on these, the PFN proposes the following recommendations for setting harmonized plastic targets that will see further refinement in the run-up to INC-4:

1. Alignment: Harmonized plastic targets need to align with either the UN Plastic Treaty Objectives or the latest science, yet ideally build on and combine the objectives of both.

2. Multi-stakeholder collaboration: Multiple stakeholders should be involved in the process of shaping harmonized plastic targets. This process will uphold transparency, equity and a holistic perspective, ensuring that the selected alignment strategy resonates with the diverse realities of corporate landscapes while remaining resolute in its commitment to meaningful plastic pollution reduction.

3. Scope: A scope logic like the scopes used for GHG emissions could support the harmonization of plastic targets by providing precision, clarity and alignment with the nuances of corporate influence, resulting in a structured framework for effective target setting on plastic management and pollution.

4. Outcome specification: Effective targets must distinctly articulate the intended outcome, whether it is a reduction in virgin consumption, a reduction in total mismanaged waste or leakage, an increase in circularity or a combination of these.

5. Timeframe: A well-defined timeline, which can parallel that of the UN Plastic Treaty, is necessary, such as the 2030 and 2050 timeframes used for carbon target setting. Such a timeframe will also serve in the tracking of progress for accountability.

6. Top-down approach: A top-down approach, akin to the SBTi for carbon, should assume a central role in shaping the plastic pollution target-setting process. This approach offers several

compelling advantages, such as consistency and comparability of corporate target setting, alignment with scientifically validated thresholds ensuring appropriate ambition levels, as well as a shared sense of purpose and action towards a joint goal.

B3.2 Interim guidance on target setting

As soon as globally harmonized plastic target setting in line with the considerations above exists, companies should set and adjust their targets accordingly. In the meantime, companies should make sure to set interim targets in alignment with the latest science and national regulations if they exist. While the guidance provided helps companies in setting interim plastic targets, it can also help them break down overall targets (such as globally harmonized targets) into smaller more workable targets. Figure 10 illustrates the process for setting targets and sub-targets that companies should go through.

Steps in process	*Key questions*
1 Identify purpose of target setting	• What are the reasons why the company reports on plastics? • What purposes of setting targets are important for obtaining commitment from senior management? • How does this influence the target setting and scope of reporting?
2 Set scope of targets	• Which of the metrics should the company set targets for? • Should there be one target for the whole organization or also some targets for specific sub-parts of the organization?
3 Select target types	• Should absolute targets be set and/or targets relative to production? • In addition to a target for an end year, should targets be set for the speed of improvement?
4 Set ambition level & prepare for tracking over time	• What should be the base year? • What should be the target year and the ambition level for that year? • How can comparability of metrics between years be ensured?
5 Plan mitigation actions	• What concrete actions will the company take to improve on the targeted metrics? • How can these actions be reported on and followed up on?

Figure 10: Guidance setting targets and disclosing progress
Inspired by section 2 of the GHG Protocol Corporate Accounting and Reporting Standard, SBTi and TNFD

Step 1: Identifying the company's purpose in setting targets

Setting targets to improve the sustainability of the plastic value chain has a range of benefits for the company. To ensure buy-in from managers on all levels, we recommend identifying the reasons why the company is setting a target on plastic. Understanding the company's motivation for making improvements is important in choosing the right targets. Benefits may include:

- Increasing profitability
  - Lowering costs by managing plastic inflows more efficiently and reducing waste
  - Increasing product value by participating in eco-labelling or by switching from lower value single-use plastic products to higher value reusable items
  - Improving corporate valuation due to overall sustainability performance, transparency and rating

- Improving stakeholder relationships
  - Improving relationships with local communities by taking action on the very visible problem of plastic waste
  - Improving relationships with collaborators across the value chain by being transparent, enabling them to improve their indirect plastic mismanagement and pollution

- Improving shareholder perception of the company
- Managing risks and unlocking advancement
    - Tracking progress on strategies to live up to the company's purpose and values, such as taking responsibility for the surroundings
    - Co-benefits influencing other company targets, like climate targets or targets on social responsibility
    - Managing risks
    - Preparing for upcoming regulation/disclosure requirements that are accelerating in pace due to the UN Plastic Treaty and a range of circular economy initiatives from the EU and others
    - Becoming recognized as a first mover

Step 2: Scope of targets

When choosing improvement targets, the company should identify which metrics it is most important to improve on by considering:

1. **Double materiality:** Which metrics provide the greatest reason for concern about the company's current performance? One aspect of materiality is the financial impact on the company and the other is the impact on the surroundings. Companies can assess materiality by:

    - Analyzing the potential financial impact of the company's current performance, the cost of inaction and the value of potential improvements;
    - Reviewing the latest science-based recommendations;
    - Consulting industry-specific standards outlining most material topics within the industry;
    - Comparing the company's performance to benchmarks from similar industries;
    - Consulting internal and external stakeholders, including local communities and environmental groups.

2. **Measurability and credibility:** It is important to base the chosen targets on clearly defined metrics and to measure and disclose them in a credible manner. This may include setting targets for metrics not covered in the plastics protocol. However, such targets should only be supplementary to tracking the mandatory metrics.

3. **Practicality:** Which metrics can the company most realistically make rapid significant improvements on? This will typically be the metrics where the company has the most control, meaning scope 1 and 2 metrics. The company should also consider the number of metrics: It may not be practical to improve significantly on all scope 1 and 2 metrics simultaneously. Therefore, the company should prioritize the most important metrics.

4. **Co-benefits:** Referring back to the company's motivation for improving their performance on plastic management and pollution, which targets would create co-benefits on broader issues than plastic? It may be relevant to prioritize metrics that have positive impacts on the company's carbon footprint or contribute to preventing biodiversity loss, for example.

Companies should also consider if they can set some sub-targets for specific parts of the organization or for specific product groups. For the most effective implementation, we recommend identifying sub-targets and specific people in the organization to be responsible for driving progress. As the targets serve multiple purposes, it may be relevant to set several targets to track the company's progress seen through different lenses.

Table 2 provides examples of targets depending on where in the value chain the company is active. Note that not every example applies to every company and the examples are meant to be inspirational rather than general guidance. The company should evaluate what target would be the most meaningful in its specific context and may accordingly set these or entirely different targets.

Table 2: Examples of targets based on accounting metrics for primary data collection

	Inflow	Production	Design & outflow	Business model	Use	End of life
Plastic producer	• Use x% recycled inflow material for polymer y • Reduce virgin inflow material across portfolio by x%	• Reduce plastic waste from factory x by y t/year • Reduce use of chemical x by y%				• Ensure x% of recyclable material is recycled at end of life
Designer	• Use x% recycled content in product y		• Modularize x% of products to enable repair • Extend expected lifetime of product x by y years		• Ensure x% of products enter product-as-a-service offerings during use phase	• Ensure x% of products are refurbished or remanufactured at end of life
Product brand/ manu-facturer	• Source x% of parts from reuse or remanufacture	• Reduce plastic waste by x% across all factories	• Lightweight product x by y% • Lightweight whole product portfolio by x%	• Generate x% of company revenue through products-as-a-service	• Ensure x% of reusable products complete min. 2 reuse cycles	• Ensure x% of products and parts are repaired or refurbished at end of life
Packaging manu-facturer	• Procure x% recycled polymers for product y	• Eliminate the use of chemical x • Reduce release of microplastic from factory x by y%	• Make x% of packaging in category y reusable • Make x% of all sold packaging recyclable	• Take back x% of packaging for reuse	• Increase average product lifetime by x%	• Ensure x% of products are refurbished or remanufactured at end of life
Retailer	• Procure x% bio-based plastic products in product category y • Reduce tertiary packaging use by x%	• Reduce plastic waste from store x by y t/year	• Reduce use of secondary packaging by x% by sourcing from brands with less packaging	• Take back x% of products in category y for reuse • Generate x% of company revenue through repairs, maintenance or upgrading	• Ensure x% of products enter product-as-a-service offerings during use phase	• Increase share of reused plastic waste to x% and share recycled by y%
Waste manager	• Procure x% reused or refurbished equipment for operating facility	• Reduce total plastic waste from operations by x t/year	• Participate in offtake agreements to upcycle x t/year plastic waste	• Generate x% of company revenue by contributing to remanufacture or upcycling		

Notes: It is important for companies to set their targets in line with the latest science, global guidelines and national regulations. Therefore, the table serves as inspiration to consider in line with the scientific, global and national context. These examples are for illustration only. Each company should choose targets by considering the materiality and practicality of improvements on all metrics within their plastic disclosure. Changes by x% are measured compared to the base year.

Step 3: Selecting target types

While targets can be set in different ways depending on the company type and the motivation for improving performance, companies should set their overall target in line with the latest science, global guidance and national regulation. Once a globally harmonized target exists for plastic, companies should adopt such a target as their overall target and use the guidance provided here to break it down into sub-targets to reach the overall goal. Selecting a target type is important in ensuring transparency on how the company measures progress on the target, safeguarding the trustworthiness of the disclosure and avoiding the risk of greenwashing. Therefore, it is mandatory to:

- Describe the type of target and unit for measuring progress on each target;
- Describe target measurement in sufficient detail to be unambiguous for the reader.

Targets can be set in absolute terms or as intensity targets relative to the company's production volume or revenue:

- Absolute targets have the benefit that they relate directly to the company's absolute impact on plastic circularity and pollution and can also be directly related to planetary boundaries.
- Intensity targets measure the company's performance on a given metric relative to either the production volume or the revenue. This may be appropriate for companies that are gaining market share. If using intensity targets, the company must still be transparent about performance in absolute terms.

Step 4: Setting ambition level and tracking performance over time

Setting up a system for tracking changes over time requires setting a year for the target, a base year and a clear system for when to recalculate metrics.

Setting a base year

When disclosing improvements in % of the base year, the company must state which year is the base year. We recommend using the most recent year for which data is available. It is also possible to use an average over several years as the baseline to smooth out annual fluctuations. For companies growing rapidly, choosing a rolling base year may also be appropriate. However, the company should consider if this complies with local regulations on disclosure. For an illustration of how to use a rolling base year, see section 11 of the GHG Protocol Corporate Accounting and Reporting Standard.

Setting an ambition level and a target year

The company should set the ambition level, taking into consideration UN agreements, national and regional regulations, and the latest scientific guidance. The timeframe for the target should be short enough that it is necessary to start working on improvements immediately. It may be relevant to set a longer term target with a higher ambition level. However, it is good practice to supplement it with shorter term interim targets.

Targets for the speed of improvement can be set in several ways:

- Setting targets for annual improvement on a metric, such as "Achieve a x% YoY reduction in waste from production";
- Setting interim targets for years earlier than the overall target, for example, "Send less than x tons of waste to landfill in 2030 and reach y% of this target by 2027".

B4 Action: Build a roadmap

In addition to measuring the company's current performance and setting transparent targets for improvement, it is important to define concrete actions the company plans to improve plastic circularity and reduce leakage. Each action often contributes to improving the company's performance on several metrics along the value chain, likely impacting both the footprint and circularity.

