

# Enabling Corporate Plastics Disclosure

Opening the debate for the adoption  
of universal metrics



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## Disclaimer

This publication has been developed in the name of WBCSD. A wide range of member companies were consulted in the development of this white paper. This does not mean, however, that every member company or stakeholder agrees with every word.

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## Executive summary

As new scientific evidence on the impacts of plastic pollution on the environment and people continues to emerge, civil society scrutiny and legislative pressure are also increasing. The growing number of initiatives tackling this issue recently culminated in a [United Nations resolution to create an international legally binding instrument on plastic pollution](#) by 2024, hereafter referred to as the UN Treaty on Plastic Pollution.

The UN Treaty on Plastic Pollution will increase the requirement for companies to communicate their plastic impact due to reputational pressures, investor assessment, compliance needs and consumer choices. Facilitating concerted action between the public and private sectors requires transparency and comparability of data relating to plastic material input (what is put on the market) and output (fate of the waste created).

We are publishing this white paper ahead of the start of negotiations on an international legally binding instrument on plastic pollution ([INC-1 in Punta del Este, 28 Nov- 2 Dec, 2022](#)), with the aim to:

- Understand the plastic-related metrics that companies are using (for plastic that is put on the market and the fate of the plastic waste created) and for what purposes they are using them;
- Open the debate on the harmonization of plastic-related metrics for disclosure purposes – with the goal to develop a global corporate accountability framework that will allow tracking of corporate progress on their targets (adjacent to or integrated into country-level reporting).

This document does not invent new plastics disclosure metrics but proposes rallying around the existing work to converge on a set of universally adopted metrics that can feed into existing environmental reporting systems. A global accountability framework can integrate these metrics to transparently communicate the environmental externality of plastic pollution and enable concerted action to achieve the objectives of the UN treaty.

For companies, having universally adopted metrics would address the limitations of the diverse disclosure landscape and enable the development of circular business models. Harmonizing reporting systems lessen the redundancy and resource burden for data collection that companies currently experience while responding to multiple reporting needs. Universal plastics disclosure metrics would allow for the identification of excesses of types of materials and their geographic location, provide a better picture of mismanaged waste streams and associated opportunities for new circular business development, and help highlight the stranded assets of a linear economy.

To reach the metric recommendations, we conducted desk research and qualitative interviews with actors throughout the plastics value chain and civil society organizations. The landscape analysis of nine existing plastics disclosure, reporting and measurement methodologies and guidelines concludes that none of the existing initiatives require equal reporting of both plastic inputs and outputs.

To find out if there is common understanding of what is needed for corporate plastics disclosure, we interviewed 26 representatives from the plastics value chain and eight civil society organizations. Stakeholders hold an array of positions on the issue, though there is general recognition that regulatory trends will ultimately require public disclosure.

From the landscape analysis and interviews, we draw three main conclusions:

1. Universally adopted plastics disclosure should provide visibility on both material inputs and outputs;
2. Any company should be able to adopt plastics disclosure metrics, irrespective of what industry it operates in and where it is in the plastics value chain;
3. The metrics should allow for the adoption of similar reporting for other materials – meaning they should be material-agnostic.

This paper does not propose new metrics. Instead, it builds on existing work to propose convergence on a set of metrics that would feed a global corporate accountability framework, in the context of the international legally binding instrument on plastic pollution. To this end, it proposes metrics that are based on two levels:

1. Generic metrics that are applicable for any actor, irrespective of its position within the plastic value chain;
2. Metrics that are specific to some actors in the value chain.

We also propose additional modeled metrics for end-of-life scenarios, as they allow for an understanding of the circularity potential for materials (see table 1).

Ultimately, this document calls for concerted action. The metrics proposed complement ongoing public sector efforts to measure and report national-level plastic waste outputs. Together with private sector disclosure of comparable data, it is possible to curb plastic waste losses to the environment.

We call for a debate and proactive coordination between multiple stakeholders to create a global corporate accountability framework in the context of the negotiations of the international legally binding instrument on plastic pollution:

- *Organizations working in the field of sustainability reporting* – to drive toward convergence on the plastic-related metrics that best reflect corporate progress on the goal of ending plastic pollution;
- *Business* – to test the metrics, analyze data gaps and ensure companies can effectively use the metrics.
- *Policymakers and country delegations involved in the international legally binding instrument on plastic pollution* – to discuss which reporting metrics make sense and how to integrate reporting provisions in the international legally binding instrument on plastic pollution that align both the public and private sectors.

### **Join the debate**

We invite stakeholders to provide their inputs to this white paper and engage in the debate. You can fill in this [consultation survey](#) or contact Delphine Garin, Manager, Plastics and Packaging at WBCSD at [garin@wbcsd.org](mailto:garin@wbcsd.org) to discuss further.

We will publish the next version of this white paper ahead of the second session of the Intergovernmental Negotiating Committee (INC-2) in April 2023 and ahead of each INC session until the end of 2024.

Table 1: Proposed plastics disclosure metrics

			Relative (%)	Absolute (Mt)	Disclosure by				
					Producers	Converters	Brand owners	Waste management	
<b>1. Total plastic produced</b> 	Polymer type level			x	x				
	Country level			x	x				
	Source	1.A From recycled content	x			x			
		1.B From bio-based feedstock	x			x			
		1.C From fossil feedstock	x			x			
Fate	1.J Biodegradable / compostable	x			x				
<b>2. Total plastic converted or used</b> 	Polymer type level			x		x	x		
	Country level			x		x	x		
	Source	2.A From recycled content	x			x	x	x	
		2.B From bio-based feedstock	x			x	x	x	
		2.C From fossil feedstock	x			x	x	x	
	Complexity & recyclability	2.D Mono-material	x			x	x	x	
		2.E Multi-material	x			x	x	x	
		2.F Recyclable	x			x	x	x	
		2.G Non-recyclable	x			x	x	x	
	Durability	2.H Long life (reusable packaging + products)	x			x	x	x	
		2.I Short life (single use + non-reusable packaging)	x			x	x	x	
	Fate	2.J Biodegradable / compostable	x			x	x	x	
	<b>3. Total waste generated</b> 	Polymer type level			x		x	x	x
Country level				x		x	x	x	
Collection		3.K Collected	x	x			x	x	x
		3.L Uncollected	x	x			x	x	x
		3.M Recycled	x	x			x	x	x
Properly disposed fate		3.N Properly disposed – landfilled	x	x			x	x	x
		3.O Properly disposed – incinerated	x	x			x	x	x
Improperly disposed fate		3.P Improperly disposed – dumpsites	x	x			x	x	x
	3.Q Improperly disposed - unsanitary landfilled	x	x			x	x	x	
<b>4. Total mismanaged waste</b>	Polymer type level			x		x	x	x	
	Country level			x		x	x	x	
<b>5. Total leaked</b>	Polymer type level		out of scope	out of scope			x	x	
	Country level		out of scope	out of scope			x	x	