Note:
The PFN is creating a mitigation framework for plastic leakage that builds on the three-pillar framework the Net Zero Initiative proposes for carbon.[17] It follows the same logic of decreasing plastic emissions and increasing the capacity to treat plastic waste (see Figure 11). A framework for increased circularity does not exist yet.
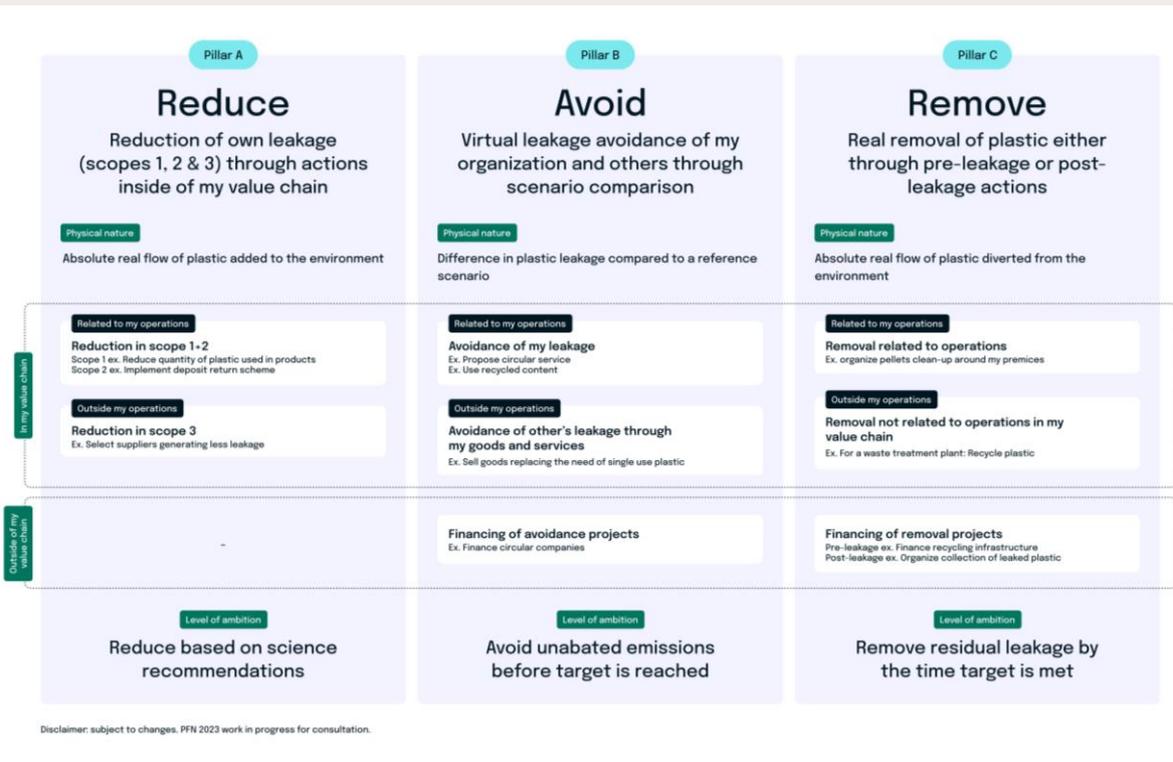
Figure 11: Plastic Footprint abatement framework
Source: PFN

While different frameworks may be necessary to reduce the footprint and to increase circularity, companies need to define detailed action plans to achieve their targets. This is something they can do today while the frameworks are still under development. The content of an action plan depends on the industry and is also specific to the situation of individual companies.

Figure 12 and Figure 13 illustrate what an action plan could contain.

Example of action plan for a packaging manufacturer with 2 targets

Timeline *(not to scale)*

Base year 2022 → **2027** → **Target year 2030**

Targets

Baseline
1. 60% of packaging is recyclable
2. 50% is recycled in practice

Interim targets
1. 100% of products are recyclable
2. 50% of products are recycled

Targets
1. 100% of packaging is recyclable
2. 80% is recycled in practice

Actions

Inflow
- Collect data on recyclability of current materials in packaging
- Research opportunities for sourcing recyclable materials
- Negotiate recyclable content with material suppliers

Design
- Gather data on customer needs & behaviors
- Assess recyclability of current designs
- Test alternative materials
- Replace all non-recyclable materials with recyclable materials; reduce number of different materials used in each product; use most recyclable polymers; ensure containers can be fully emptied
- Avoid composite materials, i.e., Tetra Pak, additives or surface treatments that prevent recycling; reduce use of colors and choose colors most suitable for recycling
- Partner with other packaging manufacturers to standardize materials used

Production
- Change production and assembly systems to fit new designs; implement internal recycling in factories.
- If applicable, build recycling capabilities for returned products

Business model & use
- Consider implications of current EoL for business model & use
- Tag products (chemically or digitally) to be transparent about all plastic flows
- Calculate business case for a potential takeback system & analyze practicality
- Identify who would be relevant partners for taking back primary, secondary or tertiary packaging
- If applicable, partner with retailers or municipality to implement a takeback system

End of life
- Analyze for each region why some recyclable products are not recycled
- Engage in dialogue with EoL players to remove barriers for recycling, i.e., presence of relevant buckets, user-friendliness of sorting system, frequency of collection
- Improve labeling to ensure consumers sort packaging waste correctly
- Build partnerships with recycling businesses and source recycled waste back into own production

◻ Actions mainly contributing to target 1   ◼ Actions mainly contributing to target 2

Figure 12: Example of an action plan for a packaging manufacturer

Note: When replacing a material, companies should consider if there is any trade-off in terms of carbon footprint of producing the material as well as in terms of durability of the product, e.g., will reducing packaging of a food product decrease its shelf life?

Source: BCG analysis based on client case studies

Example of action plan for a furniture brand with 4 targets

Timeline: *(not to scale)*

BASE YEAR 2022 ———————————————————→ **2027** —⇥→ **TARGET YEAR 2030**

Targets:

Baseline:
① 60% of products are recyclable
② 10% of are reused
③ 0% are repaired or refurbished
④ 0% are remanufactured

Interim targets:
① 100% of products are recyclable
② 20% of are reused
③ 10% are repaired or refurbished
④ 5% are remanufactured

Targets:
① 100% of products are recyclable
② 50% of are reused
③ 20% are repaired or refurbished
④ 10% are remanufactured

Actions:

INFLOW
- Analyze recyclability of current material use for each piece of furniture
- Research opportunities for sourcing recyclable materials
- Negotiate recyclable content with material suppliers

DESIGN
- Make all new designs modular
- Test alternative materials
- Implement new design guidelines in all designs: Integrate possibility for refurbishing & repair, design for durability
- Train workers in new design principles
- Replace non-recyclable parts with reusable and recyclable parts. Avoid additives or surface treatments that prevent recycling. Consider whether all plastic parts are necessary
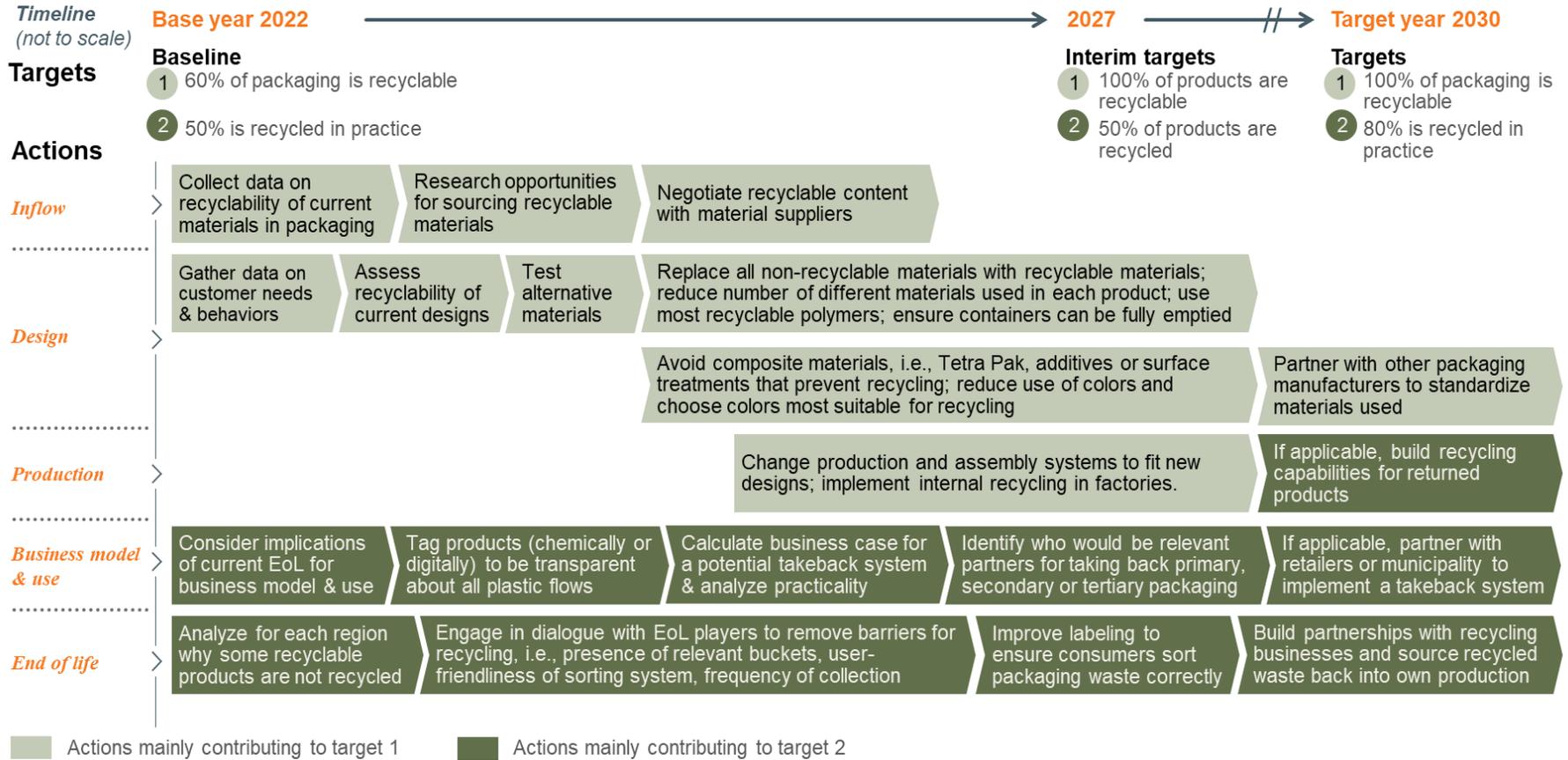- Redesign assembly system to enable disassembly, e.g., change glue if needed. Avoid composite materials, e.g., wood mixed inseparably with plastic
- In dialogue with EoL ecosystem, ensure that furniture designs are appropriate for eventual recycling in each region. E.g., ensure that disassembly requires minimal manual effort, and that material choices fit local recycling capabilities

PRODUCTION
- Analyze which parts could feasibly be remanufactured and tag them digitally
- Change production & assembly systems to fit new designs
- Change production system to build capabilities for repair, reuse, refurbishing, remanufacture or internal recycling of returned products or parts
- Implement Digital Product Passport to make visible how products can be repaired, reused or recycled, and what they are worth 2nd hand
- Use analytics to predict how much material is returned

BUSINESS MODEL & USE
- Calculate business case for takeback/buyback system for reuse, repair or refurbishing
- Redesign facilities to enable takeback system
- Setup logistics for takeback
- Train workers in: repair, refurbish, remanufacture, resale
- Implement takeback system. Facilitate reuse/repair & resale
- Sell spare parts
- Guide consumers on opportunities for repair, refurbish, or resale
- Build customer awareness & give incentives (vouchers)

END OF LIFE
- Analyze for each region why some recyclable products are currently not reused or recycled
- Engage in dialogue with local EoL players to remove barriers for recycling
- Sell second hand furniture & parts, in own stores or through partners
- Create a digital platform to link stakeholders that valorize used furniture or materials from it
- Partner with other furniture producers, retailers, repairers, and EoL players to improve the local ecosystem for reuse, repair or recycling

Legend:
☐ Actions mainly contributing to target 1 ☐ Actions mainly contributing to target 2 ☐ Actions mainly contributing to target 3 ☐ Actions mainly contributing to target 4
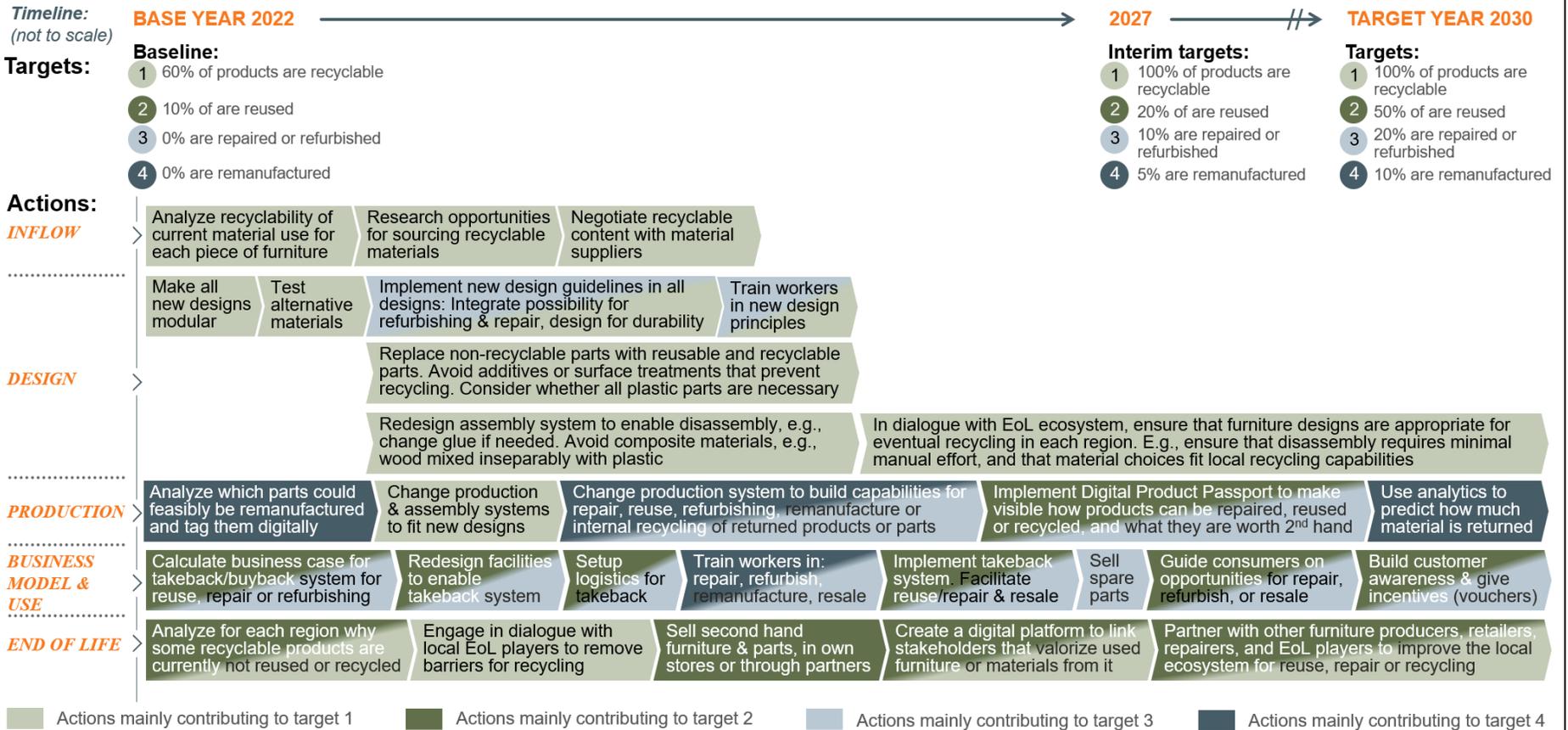
Figure 13: Example of an action plan for a furniture brand

Note: When replacing a material, companies should consider if there is any trade-off in terms of the carbon footprint of producing the material as well as in terms of the durability of the product.

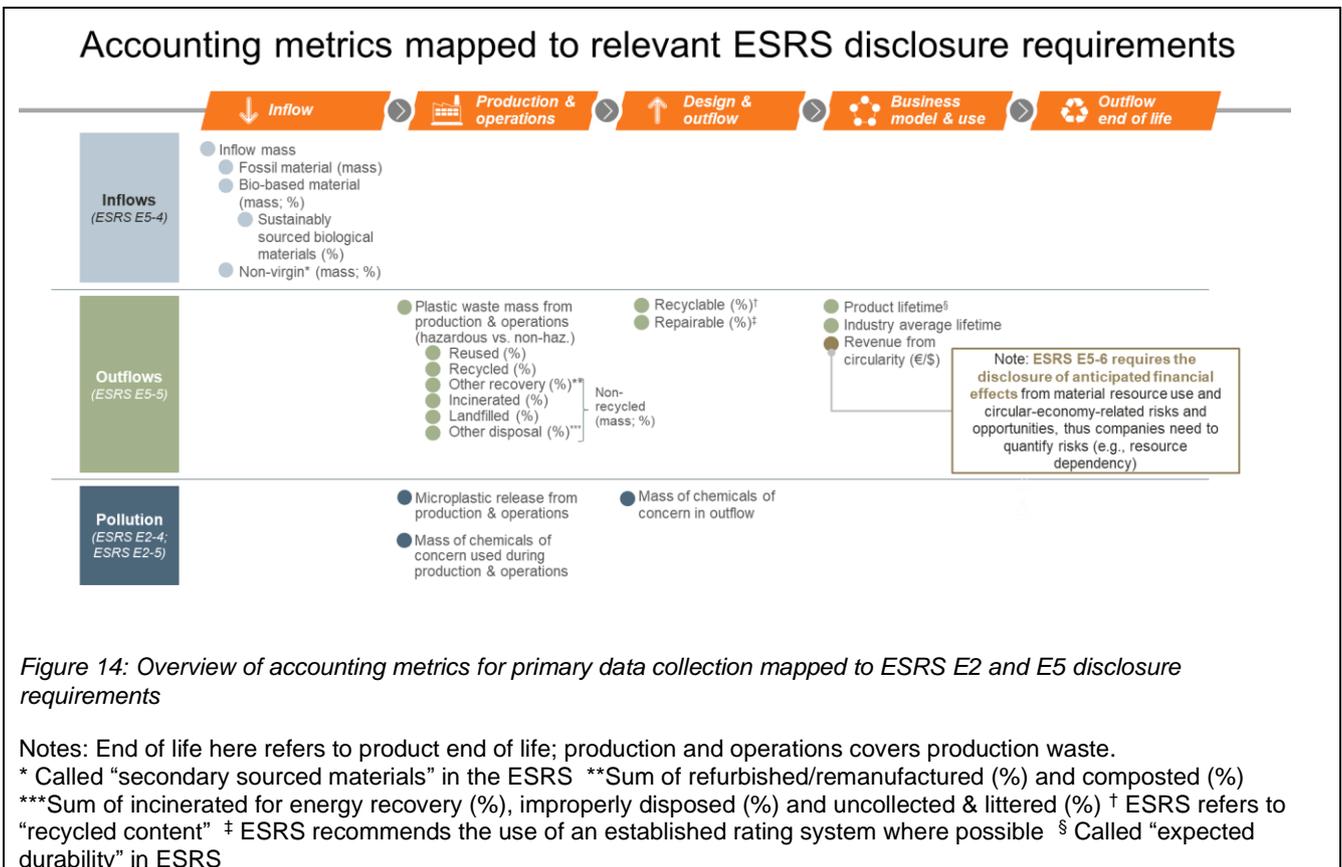Source: BCG analysis based on client case studies

B5 Accountability: Disclose information

B5.1 Regulatory plastic disclosure

The plastic accounting outlined in section B2 serves as a basis to publicly disclose information about plastic performance and pollution. The detailed data per metric is compatible with most existing disclosure requirements and thus companies can use it to report in compliance with national and international regulations.

Data collection in line with the plastics protocol can support companies in reporting in alignment with European Sustainability Reporting Standards (ESRS) disclosure requirements. The ESRS supplements the Corporate Sustainability Reporting Directive (CSRD) and will come into force as early as 1 January 2024. It requires mandatory disclosure from companies in scope of the CSRD focusing on resource inflows, resource outflows and pollution.

Figure 14 shows how the accounting metrics proposed in the protocol enable the disclosure in line with ESRS requirements. It is important to note that this figure only covers the quantitative metrics that require disclosure in line with ESRS and that full compliance with ESRS disclosure requirements requires additional qualitative information on plastic targets, strategies, policies and actions.

Figure 14: Overview of accounting metrics for primary data collection mapped to ESRS E2 and E5 disclosure requirements

Notes: End of life here refers to product end of life; production and operations covers production waste.
* Called "secondary sourced materials" in the ESRS **Sum of refurbished/remanufactured (%) and composted (%)
***Sum of incinerated for energy recovery (%), improperly disposed (%) and uncollected & littered (%) † ESRS refers to "recycled content" ‡ ESRS recommends the use of an established rating system where possible § Called "expected durability" in ESRS

Beyond helping with quantitative disclosure requirements, the rules provided in the protocol also enables disclosure in line with the qualitative ESRS requirements, such as on target-setting disclosure (ESRS E5-3[18]) related to resource use and circular economy. This includes targets on increasing circular product design and circular material use rates, the minimization of primary raw material, sustainable sourcing and use of renewable resources, waste management and other matters related to resource use or circular economy. Furthermore, by providing rules on the mitigating actions to reduce plastic pollution, the plastics protocol helps companies prepare for the

disclosure of policies and actions related to resource use and circular economy in line with ESRS E5-1 and E5-2.[19]

It is important to mention that companies should consider the disclosure requirements applicable to them before starting the data collection, target setting and action steps to ensure alignment with the respective requirements.