## Glossary

**Disclosure:** The act of giving people new or secret information.<sup>1</sup> Regarding plastic pollution, disclosure refers to the act of sharing with external stakeholders a company's circularity efforts so that no plastic ends up in the environment. With that purpose in mind, companies, organizations and governments need to report data related to plastic usage. The end goals of plastics disclosure are: to identify the types of materials and their geographic location that have the higher probabilities of creating plastic pollution, to improve the design of plastic products and packaging and the infrastructure to receive them, and to inform the development of circular business models, including reduction where needed.

**Environmental reporting systems:** The different platforms that provide the means to prepare, present and communicate information concerning an organization's environmental impact. Such platforms include but are not limited to CDP, the Global Reporting Initiative (GRI), United Nations Global Compact, etc.

**Guidance/guideline:** A set of rules or instructions to explain how to do something. For instance, a guideline for disclosure would summarize and describe all the steps required to share information. The goals of a guideline are to set a strategy or process, prioritize a sequence of actions and describe how to monitor performance. Guidelines do not require external disclosure.

**Initiative:** A new plan or action to improve something or solve a problem.<sup>2</sup> In the plastic pollution space, many initiatives have emerged proposing tools, metrics or actions to measure and report on plastic usage and fate. In this white paper, we group initiatives into four types: disclosure, reporting, measurement methodologies and guidelines. Each type has subtle differences in its purpose and what it offers.

**Inputs:** Plastics that are put into markets.

**Methodology:** The different steps and tools used to achieve a final goal. The results obtained by applying the methodology are often used to define a result or strategy. For example, a methodology aiming to assess the plastic footprint of a product or company details all steps required to reach this goal (data collection, data analysis and interpretation of the results).

**Outputs:** The fate of the plastic waste created.

**Reporting:** The act of sharing information or results in the form of a report. Normally, reports aim to make data or information accessible in a simplified way for specific target groups and stakeholders (both internal and external). For example, a report can publish the results of a company's plastic footprint assessment.



## Scope of the white paper

We will supplement this white paper with more information on each guidance/guideline, methodology, reporting and environmental reporting system referenced. We will add appendices after the initiative owners review the information at the beginning of 2023.

At the moment, this white paper mainly covers companies' impacts on the environment through a circularity approach (impact materiality) and disclosure metrics for a broad external audience to use through voluntary initiatives.

We may add more disclosure schemes in subsequent versions of this white paper, including regulatory compliance obligations (reporting requirements under the European Union Corporate Sustainability Reporting Directive, Extended Producer Responsibility (EPR), Plastics Tax, etc.).

Also, as investors' interest in environmental, social and governance (ESG) topics is increasing, we may consider extending the scope of the discussion to risks and opportunities that affect enterprise value and relevant metrics in this area (financial materiality). In particular, this might include looking at metrics under the International Sustainability Standards Board (ISSB) or SASB (Sustainability Accounting Standards Board) disclosure topics (such as packaging life-cycle management and the management of single-use plastics as a disclosure topic in the Chemicals Industry Standard).

Finally, the scope of disclosure as part of a global corporate accountability framework may evolve following new regulations – for instance, with reference to microplastics and plastic particles as part of water and soil pollutants (exposure draft) in the EU Sustainability Reporting Standards (ESRS) or driven by voluntary commitments (for instance, on plastic pellet loss).



# 1. Introduction

The first scientific report documenting the impact of plastic pollution in the marine environment dates from 1972,<sup>3</sup> a mere decade after the mass commercialization of the game-changing material. For 35 years, marine debris remained a niche field of research. In 1996, Captain Charles Moore rang the alarm bells upon the discovery of the Great Pacific Garbage Patch.<sup>4</sup> From then on, research on plastic pollution exploded. Today, there is extensive scientific evidence of the impact of plastic pollution not only on marine ecosystems, but also on terrestrial ecosystems, human health and quantified economic losses.<sup>5</sup>

The global movement to tackle plastic pollution led to a landmark moment in March 2022 when United Nations (UN) member states committed to creating an international legally binding instrument by 2024: the [UN Treaty on Plastic Pollution](#). The treaty looks to address plastic pollution from source to sea. By taking a full life-cycle approach, from production to disposal, the treaty aims to avoid plastic losses in the value chain and to the natural environment. The evolution of the UN Treaty on Plastic Pollution will no doubt lead to greater pressure on companies to communicate their plastic impact due to reputational pressures, investor assessment, compliance needs and consumer choices.

“The reporting provisions within the international legally binding instrument on plastic pollution, including in the marine environment, could include **requirements for a harmonized set of metrics to enhance transparency and disclosure by public and private sector actors.**”

Source: United Nations Environment<sup>6</sup>

In this context, it is crucial that the private sector participate in the development of the treaty. Industry can play a key role in curbing plastic pollution, whether it is by implementing solutions to plastic pollution, in communicating transparently about their mitigation progress, or by reporting plastic inputs on global markets and outputs into the environment. Public disclosure of plastic metrics through environmental reporting systems would capture industry’s progress.

Environmental reporting systems enable companies to transparently share environmental, social and financial impacts of their activities. Unlike an evaluation or target-setting tool, a disclosure metric provides transparency and comparability of the primary data used to calculate the environmental impact of a company’s activity. In the context of plastic pollution, a global accountability framework can integrate universally adopted plastics disclosure metrics to transparently communicate the environmental externality of plastic pollution.

Concerted action to achieve the objectives of the UN treaty will be difficult without standardized corporate plastics disclosure metrics that can feed into existing environmental reporting systems. Standardized metrics are needed to align stakeholders, feed upwards into the UN treaty and provide a baseline against which to measure progress on voluntary targets. To open the debate on plastics disclosure metrics, WBCSD prepared this white paper, which concludes with a proposition for standardized corporate plastics disclosure metrics.

The aim of this white paper is to outline how corporate plastics disclosure can serve as a mechanism to catalyze corporate action to avoid plastic pollution. The first section explains the context. The second section maps the landscape of existing frameworks, methodologies and disclosure initiatives that currently enable the private sector to measure and disclose its plastic footprint and summarizes perspectives from interviews with industry and civil society. To catalyze action on plastic pollution mitigation, the majority of large players need to align behind the same set of reporting metrics. To this end, the third section proposes a set of metrics for corporate plastics disclosure that a global accountability framework can integrate and that allows industry players to understand their value chain impacts and bottlenecks, facilitating concerted action. Finally, the white paper explains how disclosure metrics are key for public–private sector collaboration.

## 2. Context

### 2.1 Building on the successes of corporate climate disclosure

Corporate environmental disclosure is not a new concept. For the past three decades, climate disclosure has rapidly evolved from a voluntary practice to a legal requirement. Currently, 15 G20 countries require mandatory corporate climate reporting schemes. The disclosure information serves a range of purposes, from facilitating policymaking through analysis of emissions at different levels that can inform policy or greenhouse gas (GHG)-reduction strategies, to informing national GHG inventories under the United Nations Framework Convention on Climate Change (UNFCCC) and providing information to key stakeholders such as investors. For the companies themselves, it allows them to assess their climate risks and opportunities.<sup>7</sup>

While corporate climate disclosure has facilitated progress on the climate front, it does not capture the full extent of environmental impacts of actors involved in the plastics value chain. Only accounting for the carbon emissions associated with plastic production and use does not fully capture the physical impacts of plastic-related pollution. The crossing of the fifth planetary boundary – chemical pollution or “new entities” created or introduced by humans – reconfirms the urgency of rapid and bold progress on the plastic pollution side.<sup>8</sup> Unlike carbon, which is emitted at every step of the value chain, plastic is a solid material that travels along the value chain. Although companies already partially report the impact of the manufacturing and use of plastic through its GHG emissions impact in corporate climate disclosure, the externalities of plastic go further than carbon emissions. Plastic requires its own disclosure system that enables the participation of actors throughout the value chain to tackle the waste mismanagement issue. Without specific disclosure metrics for plastic inputs (what is put on the market) and outputs (fate of the waste created), concerted action is not possible.

### 2.2 The need for concerted action

As the field of research on the impact of plastic pollution grows, so has the number of initiatives aiming to quantify its impacts. In a 2015 article in *Science*, Jenna Jambeck et al. marked a milestone when publishing the first estimate of the global output of plastics in the marine ecosystem.<sup>9</sup> In parallel, global policy responses to plastic pollution are increasing. The Duke Plastics Policy Inventory, which tracks policy instruments used by national governments to address plastic pollution, maps 176 regulatory instruments, such as bans, 69 information-based instruments, such as education and outreach, and 53 economic instruments, such as fees or subsidies, as of January 2022.<sup>10</sup>

Data is required to monitor and evaluate the progress of the policy interventions and to design future interventions. Bottom-up approaches that regularly collect pollution monitoring data, such as scientific research programs and citizen science initiatives like beach clean-ups, provide a snapshot of pollution in time. Though helpful to understand the impact of plastic pollution, marine pollution monitoring data does not provide full visibility over waste flows.

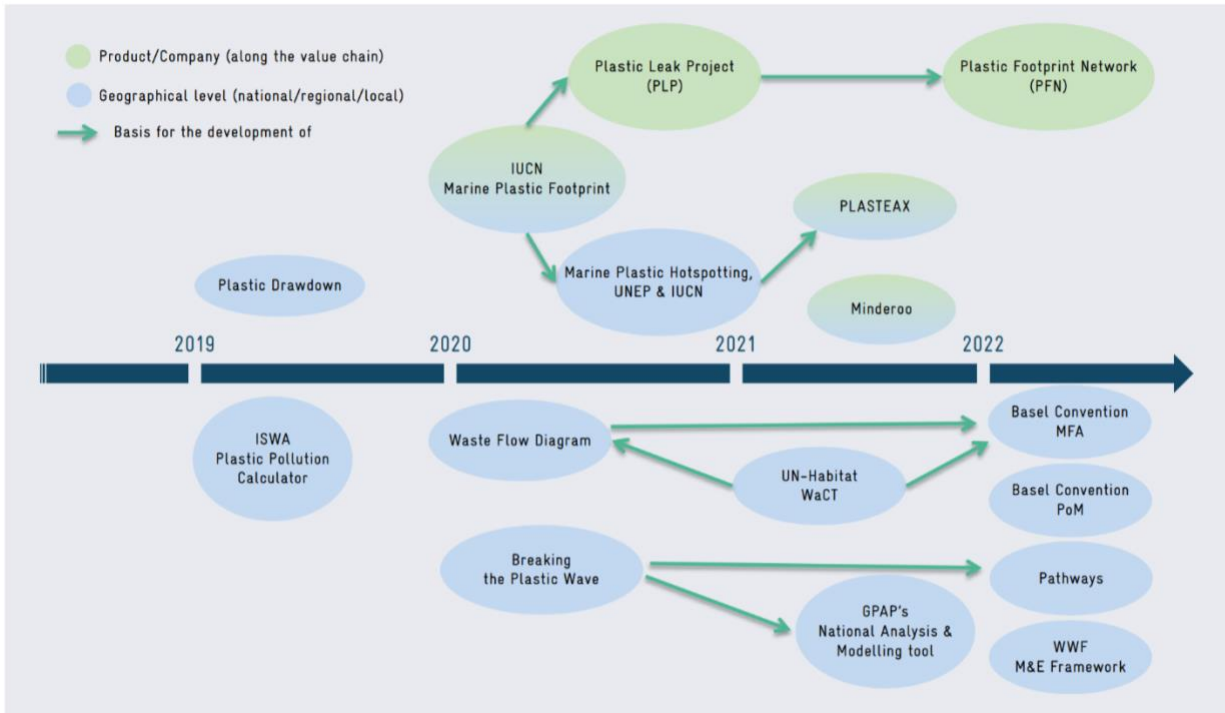
A number of methodologies, however, allow for assessment of plastic waste flows and leakage into the environment and, more specifically, plastic leakage into waterways and entering oceans and seas (see table 2 and their evolution in figure 1). From the application of the methodologies, national waste management data has emerged, providing more granular visibility on different waste treatment options by polymer, application types and geographies (table 3 lists data sources and databases available).