Beyond helping to disclose in compliance with ESRS requirements, corporate plastics disclosure will play a key role as an enabler in assessing corporate progress on fulfilling global plastic pollution reduction targets or national plastic waste reduction plans in line with the UN Plastic Treaty.

B5.2 Voluntary plastic disclosure

Beyond the disclosure requirements through regulation, companies may decide to voluntarily disclose information related to their plastic management and performance, plastic targets and action plans to reach those targets.

Note
This plastics protocol requires continuous updating to collect sufficient data in section B2 to align with most existing disclosure requirements that apply to plastic globally (such as with the national implementation of the UN Plastic Treaty, the ESRS, etc.)

If not otherwise required through regulation, this plastics protocol proposes the reporting of:

- The period covered;
- Company data for the chosen primary and secondary data metrics;
- The company's plastic targets and mitigating actions.

We recommend disclosure for all inflows to plastic production and all (mixed) materials, products and packaging that contain plastic, including microplastic. The disclosure requirements thus cover a multitude of industries, with the largest presence of plastic materials and products within packaging, the built environment, automotive, electronics, agriculture and household products.

Note
CDP proposes the disclosure of mixed materials that consist of at least 50% plastic by weight as an alternative.[20] Given that this would not cover the management and pollution of a large number of materials that contain plastic and more specifically microplastic (that are for example mixed into cosmetics), requiring disclosure from 50% plastic content by weight would likely not be sufficient to create full transparency on plastic pollution and leakage. The UN mandate for drafting the Plastic Treaty explicitly mentions microplastic as being in scope. Therefore, corporate disclosure should likely apply to materials and products containing any plastic (including microplastic) from the beginning to set clear expectations and guidelines for companies.

If not otherwise required by regulation, the protocol encourages the company to disclose the collected data per metric at the corporate level. How each company does this may differ but it could follow the logic of the examples outlined in Appendix 4. Please note that this way of disclosing differs from the GHG Protocol, as companies should not aggregate data across metrics or at a global level but only disclose it at the corporate level within each metric. The way in which this protocol requires disclosure at the corporate level needs further refinement involving auditors to ensure alignment with common accounting practices.

While the collection of relevant company data may take place in different parts of the company, the disclosure and aggregation should take place centrally to ensure the proper aggregation of all data from across the entire organization.

The company may provide voluntary information on activities related to avoiding plastic pollution or removing plastic from nature. However, the company must not subtract any avoided pollution, credits, offsets or impacts from plastic removal projects from their disclosed metrics.

B5.3 Managing data quality

Data quality is essential to ensuring that the disclosure shows an accurate image of the company's performance on plastic metrics and to identifying where in the company the largest opportunities for improvements lie. Having a robust system for data quality management increases the trustworthiness of the company's plastic disclosure and gives internal stakeholders a unified up-to-date view of the company's performance. We recommend consulting section 11 of the GHG Protocol Corporate Accounting and Reporting Standard for detailed guidance.

B5.4 Validation

Validation is the process of an independent external party reviewing the draft on plastic disclosure to ensure that it lives up to the plastics protocol and that the disclosed metrics are correct. An internal reviewer can perform validation; however, we recommend using an external reviewer. After obtaining an external review, the company can publicly claim that it has performed protocol-compliant disclosure. The purpose of validation is to make users of the disclosed information confident that it presents a fair account of the company's performance.

The external reviewer can use the guidance in Appendix 5 to validate the disclosure. To perform the checks detailed in the table, the reviewer should request samples of documentation for the metrics and recalculate a sample of metrics to check for errors. The reviewer may also perform a site visit if possible.

Note
Future versions of the protocol data assurance may go beyond data validation.

Part C: Harmonizing plastic accounting metrics

C1 Methodology: Combining best practice and disclosure requirements

This section outlines the methodology and reasoning behind the consolidated list of metrics, provides definitions and guidance for quantifying the proposed list of harmonized metrics as an appendix to the list provided in section B2.2 and further outlines where future versions of the plastics protocol will require additional refinement.

There are now multiple voluntary frameworks to help companies prepare for increasing regulatory requirements. Table 3 provides a list of the plastic-specific accounting and disclosure frameworks. While these offer a good starting point for plastic accounting, most of them only cover specific parts of the plastic value chain. The disclosure (meaning public reporting of company data) frameworks mostly focus on inflow declarations (what is put on the market) while the accounting (meaning internal collection and reporting of company data) frameworks have started looking at the outflows (what happens with the plastic put on the market once it becomes waste).

Table 3: Overview of existing plastic-related accounting and disclosure frameworks

Different voluntary frameworks on plastics accountability exist suited to different use cases and practices (i.e., accounting, disclosure)

|	Framework	Author	Year	Description	Scope
Disclosure	New Plastics Economy Global Commitment	ELLEN MACARTHUR FOUNDATION & UN environment	2019	Commitment to setting and disclosing ambitious targets to reduce plastic pollution; disclosure of performance against targets on a few key metrics	Packaging producers and users only, but increasingly focusing on full packaging value cycle
	CDP technical note – plastics disclosure	CDP DISCLOSURE INSIGHT ACTION	2023	Exploratory approach to disclosing plastic performance building on the Global Commitment	Focus on commercialization activities (plastics producers and users) Disclosure required for mixed materials from min. 50% plastic content by weight only
Accounting	SPHERE	WBC	2022	Framework to support the decision-making for packaging strategies	Packaging designers and users only
	ReSource Footprint tracker	WWF	2020	Tool to measure impact on waste mitigation, developed with support of WWF	Focus on inflow, design and production steps in the value cycle
	The Plastic Leak Project	Quantis & earth action	2020	Science-based methodology, guidance and metrics to identify and inventory plastic leakage	Focus on plastic leakage and thus downstream part of the value cycle

Notes: The year indicates the year of the initial launch. For the metric analysis, we have used the latest available versions as of August 2023.

Sources: Plastic Leak Project,[21] now hosted by the PFN; Global Commitment;[22] Carbon Disclosure Project Technical Note;[23] Sustainability in Packaging Holistic Evaluation for Decision-Making (SPHERE);[24] ReSource Footprint tracker[25]

Reducing actual plastic pollution and waste holistically requires circularity across the entire value chain. Yet there is a lack of transparency on company contributions to plastic pollution, which means metrics from inflow to design, production and use to end of life are necessary. The fact that most plastic frameworks focus on specific use cases (such as packaging) or cover only parts of the plastic value chain (see Figure 15) highlights the need for additional harmonization of plastic metrics for accounting.
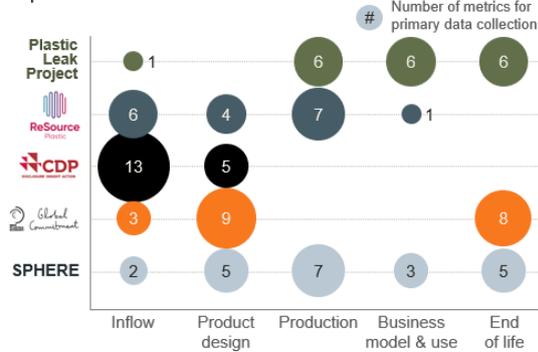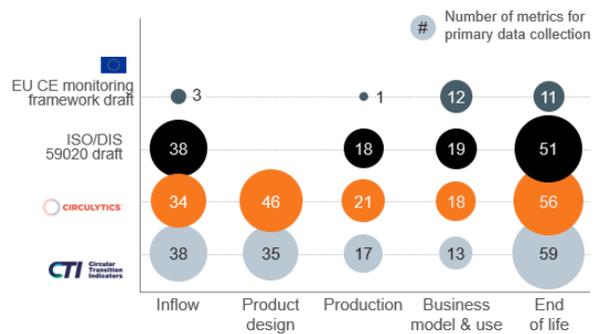
Figure 15: Comparison of plastic-related and circularity frameworks across the value chain based on the proposed metrics for primary data collection along the value chain

Notes: BCG has reviewed all the plastics-related and circularity metrics from the above open source frameworks and structured them based on inflow, product design, production, business model & use, and end of life, using the framing from Circelligence, BCG's proprietary methodology.

Notes: Production includes end-of-life treatment of production waste. The number of metrics does not correlate with the quality of a framework, as a large number of metrics, while increasing transparency, may also lead to complexity.

Source: BCG analysis

Table 4 provides an overview of some of the leading circularity frameworks. While circularity frameworks are often holistic in their approach, they are not specific to the plastic value chain (such as concerning leakage). Comprehensive plastic accounting and disclosure in line with existing and upcoming regulations requires the tracking of a combination of plastic-specific and circularity metrics. However, even if combining those metrics, it is important to note that definitions and quantifications may still differ across sources. Reaching universally accepted definitions and quantification methodologies for harmonized metrics requires additional alignment and global adoption.

Table 4: Overview of acknowledged circularity accounting frameworks

Broader circular economy frameworks are relevant as they tend to cover the full value chain holistically

	Framework	Author	Year*	Description	Scope
Accounting	EU circular economy monitoring framework draft	EU	2023	Technical screening criteria to determine circular economy activities	Manufacturing, water supply, sewage, waste management, remediation activities, construction & real estate
	ISO/DIS 59020 draft	ISO	2023	Framework to measure and assess a selected system to determine its circularity performance	All industries and full value chains
	Circulytics**	ELLEN MACARTHUR FOUNDATION	2020	Tool to measure company's circular economy performance beyond products and material flows	All industries and full value chains
	Circular Transition Indicators V4.0	WBCSD	2020	Simple, objective and quantitative framework to measure the circularity of companies, facilities and products	All industries and full value chains

*The year indicates the year of the initial launch. For the metric analysis, we have used the latest available versions as of June 2023. **Circulytics closed for submissions as of 31 August 2023 but the methodology remains available; the Ellen MacArthur Foundation recommends disclosure in line with the ESRS.

Source: BCG analysis

Beyond combining best practices from the plastic and circularity space, it is important to ensure that a harmonized list of metrics aligns with current disclosure requirements from regulations globally. Therefore, we have further refined the list of metrics with those proposed in existing and upcoming regulations. To create a holistic view across the full plastic value chain, we have added additional metrics. A detailed view of the metrics based on their selection criteria is available in Appendix 2.

C2 Inflow metrics

This section describes inflow metrics, including their definitions and proposed quantifications, and highlights the need for further alignment where relevant to serve as a starting point in defining globally aligned plastic metrics. This plastics protocol defines inflow as all raw materials for plastic production, materials, products and packaging entering the company's production.

- **Inflow mass:** Total mass (in metric tons) of inflows (both virgin and non-virgin as well as fossil and bio-based) including raw materials, plastic materials, plastic products and plastic packaging.

  Note
  A detailed list of which raw materials and plastic materials require reporting under the protocol may be part of future versions to provide more detailed guidance to reporting companies.