Table 2: Methodologies for waste management assessment

		BC MFA	BC POM	Breaking the Plastic Wave	GPAP NAM tool	ISWA Plastic Polymer Calculator	Minderoo	UNEP&IUCN National Guidance pathway	PLASTEAX	Plastic Downstream	Waste Flow Diagram	UN Habitat Waste Wise Cities Tool	WTF M&E Framework	
Geographical coverage	Global			✓			✓	✓						
	National	✓	✓	✓	✓		✓	✓	✓	✓				
	Municipal / Sub-national	✓			✓			✓			✓	✓	✓	
Waste breakdown	Municipal waste	✓		✓	✓			✓	✓		✓	✓	✓	
	Industrial waste		✓					✓	✓		✓	✓	✓	
	Packaging		✓	✓	✓		✓	✓	✓	✓			✓	
	Micro-plastic			✓				✓	✓	✓				
	Product specific		✓	✓	✓	✓	✓	✓	✓	✓				
	Polymer specific		✓				✓	✓	✓	✓				
	Waste other than plastics				✓			✓			✓	✓		
Waste fates	Managed waste (excl. recycling)	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	
	Mismanaged waste (incl. uncollected)	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	
	Recycling	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	
	Leakage to ocean & waterways	✓		✓	✓	✓		✓	✓	✓	✓			
	Leakage to other compartments	✓		✓	✓	✓			✓		✓	✓		
	Leakage impact on human health													
Assessment type	Baseline	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	Forecast/Scenarios			✓	✓	✓			✓		✓	✓		
	Direct interventions			✓	✓				✓				✓	
	Indirect interventions												✓	
Technical requirements	Data collection complexity	medium	medium	low	low	high	medium	low	low	low	medium	medium	high	medium
	Waste management knowledge	medium	low	medium	medium	high	low	low	medium	low	high	medium	low	low
	Technical (software) expertise	low	low	high	low	medium	low	medium	medium	high	low	low	low	low

Source: Manzoni et al. (2022)<sup>11</sup>.

Figure 1: Evolution and connections of methodologies for plastic waste generation



Source: Manzoni et al. (2022)<sup>11</sup>.

Table 3: Inventory of existing plastic waste management and fate databases, sorted by year of launch

	Year launched / year of last update	Developer	Underlying methodology	Geographical coverage	Modelling or Repository	Publicly accessible	Plastic specific	% plastic in waste	Polymer specificity	Formal specificity	Inter country consistency	collection rate	detailed waste management practices	waste management rate	leakage rates
<b>PLASTEAX - Plastic Environmental Analytics</b>	2021 / 2022	EA / Plasteax	UNEP & IUCN National Guidance for Plastic Pollution Hotspotting and	50 countries as of 2022-Q2, expanding	Modelling	Yes (generic plastic data) No (polymer / application specific data)	yes	N/A	yes	yes	yes	yes	yes	yes	yes
<b>GPM - Global Partnership on Marine Litter</b>	2021 / 2022	UNEP	Unknown / multiple	Global	Repository	yes	yes	N/A	no	unknown	no	yes	yes	yes	yes
<b>Breaking the Plastic Wave</b>	2020	Pew & Systemiq	own	Global	modelling	yes	yes	N/A	yes	yes	yes	yes	yes	yes	yes
<b>PRISM - Plastic Recovery Insights Steering</b>	2020 announced	The Alliance to End Plastic Waste	Unknown / multiple	Number of countries unknown	Repository + Modelling	not yet launched	yes	N/A	unknown	unknown	unknown	yes	yes	yes	yes
<b>ReSOURCE</b>	2020	WWF	own	Global	modelling	yes	yes	N/A	no	yes	yes	yes	yes	yes	no
<b>Lebreton &amp; Andrady</b>	2019	Lebreton & Andrady	own	Global	modelling	yes	yes	N/A	no	no	no	yes	yes	yes	yes
<b>Waste Atlas</b>	2016	ISWA	own	Global	modelling	yes	no	no	no	no	no	yes	no	yes	no
<b>Jambeck et al.</b>	2015	Jambeck et al.	own	Global	modelling	yes	yes	N/A	no	no	no	yes	yes	yes	yes
<b>WaW - What a Waste 2.0</b>	2016 / 2016	WorldBank	own	Global	Repository + Modelling	yes	no	yes (131 countries)	no	no	no	yes (92+ countries)	yes (174 countries)	no	no
<b>WaW - What a Waste 1.0</b>	2005 / 2005	WorldBank	own	Global	Repository + Modelling	yes	no	yes (72 countries)	no	no	no	yes	yes (81 countries)	no	no
<b>World Waste Status</b>	2000 / 2010		own	Global	modelling	yes	no	yes	no	no	no	yes	yes	no	no
<b>UN Stats</b>	1990 / 2017	UNEP	own	Global	repository	yes	no	yes	no	no	no	yes (some countries)	yes (some countries)	no	no

While the use of the same methodologies enables the creation of comparable metrics at a geographic level, allowing a comparison of countries’ waste management performance, there is limited visibility of the material inputs and outputs from private sector use. For a full picture of waste flows, material input and output data from the private sector needs to complement waste material flows.

On the private sector side, plastic pollution efforts are currently limited to target-setting and voluntary commitment platforms. For example, signatory companies to the Ellen MacArthur Foundation Global Commitments commit to setting and reporting on targets linked to plastic packaging. While these initiatives provide a step forward in raising the ambition, they focus on brand-level information sharing of material inputs to the market, with minimal focus on the fate of the materials after their use phase, meaning when they become waste. Existing measurement tools that capture both material inputs and outputs are WWF’s ReSource platform, Quantis & EA’s Plastic Leak Project (PLP) methodology and WBCSD’s Circular Transition Indicators framework. Currently, companies use them voluntarily, mostly for internal purposes. Furthermore, none are integrated into environmental reporting systems.

The need remains for simple disclosure metrics that companies throughout the plastic value chain can adopt to inform policy instrument development, build a business case for missing infrastructure and allow industry to clearly visualize waste mismanagement hotspots within value chains.

## 3. Exploring the need for corporate plastics disclosure

Matching public data with private sector output data can create opportunities for concerted action on the development of policy mechanisms, allowing for the monitoring of progress of initiatives implemented to tackle plastic pollution. Addressing plastic pollution requires understanding how much waste is generated, how much is ending up in the environment and how much is recycled back into new products. Without insights into materials flows via disclosure targets, policies and investments can only show limited proof of results.

To this end, we reviewed existing corporate plastic action initiatives and how they track both inputs and outputs of materials. We complemented the desk-based research with interviews to collect feedback on what mandatory and voluntary plastics disclosure metrics could look like from actors throughout the plastics value chain.

### 3.1 Existing initiatives

While uniform plastics disclosure metrics do not yet exist, a number of initiatives that aim to create more transparency on plastic use through measurement and reporting have emerged in recent years. We have grouped the initiatives into four categories:

1. Disclosure
2. Reporting
3. Methodologies
4. Guidelines.

Tables 4 and 5 summarize the initiatives. Table 4 provides the list of initiatives that are pertinent, and table 5 the list of initiatives pertinent to plastics disclosure. Some initiatives overlap across both lists. The definitions of the four categories are available in the glossary.



Table 4: Non-exhaustive list of initiatives linked to plastic footprint measurement

DESCRIPTION	USER CASE	SCOPE	FLEXIBILITY OF SCOPE	CATEGORY
<p><b>3R Initiative Guidelines for Corporate Plastic Stewardship</b> (2021)</p> <p>Guidelines for wider integration of plastic footprint measurements into stewardship strategy (measure, reduce, communicate). Note: the quantification part refers to the PLP and PFN methodology. Developed for 3RI by South Pole, EA, Quantis.</p>	<p>The guidelines set out: high-level plastic footprint assessment metrics; a mitigation hierarchy illustrating the priority of different footprint and leakage mitigation strategies in a robust plastic stewardship program; how to use plastic credits in the context of plastic stewardship; and three associated corporate leadership commitments and how they can be achieved. These guidelines are the first integrated framework to comprise combined best practices for the standardized accounting and reporting of plastic footprints, footprint mitigation methods and commitments to reducing plastic waste and achieving circularity.</p>	<p>Full value chain: product, packaging, operations &amp; supply chain → upstream, operational and downstream lingo (voluntary inclusion of microplastics → use of classifications by “scopes”)</p>	<p>Flexible scope</p>	<p>Measurement &amp; disclosure</p>
<p><b>Materiality Circularity Indicator (MCI)</b> (2019)</p> <p>MCI measures how restorative the material flows of a product is. MCI allows companies to determine their circular performance and identify additional, circular value from their products and materials, and mitigate risks from material price volatility and material supply. Developed by the Ellen MacArthur Foundation. Tool developed by Granta Design.</p>	<p>MCI enables users to analyze and evaluate a range of environmental, regulatory and supply chain risks for their designs and products. The indicators may be used by product designers, as well as for internal reporting, procurement decisions, and the evaluation or rating of companies.</p>	<p>Product-level and corporate-level</p>	<p>Flexible scope</p>	<p>Measurement</p>
<p><b>Circularity Transition Indicators (CTI)</b> (2020)</p> <p>An industry-agnostic framework allowing companies to determine their circular performance and prioritize action. WBCSD does not play a role in a company’s CTI assessment, which it developed as an inward-facing tool for companies to gain insights into their circularity. There is also an online tool that supports and guides companies through the CTI process. The tool structures data, calculates the outcome and helps companies to draw conclusions and formulate actions. Developed by WBCSD with the support of KPMG. Tool developed by CircularIQ.</p>	<p>Companies use the framework primarily through the free online CTI Tool, which structures data collection and calculates the outcome per indicator. The framework remains flexible and can be used on annual basis or with a timeframe relevant for the company.</p>	<p>Product-level and corporate-level Durables and single-use applications</p>	<p>Flexible scope</p>	<p>Measurement</p>
<p><b>Plastic Leak Project (PLP)</b> (2020)</p> <p>Science-based methodology to map, measure and forecast plastic leakage along the value chain. Developed by EA and Quantis.</p>	<p>Based on a leading-edge life-cycle assessment approach, the guidelines lay out the sources and pathways of plastic leakage worldwide. With a plastic leakage assessment, companies can locate hotspots, understand how much leakage is occurring and identify the factors contributing to plastic pollution across their value chains. Corporate decision-makers, sustainability managers, product and packaging designers, and R&amp;D and marketing teams can use the results to develop plastics strategies, define priorities and targeted actions, improve product eco-design efforts, identify value chain innovations, track progress and communicate credibly about the environmental performance of products and the business as a whole.</p>	<p>Plastic and microplastic leakage at both the corporate and product level, for all plastics (packaging and others) by sectors</p>	<p>Flexible scope</p>	<p>Measurement</p>
<p><b>Plastic Footprint Network (PFN)</b> (2022)</p> <p>Update of the Plastic Leak Project (PLP) with a network of users and scientific contributors enabling the evolution and update of the PLP methodology. Operated by EA.</p>	<p>With a plastic leakage assessment, companies can locate hotspots, understand how much leakage is occurring and identify the factors contributing to plastic pollution across their value chains. Building on the PLP user case, the PFN supports the scale up of the plastic footprinting usage by training practitioners and ensuring the methodology is used consistently.</p>	<p>All plastics by sectors</p>	<p>Flexible scope</p>	<p>Measurement</p>
<p><b>SPHERE</b> (2022)</p> <p>Packaging framework based on six environmental sustainability principles covering inputs and outputs, and that support decision-making. Developed for WBCSD by South Pole, EA and Quantis.</p>	<p>SPHERE framework helps decision-makers evaluate the environmental impacts of packaging in their full complexity. It supports companies in choosing the most sustainable option for their specific packaging need and delivery system by providing an overview of all environmental impacts and the tradeoffs between them. By combining existing metrics, methodologies and databases in a</p>	<p>Packaging only, material-agnostic Primary, secondary and tertiary packaging for food and non-food products</p>	<p>Flexible scope</p>	<p>Measurement</p>