  - **Toxic/hazardous inflow:** List of all toxic and hazardous inflows to operations in line with the UN Globally Harmonized System of Classification and Labeling of Chemicals including total mass (in metric tons/kg) per toxic/hazardous inflow.
  - **Virgin (%):** Virgin inflows as a percentage of total inflow mass.
    Total mass of virgin inflows / Total inflow mass

- **Fossil (%):** Fossil inflows as a percentage of virgin inflow mass.
  Total mass of fossil inflows / virgin inflow mass
- **Bio-based (%):** Bio-based inflows as a percentage of virgin inflow mass.
  Total mass of bio-based inflows / virgin inflow mass

Note

Future versions of this plastics protocol may include a differentiation between bio-based and bio-attributed. They require clear definitions and quantification guidance and a clear approach to mass balance calculation. Beyond that, future versions of the protocol should consider how they could best account for a metric capturing technologies such as plastic from CO_2 and renewable hydrogen in the future.

- **Sustainably sourced (%):** Sustainably sourced inflow mass as a percentage of total mass of bio-based inflows
  Sustainably sourced inflow mass / Total mass of bio-based inflows

  Note

  Future versions of the protocol need to define clear criteria for when they accept a material as sustainably sourced. For example, they can use certification for such purposes (e.g., Forest Stewardship Council, Rainforest Alliance).

o **Non-virgin (%):** Non-virgin inflows as a percentage of total inflow mass
  Total mass of non-virgin inflows / Total inflow mass
- **Reused (%):** Reused inflows as a percentage of total inflow mass.
  Total mass of reused inflow / non-virgin inflow mass
- **Recycled (%):** Recycled inflows as a percentage of total plastic inflow mass.
  Total mass of recycled inflows / non-virgin inflow mass
  - **Measurable recycled content (%):** Measurable recycled content (e.g., via segregation or controlled blending) as a percentage of recycled inflows
    Mass of measurable recycled inflows / total mass of recycled inflows
  - **Attributed recycled content (%):** Attributed recycled content (via mass balance) as a percentage of recycled inflows
    Mass of attributed recycled inflows / total mass of recycled inflows

  Note

  Alignment on whether chemical recycling should be accepted as recycling in the plastics protocol requires further alignment and the approach to mass balance calculation needs to be determined. Furthermore, future versions of this protocol may include a distinction between pre- and post-consumer waste for further transparency.

- **Remanufactured (%):** Remanufactured products as a percentage of total plastic inflow mass.
  Total mass of remanufactured inflows / non-virgin inflow mass

C3 Production and operation metrics

Production and operation metrics refer to all processes a company undertakes inside its own operations, including the production and manufacturing of their products and services, running of offices and operation of the business model. Metrics include chemical use, plastic waste and microplastic from production and operations.

- **Mass of chemical of concern used:** List of all chemicals from the EU [REACH Regulation](#) Candidate List, International Chemical Secretariat's Substitute It Now (SIN) list ([ChemSec SIN List)](#) or version 4.0 of the Cradle to Cradle Products Innovation Institute's [Restricted Substances list](#) used during production and operations, including total mass (in metric tons/kg) used per chemical.
- **Plastic waste mass from production and operations:** Total mass of plastic waste from production and operations, with a breakdown for hazardous versus non-hazardous waste. This includes plastic waste from material, component, product and packaging manufacturing (e.g., scraps); packaging waste from materials, parts or components (1st, 2nd and 3rd degree) during production; waste from employees and offices (such as stationary); as well as plastic waste from operations (for example, from services). Companies should deduct plastic waste that it reuses or otherwise recirculates internally from this mass until it reaches end-of-life treatment.
  - **Reused (%):** Plastic mass reused/refilled as a percentage of total production and operation waste
    Reused mass / Total plastic waste mass from production and operations

    > **Note**
    > Future versions of the protocol need to clearly define what the ambition level is for reuse (such as whether or in which cases off grade counts as reuse).

  - **Refurbished/remanufactured (%):** Plastic mass refurbished/remanufactured as a percentage of total production and operation waste
    (Refurbished mass + remanufactured mass) / Total plastic waste mass from production and operations
  - **Recycled (%):** Plastic mass recycled as a percentage of total production and operation waste
    Recycled mass / Total plastic waste mass from production and operations
  - **Composted (%):** Plastic mass composted as a percentage of total production and operation waste.
    Composted mass / Total plastic waste mass from production and operations
  - **Incinerated for energy recovery (%):** Plastic mass incinerated for energy recovery as a percentage of total production and operation waste.
    Mass incinerated for energy recovery / Total plastic waste mass from production and operations
  - **Incinerated (%):** Plastic mass incinerated without energy recovery as a percentage of total production and operation waste.
    Mass incinerated for energy recovery / Total plastic waste mass from production and operations
  - **Landfilled (%):** Plastic mass landfilled as a percentage of total production and operation waste.
    Landfilled mass / Total plastic waste mass from production and operations

    > **Note**
    > Whether plastic incinerated, incinerated for energy recovery and landfilled is defined as waste or not requires global clarification as this currently differs between countries.

  - **Improperly disposed (%):** Plastic mass improperly disposed of (such as via dumpsites or unsanitary landfill) as a percentage of total production and operation waste.
    Improperly disposed mass / Total plastic waste mass from production and operations
  - **Uncollected & littered (%):** Plastic mass that is uncollected or littered as a percentage of total production and operation waste.
    Uncollected mass / Total plastic waste mass from production and operations

- **Microplastic release from production and operations:** Mass of microplastic (incl. pellets) released to water, soil and air as part of production processes (such as bending, washing) and operations (such as cleaning).

C4 Design & outflow metrics

Design and outflow metrics refer to the plastic products and packaging that leave the company's operations for distribution to their customers. Companies must collect data on the outflow metrics for all plastic materials, components, products and packaging they distribute. Companies should state outflow metrics as a portion of total plastic mass distributed, meaning all plastic materials, components, products and packaging a company distributes in the inventory period. Note that plastic materials, components, products and packaging can be part of many metrics at once and companies can therefore include them in the mass of reusable and recyclable products if they were designed to be reused multiple times and recycled once reuse is no longer possible.

- **Total outflow mass:** Total mass (in metric tons) of outflows including any distributed raw materials for plastic production, plastic materials, plastic products and plastic packaging with any plastic content (including microplastics) and of any plastic type (including fossil and bio-based as well as virgin and non-virgin plastics).
  - **Reusability (%):** Products designed for reuse as a percentage of total plastic mass sold.
    Mass of reusable products / Total outflow mass

- o **Repairability (%):** Products designed for repair as a percentage of total plastic mass commercialized.
  Mass of repairable products / Total outflow mas
- o **Remanufacturability/refurbishability (%):** Products designed for remanufacture/refurbishment as portion of total plastic mass commercialized.
  (Mass of products designed for remanufacture + Mass of products designed for refurbishment) / Total outflow mass
- o **Recyclability (%):** Products designed for recycling as a percentage of total plastic mass sold.
  Mass of recyclable products / Total outflow mass

  Note
  Future versions may include a distinction between technical and actual recyclability to provide more nuanced transparency.

- o **Compostability (%):** Products designed for composting as a percentage of total plastic mass.
  Mass of compostable products / Total outflow mass

  Note
  Future versions should specify whether compostability refers to home or industrial composting and may include additional metrics to capture whether companies design products for biodegradation or marine biodegradation. These considerations should closely align with government guidance on biodegradability and compostability (such as with the EU policy framework on biobased, biodegradable and compostable plastics[26]).

- **Lightweighting (%) vs previous period:** Outflow mass reduction while keeping the same functionality versus previous period. Note that companies should not consider lightweighting in isolation from other sustainability discussions, as using less or lighter materials may not always be the best option and can have implications on recyclability and end-of-life collection.

  Note
  There is no harmonized quantification of lightweighting in plastic. Aligning data collection on lightweighting and ensuring lightweighting contributes to better plastic use and management rather than moving to lighter more polluting solutions require a clear definition and quantification.

- **Mass of chemicals of concern in outflow:** List of all chemicals from the REACH Regulation Candidate List, ChemSec SIN List or version 4.0 of the Cradle to Cradle Products Innovation Institute's Restricted Substances list, including total mass present in the material, product or packaging per chemical. Where available, the company should refer to more comprehensive lists, such as the Food Packaging Forum's Food Contact Chemicals database.

  Note
  Future versions may include a distinction between avoidable and non-avoidable plastic as a design metric.

C5 Business model and use metrics

Business model and use metrics refer to the use phase of products, components and packaging as well as what type of business model companies use to commercialize them.

- **Number of actual reuse cycles for reusable products and packaging:** Average number of actual reuse cycles of reusable items.

  Note

  This metric requires further alignment and definition in the future to reliably track reuse across product, component and packaging types as part of their use phase. This is also necessary because the actual reuse cycles may differ significantly between parts, components and packaging types or from the technical number of reuse cycles.

  Furthermore, future versions should consider the comparison of the average reuse cycles with industry average reuse cycles to increase transparency. A reliable method or database to identify the industry average should support this.

- **Product actual lifetime**: Actual average lifetime in years, months or days. The actual lifetime is the number of years/months/days the material, component, product or packaging lasts when used, maintained and repaired until it can no longer be used with its originally intended function.
- **Industry average product lifetime:** The average lifetime in years or cycles that a material, component, product or packaging lasts within that specific industry or application. This data can be found in a lifetime data source, which companies should clearly state as the source as part of disclosing the metric.

  Note

  Future versions should include a link to a comprehensive lifetime data source to allow easy access to industry average lifetimes per product and ensure the quality of the disclosed industry average lifetimes. In the meantime, companies may use across-industry average lifetimes[27] but should use industry lifetime data specific to the product if available.

- **Total mass of plastic sold via circular business models:** Total mass (in metric tons/kg) of plastic in circular business models (incl. product as a service, services for durability, sharing and second-hand platforms).
    - **Product as a service (%):** Share of total mass that is plant, property and equipment assets owned by the company but used by customers (such as a service offering like renting/leasing).
      Mass in product as a service / Total mass of plastic distributed
    - **Sharing platform (%):** Share of total mass of materials, components, products and packaging offered on platforms hosted to enable owners and users to connect and share those resources.
      Mass on sharing platforms / Total mass of plastic distributed
    - **Second-hand platform (%):** Share of total mass users of materials, components, products and packaging offered on platforms hosted to enable owners and users to connect and trade those resources.
      Mass on second-hand platforms / Total mass of plastic distributed
- **Total revenue from plastic circularity:** Revenue (in monetary terms) from circular business models related to plastic (incl. product as a service, services for durability, sharing and second-hand platforms, take back systems and collection systems).
    - **Product as a service revenue (%):** Share of revenue coming from plant, property and equipment assets owned by the company but used by customers (such as a

service offering like renting/leasing)
Revenue from product as a service / Total revenue from plastic distribution

- o **Services for product life extension revenue (%):** Share of revenue coming from services that prolong the life of materials/components/products/packaging during its life (such as maintenance, repair, upgrading)
Revenue from services for durability / Total revenue from plastic distribution
- o **Sharing platform revenue (%):** Share of revenue coming from platforms hosted to enable owners and users of components/products/packaging to connect and share those resources.
Revenue from sharing platforms / Total revenue from plastic distribution
- o **Second-hand platform revenue (%):** Share of revenue coming from platforms hosted to enable owners and users of components/products/packaging to connect and trade those resources.
Revenue from second-hand platforms / Total revenue from plastic distribution
- o **Exclusive take-back system revenue (%):** Share of revenue coming from dedicated systems to take back products or packaging for recirculation by the company to the same functionality.
Revenue from exclusive take-back systems / Total revenue from plastic distribution
- o **Collection system revenue (%):** Share of revenue coming from collection systems to take back products for remanufacture, recycling or end of life treatment (such as through a third party).
Revenue from collection systems / Total revenue from plastic distribution

> **Note**
> Companies should clearly differentiate when they count a system as exclusive take-back vs a collection system and how they define this.