		single framework, companies can use SPHERE to reduce environmental pollution, greenhouse gas emissions and nature loss associated with packaging. It helps businesses identify priorities for action and monitor performance and progress over time.			
ReSource Footprint Tracker (2019)	Methodology for tracking and reporting progress against plastic commitments and estimating plastic recycling, incineration, landfill and mismanagement rates. Developed and operated by WWF.	The tracker provides a standard methodology to track companies' plastic footprints and publicly report on the progress of their plastic waste commitments. Since 2021, there is also a web-based version of the ReSource Footprint Tracker, accessible for ReSource: Plastic or the U.S. Plastics Pact members, that collects data from users, conducts the waste management model calculations, and displays the results on an interactive dashboard.	Plastic packaging Geographic focus: USA Used for U.S. Plastics Pact reporting and collective disclosure through an annual progress report	Boundaries pre-set	Measurement & disclosure Disclosure of outputs through the annual Transparent report
GRI 306: Waste + (2020)	Reporting & disclosure under GRI on waste generation and significant waste-related impacts, management of significant waste-related impacts, waste diverted from disposal, and waste directed to disposal. Developed by GRI.	The GRI Standards enable any organization – large or small, private or public – to understand and report on their impacts on the economy, environment and people in a comparable and credible way, thereby increasing transparency on their contribution to sustainable development. The organization can use the disclosed information to assess its policies and strategies or to guide decision-making, such as setting goals and targets. Other stakeholders can also use this information, e.g., investors can assess how an organization integrates sustainable development into its strategy to identify financial risks and evaluate its long-term success. The information provided can also help other information users, such as analysts and policymakers in benchmarking and forming policy, and academics in their research.	All wastes	Flexible scope	No disclosure mechanism Organizations can either use the GRI Standards to prepare a sustainability report in accordance with the standards or use selected standards, or parts of their content, to report information for specific users or purposes
GRI 301: Materials (2016)	Reporting & disclosure under GRI on materials used by weight or volume, recycled input materials used, and reclaimed products and their packaging materials. Developed by GRI.		All materials	Flexible scope	

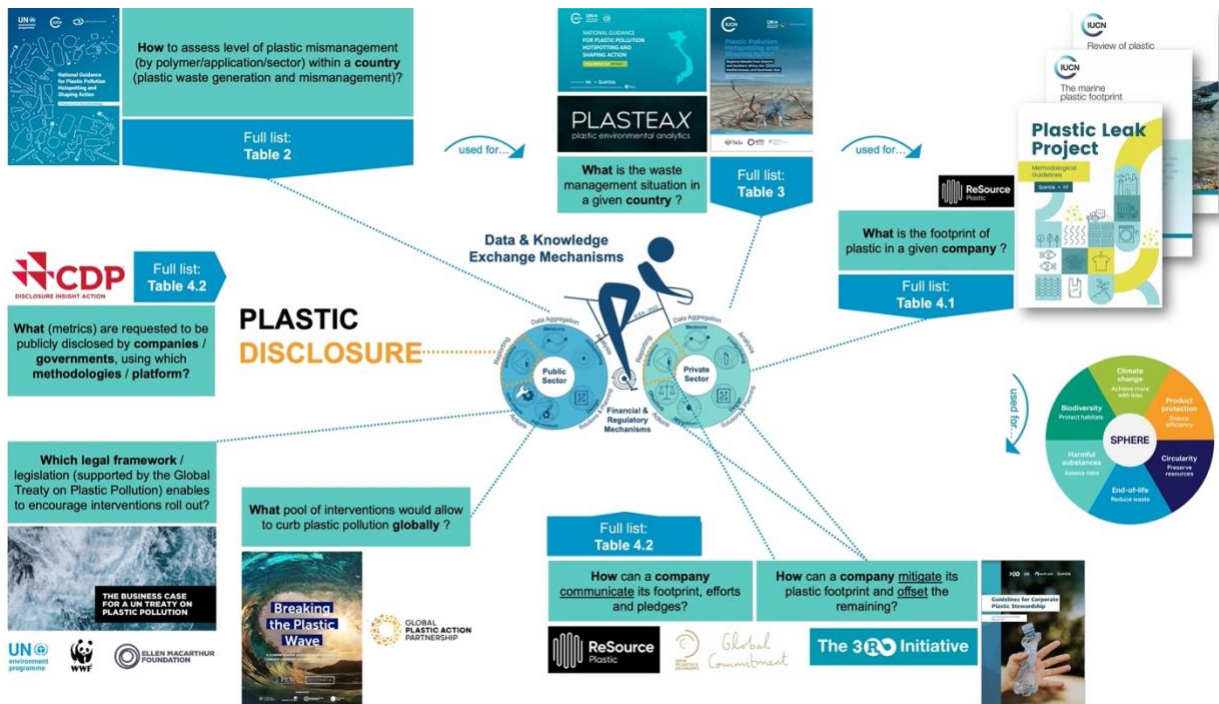
Table 5: Non-exhaustive list of initiatives linked to plastics disclosure

	Description	User case	Scope	Flexibility of scope	Category
3R Initiative Guidelines for Corporate Plastic Stewardship (2021)	Guidelines for wider integration of plastic footprint measurements into stewardship strategy (measure, reduce, communicate). Note: the quantification part refers to the PLP and PFN methodology. Developed for 3RI by South Pole, EA, Quantis.	The guidelines set out: high-level plastic footprint assessment metrics; a mitigation hierarchy illustrating the priority of different footprint and leakage mitigation strategies in a robust plastic stewardship program; how to use plastic credits in the context of plastic stewardship; and three associated corporate leadership commitments and how they can be achieved. These Guidelines are the first integrated framework to comprise combined best practices for standardized accounting and reporting of plastic footprints, footprint mitigation methods and commitments to reducing plastic waste and achieving circularity.	Full value chain: product, packaging, operations & supply chain → upstream, operational, and downstream lingo (voluntary inclusion of microplastics → use of classifications by “scopes”)	Flexible scope	Measurement & disclosure
ReSource Footprint Tracker (2019)	Methodology for tracking and reporting progress against plastic commitments and estimating plastic recycling, incineration, landfill and mismanagement rates. Developed and operated by WWF.	The tracker provides a standard methodology to track companies’ plastic footprints and publicly report on the progress of their plastic waste commitments. Since 2021, there is also a web-based version of the ReSource Footprint Tracker, accessible for ReSource: Plastic or the U.S. Plastics Pact members, that collects data from users, conducts the waste management model calculations, and displays the results on an interactive dashboard.	Plastic packaging Geographic focus: USA Used for U.S. Plastics Pact reporting and collective disclosure through an annual progress report	Boundaries pre-set	Measurement & disclosure Disclosure of outputs through the annual Transparent report
Global Commitment (2018)	Signatories set targets related to plastic packaging and report on annual progress. Targets include reduction, use of recycled content, use of reusable, recyclable, compostable packaging and use of reusable packaging. Developed and operated by the Ellen MacArthur Foundation.	Signatories to the Global Commitment are asked to report against a common set of targets using the same definitions with the aim of driving transparency and consistency in data sharing on plastics across a significant group of businesses and governments.	Packaging only: single-use plastic packaging without including durables and microplastics	Semi-flexible scope	Disclosure Annual progress reporting mechanism with public disclosure of results online, with the option to report some of the metrics to the foundation without publicly disclosing them

As described in tables 4 and 5, each initiative differs in its scope, use and category. The private sector can use some as tools to calculate either a company’s or a product’s plastic footprint, such as the Plastic Leak Project, ReSource, the Plastic Footprint Network (PFN). They can use others to communicate the results of a plastic footprint or efforts to reduce environmental impacts, such as 3RI or ReSource. As shown in table 2, other tools exist for public sector assessment of plastic mismanagement, such as National Guidance for Plastic Pollution Hotspotting and Shaping Action.

Even if they serve different target groups and purposes, they all play an important role in addressing plastic pollution. Indeed, the bicycle model below (figure 2) describes how to address plastic pollution. In the same way that a bicycle requires a strong frame, harmonized wheels, effective gears and a competent rider to function optimally, solving plastic pollution necessitates a strong collaboration and cohesion between stakeholders from the private and public sectors (wheels), financial and regulatory mechanisms (gears), and high-quality data metrics (competent rider). Only the synchronous operation of all components will ensure reductions in pollution and the securing of a path to circularity.

Figure 2: Visualization of the methodologies, frameworks and initiatives for measurement, reporting and disclosure presented in tables 1-5



Note: Represented using EA’s Plastic Bicycle model, with the two wheels of the public and private sectors.

Apart from the 3RI Corporate Stewardship Guidelines, most disclosure initiatives mainly focus on the input of materials to the market, meaning they focus on the data available within companies (see figure 3). The fate of the material once in a market and at its end-of-life (or outputs) requires a different level of data availability, namely the application at corporate level of methodologies as shown in tables 4 and 5.

Figure 3: Inputs, outputs and modelled metrics reported under various initiatives

	INPUTS						OUTPUTS						MODELLED METRICS			
	Virgin	Recycled	Bio-based	Recyclable	Reusable	Compostable	Waste generated	Collected	Recycled	Reused	Composted	Incinerated	Landfilled	Mismanaged	Leaked	Circular
Corporate plastic stewardship guidelines	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MCI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
CTI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
EMF Global Commitments	✓	✓		✓	✓	✓	✓									
GRI 306: Waste + GRI 301: Materials	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓		✓
Plastic Leak Project / Plastic Footprint Network	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SPHERE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ReSource	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Note: Grey dots represent metrics that are not mandatory but companies can include if desired.

The main conclusion drawn from this landscape assessment is that none of the existing initiatives requires equal reporting of both inputs and outputs. Most existing initiatives primarily focus on inputs. A few cover outputs but these are measurement methodologies and not disclosure initiatives. A metric adopted by environmental reporting systems should cover plastic inputs and outputs equally.

### 3.2 Perspectives from industry

To complement the desk-based research above, we interviewed 26 representatives from the plastics value chain. The aim of the interviews was to understand if there is a common understanding of corporate plastics disclosure – what is already being done, what is needed, what are the current pain points and what are the potential risks associated with plastics disclosure. Interview results were very broad, with stakeholders holding different positions on the issue.

#### Current scope of disclosure

Currently, companies that are reporting plastic use are those in closest contact with the public. Unlike their brand counterparts who report yearly on target progress, plastic producers focus on self-declared future targets, meaning mostly pledges for volumes of waste that their operations will absorb in the future as feedstock instead of fossil-based feedstock.

The dominating reporting systems are EMF Global Commitments for plastic packaging and local extended producer responsibility (EPR) schemes or other mandatory local schemes. Similar to the findings in the landscape assessment, what companies are currently reporting is heavy on the input side, meaning raw material inputs and use-type differences (single-use versus reusable). There is limited reporting on the end-of-life impacts of materials, meaning what happens after the use phase: how much is circular, mismanaged or leaked into the environment. Some companies – mostly brand owners – that

are assessing their plastic footprint at end of life (for example, applying the Plastic Leak Project or ReSource) are not disclosing numbers externally but rather use the data to improve current practices through informed plastic footprint mitigation strategies.