> **Note**
> Future versions of the plastics protocol should include more mature definitions and calculations of these circularity metrics to create a workable and reliable way of tracking the total plastic mass that enters circularity business models.

- **Microplastic release during use (%):** Mass of microplastic[28] released during use. Where applicable the use of a relevant standard or methodology is recommended (such as ISO 2284-1:2023 Textiles and textile products – Microplastics from textile sources or the Plastic Leakage Project Methodological Guidelines for textile washing, tire abrasion and plastic pellet production). Alternatively, companies can calculate the microplastic released during as suitable for the specific case. However, companies need to outline the methodology for computing the microplastic release during use. One example is to calculate the difference in plastic mass between beginning of use and end of use.

> **Note**
> How to measure and disclose microplastic release to enable global disclosure requires further definition.

C6 Outflow & end-of-life metrics

Metrics for end of life refer to the stage at which users or value chain actors have discarded plastic. However, this does not always mean that items have reached their final obsolescence, as many are discarded before their usable lifetime is over. Therefore, plastic items can be recirculated via reuse, repair, refurbishment, remanufacturing, recycling or composting, or treated as part of landfilling or

incineration. Beyond that, many plastic items are never collected, are mismanaged or end up leaking into the environment.

- **Total mass collected and treated:** Total mass of end-of-life plastic collected (such as by the company, municipal waste management or a third party) and recirculated via reuse, repair, refurbishment, remanufacturing, recycling or composting, or properly treated via landfill or incineration for energy recovery.
    - **Reused (%):** Plastic mass reused/refilled as a percentage of total collected and treated end-of-life mass.
      Reused mass / Total mass collected and treated
    - **Repaired (%):** Plastic mass repaired as a percentage of total collected and treated end of life mass.
      Repaired mass / Total mass collected and treated
    - **Refurbished/remanufactured (%):** Plastic mass refurbished/remanufactured as a percentage of total collected and treated end of life mass.
      (Refurbished mass + remanufactured mass) / Total mass collected and treated
    - **Recycled (%):** Plastic mass recycled as a percentage of total collected and treated end of life mass.
      Recycled mass / Total mass collected and treated

Note
Future versions of this plastics protocol could include additional metrics differentiating between mechanical and chemical recycling if chemical recycling is accepted as recycling. Furthermore, it could consider a differentiation between upcycling and downcycling.

    - **Composted (%):** Plastic mass composted as a percentage of total collected and treated end of life mass.
      Composted mass / Total mass collected and treated
    - **Incinerated for energy recovery (%):** Plastic mass incinerated for energy recovery as a percentage of total collected and treated end of life mass.
      Mass incinerated for energy recovery / Total mass collected and treated
    - **Incinerated (%):** Plastic mass incinerated without energy recovery as a percentage of total collected and treated end of life mass.
      Mass incinerated for energy recovery / Total mass collected and treated
    - **Landfilled (%):** Plastic mass treated in sanitary landfills as a percentage of total collected and treated end of life mass.
      Landfilled mass / Total mass collected and treated

Note
Whether incinerated and landfilled plastic are defined as waste or not requires a global definition as this currently differs between countries.

- **Total mass mismanaged:** Total mass of end-of-life plastic improperly disposed of or not collected (including via dumpsites and unsanitary landfill).
  Total mass distributed – Total mass collected and treated
    - **Improperly disposed (%):** Plastic mass improperly disposed of (such as via dumpsites or unsanitary landfill) as a percentage of total mismanaged plastic waste mass.
      Improperly disposed mass / Total mismanaged mass
    - **Uncollected & littered (%):** Plastic mass uncollected (such as due to littering) as a percentage of total mismanaged plastic waste mass.
      Uncollected mass/total mass mismanaged

Glossary

This glossary provides an overview of relevant definitions related to the plastics protocol and Corporate Performance and Accountability System (CPAS). Note that many of these definitions still require harmonization, as many nuances exist in definitions at the current point in time that need to further mature to achieve a globally aligned understanding on what to disclose and how.

Accounting refers to the internal collection and reporting of company data.

Bio-based materials are materials made from renewable biological resources. Bio-based resources can be reused, recycled, etc. like fossil resources or under certain conditions converted into nutrients if biodegradable/compostable.[29] This includes bio-based plastic such as bioPE, bioPET, PLA, PHA, TPS, etc. that are mainly made from biological materials including sugar cane, sugar beets, wheat and corn.

> **Note**
> Renewable resources are in some cases defined as resources that can grow back while other sources (such as WBCSD's Circular Transition Indicators (CTI)) specifically state that they only consider bio-based resources that are also sustainably managed as being renewable. The European Sustainability Reporting Standards (ESRS) further states that the depletion of the stock of renewable sources should be reversed. Some sources differentiate between renewable and non-renewable materials instead of using the terms fossil vs bio-based (e.g., Global Reporting Initiative GRI 301: Materials), which presents an alternative option of defining materials.

Business model and use (value chain step) covers the use-phase of products, components and packaging. This includes the type of business model products are commercialized through, as well as reuse cycles for reusable products.

Chemical of concern: All chemicals from the EU REACH Regulation Candidate List, ChemSec SIN List or version 4.0 of the Cradle to Cradle Products Innovation Institute's Restricted Substances list.

Composting is a specific type of biodegradation that refers to the "aerobic process designed to produce compost starting from biodegradable waste."[30] This compost should qualify for nutrient recirculation and be usable for improving soil.

Corporate Performance and Accountability System (CPAS) is a holistic approach under development by WBCSD, which aims to guide businesses to set, track and measure their performance and accountability. The CPAS will provide companies with a coherent system that addresses complexity, clarifies accountabilities and aligns incentives across all areas of sustainability performance. A CPAS for plastics will provide companies with guidance on how to set a baseline with data and circularity and leakage metrics (Accounting), set targets (Ambition), develop roadmaps (Action) and report and disclose plastic-related data (Accountability).

Design (value chain step) covers the design of plastic materials, plastic components, plastic products or plastic packaging. This includes, e.g., material and chemical choices, product lifetimes, microplastic release during use and whether the product is designed for durability, repairability and recyclability.

Disclosure refers to the public reporting of company data.

End of life (value chain step) covers the stage at which users or value chain actors have discarded plastic, where plastic can be recirculated via reuse, repair, refurbishing, remanufacturing, recycling or composting or treated as part of landfilling or incineration. Beyond that, many plastic items are never collected or are mismanaged and end up leaking into the environment.

Fossil materials can be used, reused/redistributed, maintained/prolonged, refurbished/remanufactured or recycled. This includes fossil-based and inorganic materials that can

be recirculated via the fossil cycle but are not suited for the biological cycle, like widely used plastic such as PVC, PET, PE, etc.

Incineration for energy recovery is the combustion process in which the created energy is harnessed and used (e.g., for power generation).[31]

Inflow (value chain step) is "resources that enter the company, including materials, parts, or products (depending on a company's position within the supply chain). Not included are water and energy, which are part of the specific water and energy indicators."[32] This covers all raw materials, plastic materials, plastic products, and plastic packaging sourced by the company.

Improperly disposed waste refers to waste that is collected but not treated in a safe way (e.g., via dumpsites or unsanitary landfilling) where it ends up leaking into the environment and ultimately waterways.[33]

Landfilling refers to the deliberate disposal of waste in a controlled environment that is designed to avoid spills and where the waste is covered. This is typically referred to as controlled landfilling that requires a permit and control procedures compliant to the national law.[34] Illegal or uncontrolled landfilling is referred to as unsanitary landfilling and is not included in this definition and would be required to be disclosed as mismanaged waste.

Microplastic refers to "plastic particles smaller than 5mm that typically consist of polymers, functional additives and potential residual impurities that can be formed when larger pieces of plastic wear and tear or are deliberately added to products for specific functionalities."[35] This includes plastic pellets, most plastic flakes and powder.[36]

Note
Some alternative sources define microplastic as below 5 mm and above 1 µm in size while most sources only specify that all plastic particles below 5 mm in size are considered microplastics.[37] The latter option is applied in this paper to ensure we cover plastic of all sizes.

Mismanaged waste refers to plastic waste not properly treated as part of the waste management process but improperly disposed of (e.g., via unsanitary landfills or dumpsites) or not collected at all (e.g., due to littering) where it is likely to leak into the environment and ultimately waterways.

Plastic is a "material containing a polymer (a large cycle molecule with repeating molecular units) which can be molded into a finished product – examples include thermoplastic, polyurethanes, elastomers, thermosets, adhesives, coatings and sealants, and PP fibers."[38] CDP specifically includes synthetic rubbers in the definition, going beyond the Global Commitment definition which only includes plastic.[39]

Plastic materials are any materials that contain fossil or bio-based plastic, including microplastic, even if mixed with non-plastic materials.

Plastic packaging is a type of plastic product specifically used for the packaging of products. This includes primary, secondary and tertiary packaging.

Plastic pollution is "the negative effects and emissions resulting from the production and consumption of plastic materials and products across their entire life cycle. This definition includes plastic waste that is mismanaged (e.g., open-burned and dumped in uncontrolled dumpsites) and leakage and accumulation of plastic objects and particles that can adversely affect humans and the living and non-living environment (working definition)," according to the United Nations Environment Programme (UNEP) working definition.[40]

Plastic products are any goods (e.g., product components, products, or packaging) that contain plastic, including microplastic, even if mixed with non-plastic inflows.

Plastic waste from production and operations refers to the plastic waste from material, component, product and packaging manufacturing and packing (e.g., scraps) as well as packaging waste (1st, 2nd and 3rd degree) during production.

Product as a service is a business model in which the company retains the ownership of a product, component or packaging and engages in alternative practices instead of selling, typically renting and leasing.[41]

Production (value chain step) covers all processes a company undertakes related to production and manufacturing of products and services. This includes, e.g., chemical use, plastic waste from production, and microplastic release. It also includes the company's own operations, offices, product assembly and transport to the actor responsible for the next value chain step.

Raw materials for plastic production include all fossil and bio-based raw material inflows to the production of plastic (e.g., natural gas, coal, renewable sources) as well as recycled feedstocks as inputs to plastic production.

Note
Future versions may include a broader definition to accommodate for other input materials to plastic production such as bio-attributed or bio-circular attributed raw materials.

Recycling refers to reducing a product or component "back to its material level, thereby allowing the use of those materials in new products."[42] This specifically excludes energy recovery and the use of the product as a fuel.[43]

Recyclability refers to the product's or component's ability to be recycled back to its material level. Please note that while recyclability is an important circular design decision, it only results in higher circularity if a company actually recycles the product or component at the end of its life rather than discarding it. Furthermore, the design objective should be to retain as much value at end of life as possible. Companies should therefore prioritize design for repair, reuse and remanufacturing/refurbishment if possible.

Refurbishing refers to the extension of a product's or component's lifetime by repairing it or replacing parts while keeping its original functionality.[44] An example of refurbishing is replacing a sofa's worn cover with a new, potentially more modern, one.[45]

Note
Alternative sources propose that the product needs to at least reach full functionality for its original purpose indicating that this includes upgrades to the original purpose and that a refurbished component or product needs to meet technical standards or regulatory requirements.[46]

Refurbishability refers to the product's or component's ability to be refurbished to extend its lifetime. Please note that while refurbishability is an important enabler of circularity, it only results in higher circularity if the product or component is actually refurbished at its end of life rather than discarded.

Remanufacturing refers to restoring a product to "as new" condition by disassembling it into its components and reassembling it while allowing for component replacements and changes made to the functionality of the product. An example of remanufacture based on this definition would be turning the components of used denim pants (i.e., buttons, fabric, zippers) into a denim jacket.

Note
Circulytics highlights that the remanufactured product should also reach "the same level of performance and warranty as a newly manufactured one"[47] while the European Commission further states that the remanufactured product should reach the same **or better** levels of performance.[48]

Remanufacturability refers to the product's or component's ability to be remanufactured to "as new" condition. Note that while remanufacturability is an important enabler of circularity, it only results in higher circularity if a company remanufactures the product or component at the end of its life rather than discarding it.

Repair refers to products or components being restored after breaking, tearing or other damage to extend their lifetime without changing their functionality. A company can perform this process as a service, with the intention of reselling the repaired product or component.[49]

Repairability refers to the product's or component's ability to be repaired to extend its lifetime. Note that while repairability is an important circular design decision, it only results in higher circularity if a user actually repairs the product or component during its life rather than discarding it.

Reuse refers to the "repeated use of a product or component for its intended purpose without significant modification."[50]

Reusability refers to the product's or component's ability to be reused for its intended purpose without significant modification. Note that while reusability is an important circular design decision, it only results in higher circularity if a user actually reuses the product or component at the end of its life rather than discarding it.

Second-hand platform is a platform connecting product owners with potential buyers to enable the resale of items. A popular example is second-hand clothing platforms where sellers list their closing items for buyers to purchase.[51]

Services for product life extension include maintenance and repair services that help extend the life of components, products and packaging during the use phase.

Sharing platform is a platform allowing users to gain access to resources without obtaining their ownership, for example on a sharing platform for electronics where owners lend their resources for potential users to borrow.[52]

Sustainably sourced materials are those grown in a way that preserves the ecosystem without degrading it. Under the European Sustainability Reporting Standards (ESRS) 5.4, reporting sustainably sourced biological materials requires information on the certification scheme used and the application of the cascading principle.[53]

Virgin materials are "materials that have not been previously used or subjected to processing other than for their original production."[54] For plastic this typically involves the extraction of crude oil, for example.

List of abbreviations

B2C	business to consumer
BCG	Boston Consulting Group
bioPE	bio-based polyethylene
bioPET	bio-based polyethylene terephthalate
CDP	Carbon Disclosure Project
CPAS	Corporate Performance and Accountability System
CSRD	Corporate Sustainability Reporting Directive
CTI	Circular Transition Indicators
EA	Environmental Action (consultancy)
EPR	Extended Producer Responsibility
ESRS	European Sustainability Reporting Standards
EU	European Union
GHG	greenhouse gas
GRI	Global Reporting Initiative
ILBI	International Legally Binding Instrument (to end plastic pollution), also known as the Global Plastics Agreement and the UN Treaty on plastic pollution
IFRS	International Financial Reporting Standards
IISD	International Institute for Sustainable Development
INC	Intergovernmental Negotiating Committee
INC-1	1st meeting of the INC in December 2022
INC-2	2nd meeting of the INC in June 2023
INC-3	3rd meeting of the INC in November 2023
ISO	International Organization for Standardization
ISSB	International Sustainability Standards Board
LCA	life-cycle assessment
NFRD	Non-Financial Reporting Directive
NGO	non-governmental organization
PE	polyethylene
PET	polyethylene terephthalate
PHA	polyhydroxyalkanoates
PLA	polylactic acid
PP	polypropylene
PPAC	Plastic Pollution Accountability Council
PVC	polyvinyl chloride
PPWR	Packaging & Packaging Waste Regulation

REACH	Registration, Evaluation, Authorization and Restriction of Chemicals
SBT	science-based targets
SBTi	Science Based Targets initiative
SPHERE	Sustainability in Packaging Holistic Evaluation for Decision-Making
TBD	To be decided
TNFD	Taskforce on Nature-related Financial Disclosure
TPS	thermal plastic styrene
UN	United Nations
UNEA	United Nations Environment Assembly
UNEP	United Nations Environment Programme
WBCSD	World Business Council for Sustainable Development
WWF	World Wildlife Fund
YoY	year-over-year

Appendix

Appendix 1. Overview of existing and upcoming regulations including plastic disclosure

Table 5: Examples of existing and upcoming environmental disclosure regulations that include plastic

Regulation	Year	Author	Description	Metrics to disclose*
Packaging & Packaging Waste Regulation (PPWR)	TBD	European Union (EU)	• Commission **proposal for updating the current EU waste regulation** • Legally binding in EU countries	• Packaging waste • Empty space ratio • Reuse of pallets, crates, boxes, drums, tertiary packaging, large household appliances • Minimum recycled content in plastic packaging • Recycling rates
Industry-based disclosure requirements (International Financial Reporting Standards (International Financial Reporting Standards (IFRS)) S2)	TBD	International Sustainability Standards Board (ISSB) under IFRS	• **Reporting standard** (incl. plastic & packaging) with implementation depending on local legislation • Expected to have significant influence on reporting rules in 140 countries	• Metrics will depend on industry and on how the countries implement • Amount of waste generated, percentage hazardous, percentage recycled • Amount of packaging • Percentage of production as plastic
European Sustainability Reporting Standards (ESRS) Corporate Sustainability Reporting Directive (CSRD)	2023	EU	• **Disclosure requirements** for companies in scope of the CSRD based on double materiality • **CSRD**: EU Directive amending existing regulations and directions with regards to corporate sustainability reporting	• Resource inflows: materials consumed/used; renewable/recycled/reused materials consumed • Resource outflows: products with circular economy principles (incl. packaging), waste generated, recycling rate, type of waste, waste recovered and diverted from landfill, etc. • Pollution (microplastics, chemicals of concern)

Regulation	Year	Author	Description	Metrics to disclose*
UN Plastic Treaty	TBD	UN	• **UN guidance** on plastic pollution reduction and plastic circularity • **UN member states** will have to develop national plans outlining the national implementation and report on progress	Depending on national implementation of corporate disclosure requirements, but may include: • Primary polymer use • Chemical of concern use • Design and performance criteria • Intentionally added microplastics • Recycled content • Prevention and elimination of plastic emissions • Reduce, reuse, refill and repair • Waste management
Eco-design for Sustainable Products Regulation (ESPR)	TBD	EU	• Commission proposal for a new **regulation building on the current Eco-design Directive** • Legally binding in EU countries • Expected to cover plastic and packaging with delegated acts early • Proposes Digital Product Passport for cross-value chain data collection and sharing	• Durability and reliability (i.e., lifetime) • Ease of repair, maintenance, upgrading, reuse, remanufacturing, refurbishment • Ease and quality of recycling • Use or content of recycled materials, incorporation of used components • Weight and volume of the product and its packaging (product-to-packaging ratio) • Amount of waste generated, including plastic and packaging waste and their ease of reuse • Microplastic release
Taxonomy for sustainable activities	2020	EU	• **EU regulation** establishing a framework to facilitate sustainable investment	• **Proportion of turnover** derived from products or services associated with economic activities that qualify as environmentally sustainable • **Proportion of capital expenditure and operating expenditure** related to assets or processes associated with economic activities that qualify as environmentally sustainable
Registration, Evaluation, Authorization and Restriction of	2007	EU	• Law to protect human health and **the environment from risks that chemicals can pose**	• Requires the registration of substances and mixtures (incl. monomers and polymers)

Regulation	Year	Author	Description	Metrics to disclose*
Chemicals (REACH)				
Verpackungs-gesetz	2017	German government	• "Packaging act": **German implementation of the current EU rules on packaging** • Similar acts exist in other European countries (e.g., France)	• Manufacturers, distributors and importers of business to consumer packaging must join a system for nationwide take-back and recycling, disclose quantities, and finance the recycling
Extended Producer Responsibility (EPR) SB 54	2022	State of California	• **EPR program** covering all sectors • Advanced EPR scheme compared to rest of North America (other EPR schemes exist, among others, in British Columbia, Québec, Oregon and Colorado)	• Waste mass • Masses recycled and composted • Masses of inputs recyclable and compostable
End of Life Vehicle (ELV) Directive	2000	EU	• **Directive for waste prevention** from vehicles requiring reporting by member states	• Recoverability • Recyclability • End-of-life treatment • Recovery rate • Recycling rate

All companies across the value chain do not have to always apply these metrics, as some regulations require materiality or the final implementation remains unclear. Nevertheless, they serve as inspiration for what metrics may be required in the future and are important to consider when developing industry-wide guidance for plastics.

TBD = to be decided

Source: BCG analysis of the relevant regulations

Appendix 2. Overview of metrics by selection criteria

Corporate accounting metrics by selection criterion

↓ **Inflow**	🏭 **Production & operations**	↑ **Design & Outflow**	**Business model & use**	♻ **Outflow end of life**

Inflow
- Inflow mass
  - Toxic/hazardous
  - Virgin (%)
    - Fossil (%)
    - Bio-based (%)
    - Sustainably sourced (%)
  - Non-virgin (%)
    - Reused (%)
    - Recycled (%)
      - Measurable recyc-led content(%)
      - Attributed recycled content (%)
    - Remanufactured (%)

Production & operations
- Mass of chemicals of concern used during production & operations
- Plastic waste mass from production & operations (hazardous & non-haz.)
  - Reused (%)
  - Recycled (%)
  - Refurbished/remanuf actured (%)
  - Composted (%)
  - Incinerated for energy recovery (%)
  - Incinerated (%)
  - Landfilled (%)
  - Improperly disposed (%)
  - Uncollected & littered (%)
- Microplastic release from production & operations

Design & Outflow
- Outflow mass
  - Reusable (%)
  - Repairable (%)
  - Remanufactrue-/refurbishable (%)
  - Recyclable (%)
  - Compostable (%)
- Lightweighting (%) vs. previous year
- Mass of chemicals of concern in outflow

Business model & use
- Number of actual reuse cycles for reusable products & packaging
- Product lifetime
- Industry average lifetime
- Total mass of plastic sold via circular bus. models
  - Product as a service (% of mass)
  - Sharing platform (% of mass)
  - Second-hand platform (% of mass)
- Revenue from plastic circularity (€/$)
  - Product as a service (% of total rev.)
  - Services for durability (incl. repair) (% of total rev.)
  - Sharing platform (% of total rev.)
  - Second-hand platform (% of total rev.)
  - Exclusive take back system (% of total rev.)
  - Collection systems (% of total rev.)
- Microplastic release

Outflow end of life
- Total mass collected and treated
  - Reused (%)
  - Repaired (%)
  - Refurbished/remanufactured (%)
  - Recycled (%)
  - Composted (%)
  - Incinerated (%)
  - Incinerated for energy recovery (%)
  - Landfilled (%)
- Total mass mismanaged
  - Improperly disposed (%)
  - Uncollected & littered (%)

Criteria for metric selection in order in which they have been applied[1]

- Metric harmonized across min. 60% of circularity and plastics frameworks
- Metric harmonized across min. 60% of circularity frameworks
- Metric required through existing or upcoming regulations
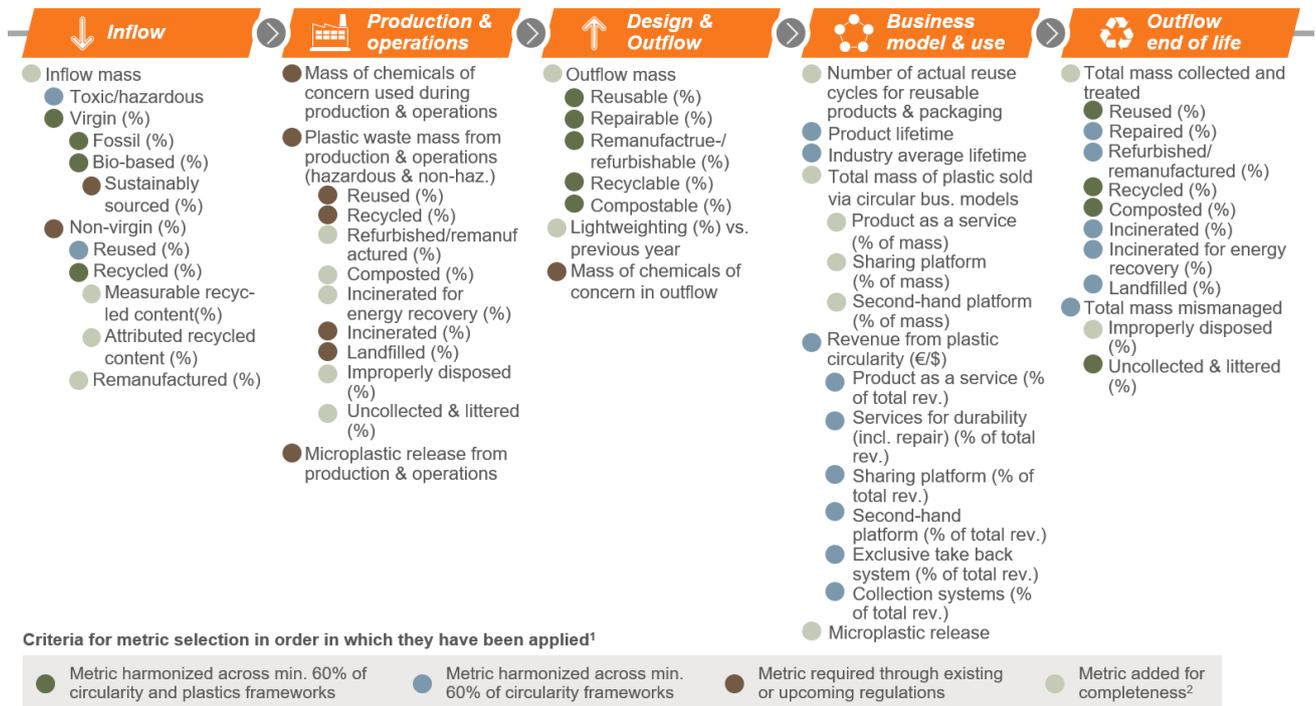- Metric added for completeness[2]

Figure 16: Overview of corporate accounting metrics by selection criterion

Notes: *Indicates the order in which we applied the selection criteria. Thus criterion 2 related to 60% harmonization across circularity frameworks and criterion 3 related to regulation may apply to multiple metrics selected based on the previously applied criteria. ** These metrics added to cover circularity across the full plastic value chain to ensure consistency (e.g., between end of life and production & operations metrics) and to reflect best practices already applied by companies (e.g., lightweighting).

Source: BCG analysis

Appendix 3. Frameworks used for inspiration

Table 6: Overview of the frameworks used for inspiration of this document

Framework	Main inspiration used
GHG Protocol Corporate Accounting and Reporting Standard	Accounting and disclosure principles Guidelines for setting targets and tracking impacts over time Guidance on data quality Guidance on validation
Net Zero Initiative (NZI)	Guidance on avoided impacts Guidance on metrics, targets and actions outside of value chain
Plastic Footprint Network (PFN)	Metrics and quantification of plastic footprinting
Science Based Targets initiative (SBTi) Corporate Manual	Pros and cons of different approaches to target setting Absolute targets vs intensity Guidance for validation
Taskforce on Nature-related Financial Disclosures (TNFD) Management and Disclosure Framework	Planning actions for improvement
Life Cycle Assessment (LCA): Theory and Practice by Hauschild et al.	Guidance on critical reviews
WBCSD Circular Transition Indicators (CTI)	Metrics and calculation of circularity indicator

Appendix 4. Corporate-level metric disclosure examples

Table 7: Examples of how to disclose selected metrics at a corporate level

Example	Metric Type	Disclosure logic
An electronics manufacturer using plastic parts and packaging as inputs needs to disclose the total plastic inflow mass. Therefore, the electronics brand needs to sum all the plastic mass of the different purchased parts and packaging across the full organization.	Mass	$\sum(mass)$
A packaging producer needs to disclose the share of collected plastic waste recycled. As this data may be collected by different types of plastic, the end-of-life operator needs to aggregate the recycling shares weighed by their total mass.	Percentage	$\sum(\%*mass)/\sum(mass)$
A packaging manufacturer needs to disclose the chemicals of concern used in the packaging. While this information is typically collected per packaging type, this data needs to be combined into one list of all chemicals of concern in any produced packaging with the mass summed per chemical.	List	List of total mass of each chemical
A furniture manufacturer offering a take-back program needs to disclose the number of reuse cycles. To disclose this information at the corporate level, the furniture manufacturer needs to compute the average number of reuse cycles across reused products/parts.	Reuse cycles	$\sum(\#cycles)/\#products$ or parts

Source: BCG analysis

Appendix 5. Guidance to data validation

Table 8: Guidance on validation

Aspects to validate	Guidance for reviewer
Clarity	• Read the draft disclosure and identify if any statements are ambiguous. • Ensure that the company is clear about how it measures each metric and the unit used.
Materiality	• Check if any material information is missing. Information is considered material if its exclusion can influence decisions made by readers. • Check if the disclosure includes sufficient focus on the most material aspects of the company's performance on plastic, meaning do the targets focus on material issues and, if not, is there a clear argument for why?
Completeness	• Check the disclosure of all metrics that are mandatory in the chosen disclosure framework. • Check if the data is complete enough that omissions are not likely to cause an error above 5% on any metric on company level. If the margin of error is higher, check that the company clearly justifies this and documents a plan for improving data quality.
Quality of data management	• Assess whether the company's system for data collection is robust and well documented. • Check how recent the data is and ensure that the company has a plan for regularly updating data.
Risk of discrepancy	• Check that assumptions and estimations are justified and that there is no risk of systematic over- or underestimation of a metric. • Check that any use of proxy data is justified and that the data is from the most appropriate sources available.
Subtraction of avoided plastic pollution	• Check that the company has not subtracted any avoided plastic pollution or credits from their disclosed metrics. If, for example, the company has performed projects to remove plastic from nature, any metrics related to those actions must remain separate from the disclosure of the company's own metrics.

The content is inspired by the GHG Protocol Corporate Accounting and Reporting Standard section on verification, Science Based Targets initiative (SBTi) Corporate Manual step 3 on validation, and Life Cycle Assessment (LCA): Theory and Practice by Hauschild et al.

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Disclaimer

This publication is the result of a collaboration by WBCSD stakeholders and EA, South Pole and BCG experts, as well as external contributors. A range of stakeholders was interviewed and reviewed drafts. Input and feedback from stakeholders were incorporated in a balanced way. This does not mean, however, that every stakeholder agrees with every view. This is best knowledge as of October 2023, but changes to plastic topics and regulations can occur quickly.

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The World Business Council for Sustainable Development (WBCSD) is a global community of over 220 of the world's leading businesses, representing a combined revenue of more than USD $8.5 trillion and 19 million employees. Together, we transform the systems we work in to limit the impact of the climate crisis, restore nature and tackle inequality.

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Related publications

WBCSD white paper series	Other related publications

Enabling Corporate Plastics Disclosure
Opening the debate for the adoption of universal metrics, November 2022 (for INC-1)
- Review of plastic-related metrics companies use to measure and report progress against plastic pollution
- Opens the debate on the harmonization of plastic metrics for disclosure purposes

Enabling Corporate Plastics Disclosure
Building a corporate accountability system for plastic pollution, May 2023 (for INC-2)
- Focus on metrics for measurement of plastic leakage and mismanagement (plastic footprint)
- Proposes a corporate accountability system for plastic pollution

This publication

Enabling Corporate Plastics Disclosure
Building a plastics protocol, November 2023 (for INC-3)
- Focus on harmonizing corporate metrics for plastic accounting
- Conversation starter for harmonizing corporate plastic accounting, targets and actions

The Business Case for a UN Treaty on Plastic Pollution
October 2020, WWF, Ellen MacArthur Foundation & BCG
- Proposes an international treaty on plastic pollution
- Points out lack of data transparency on plastic

SPHERE: the packaging sustainability framework
April 2022, WBCSD
- Focus on packaging including plastic
- Holistic environmental assessment of packaging

A "Paris Agreement" for recycling the Earth's resources
September 2022, WBCSD & BCG
- Focus on among others plastic
- Calls for a formal global plan for material recycling

Circular Transition Indicators v4.0 – Metrics for business, by business
May 2023, WBCSD
- Focus on circularity metrics and reporting
- Helps to evaluate and take action to increase circularity

Plastic Footprint Guidelines – Technical Introduction to Plastic Leakage
October 2023, Earth Action & Plastic Footprint Network
- Focus on computation of the plastic footprint
- Methodology to assess corporate plastic leakage

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