Overall, there is both a general recognition that they need to disclose material output data publicly and a broad understanding that circularity is not achievable without visibility over both inputs and outputs. Interviewees identified three main needs that the metrics should cover:

1. Provide visibility on the hotspots to address within their own value chain;
2. Facilitate traceability of recycled material feedstocks;
3. Enable a full picture of where the bottlenecks for circularity lie along the value chain.

## Opportunities

Beyond the scope of metrics, companies also highlighted what a global disclosure framework should enable. First, a framework should harmonize definitions, metrics, methodologies and data sources to eliminate redundant efforts. Second, disclosure should be progressive, providing a first mandatory scope of reporting metrics that further voluntary reporting can complement. Third, a framework should also allow for the participation of the whole plastics value chain, not just brand owners, and the participation of all industry sectors making and using plastics, with adapted metrics according to industry specificities. For example, interviewees of durable products noted that current disclosure and measurement tools focus on plastic use for packaging versus plastics used in products that have a long lifespan. Finally, the framework for plastics should hold true for any material, meaning be material-agnostic.

## Challenges

The challenges in adopting plastics disclosure metrics described by the companies fall into two groups: lack of harmonization and unavailable/unreliable data. For harmonization, interviewees noted that there are too many reporting requirements, demanding increased attention that detracts time and resources from action implementation. The fact that reporting requirements often have different definitions, metrics and methods aggravates the burden. Furthermore, the material specificity on the plastic focus limits the potential scope of action. Addressing these issues requires the harmonization and replicability of reporting metrics for materials other than plastic. At the company level, it is necessary to account for materials data in a centralized manner according to a harmonized, well-defined system and available to different stakeholders for ease of analysis.

Regarding the unavailable/unreliable data, many interviewees noted the limited availability of local waste management data. Our desk-based research, however, shows that data is becoming more available (see table 3). The data available is indeed recent, although awareness of its existence is still low. The space is also rapidly evolving. The few companies that do use data in their footprint assessment (on waste output) agree that “bad data calls for better data”. Interviewees also noted that, even though companies are increasingly involved in the set-up of EPR schemes and associated producer responsibility organizations (PROs), PROs do not fill the data gap since there is limited aggregated data sharing from them.

Global companies stressed the importance of comparable data, which is an existing challenge since voluntary disclosure initiatives are not comparable. Current data sources limit the traceability of recycled content that could enable a circular economy for plastics. A solution mentioned was enhancing transparency at the EPR/PRO level.



## Risks

Finally, companies mentioned three main risks associated with plastics disclosure:

1. Sharing granular data could lead to the sharing of competitive information that they do not feel comfortable sharing publicly. Data aggregation could address this risk.
2. The risk of having an uneven playing field between companies that disclose and those who don't. To manage this risk, industry could require disclosure.
3. The inequality of circularity potential between materials and applications, which companies can address by differentiating plastics based on their potential to support circularity.

### 3.3 Perspectives from civil society

To complement the industry perspective, we also interviewed international organizations and large NGOs active in the plastic space. Noticeably, all have a long track record of work on plastic reporting and disclosure, active long before the announcement of the UN Treaty on Plastic Pollution. The Ellen MacArthur Foundation (EMF) was the first organization to call for the reporting of plastic inputs into the environment, requesting progress tracking from members and aiming to raise the bar for companies that signed the Global Commitment.

All eight of the organizations we interviewed have been active in moving private sector disclosure from input (what is put on the market) to output (fate of the waste created). To this end, they have developed methodologies and data to allow for more accountability at the private-sector level. Efforts from organizations such as EMF's Global Commitment, WWF's ReSource platform, the Global Reporting Initiative (GRI) 301 and 306 reports, the World Economic Forum's Global Plastic Action Partnership (GPAP) 25x25, and all the methodologies and data sources listed in tables 2, 3, 4 and 5 above are just a selection of the extensive efforts the public sector and civil society have undertaken in the last few years.

Organizations agree that methodologies for plastic pollution measurement and data on national-level plastic pollution are now available. Most highlight that work remains to ensure the harmonization and use of existing work to move to disclosure. Notable progress on this front is the integration of mandatory plastics disclosure within the existing CDP questionnaire starting in 2023, which is a piece of work funded by Minderoo and Pew Charitable Trust and supported by the EMF. While the scope of this plastics disclosure will again initially focus on inputs (what is put on the market), the aim is for the scope of disclosure to continue to evolve at the pace of the science (methodologies and data) to plastic output (fate of the waste created).

The granularity is also likely to continue to increase, with the expectation that disclosure will also include microplastic in the future. Further granularity might include, for example, the consideration of microplastics resulting from the normal use of products (such as tires or paints) and disclosure of any additives used in plastics.

Civil society expects the UN Treaty on Plastic Pollution to enable progress on corporate disclosure by gathering all pieces of the puzzle, further empowering civil society to act on plastic pollution. The expectation is that the baselining, measurement and progress by member states will consequently create pressure for greater private sector transparency and disclosure. All agree that to achieve disclosure, the use of appropriate institutional and governance frameworks will be key.



## 4. Achieving corporate plastics disclosure

From the insights above, we can draw three main conclusions:

1. Universally adopted plastics disclosure should provide visibility on both material inputs and outputs.
2. Any company should be able to adopt plastics disclosure metrics, irrespective of the industry it operates in and where it is in the plastics value chain.
3. The metrics should allow for the similar reporting of other materials, meaning be material-agnostic.

In general, what we can conclude from our research is that public disclosure of key metrics for plastics is a vital ingredient for plastics value chain partners to jointly transition to a circular economy for the material. For companies, standing behind key plastics disclosure brings multiple benefits. Universally adopted metrics would allow for:

1. **Standardized data collection across global operations.** Universally adopted metrics make it clear what they need to report, facilitating plastic pollution mitigation actions within the scope of influence of a company's own value chain.
2. **The harmonization of the diverse landscape of reporting systems.** With multiple reporting needs already and the likely evolution of even more reporting needs, the use of key metrics for plastics across all would lessen the redundancy and resource burden for data collection.
3. **Peer-to-peer comparison.** The use of the same metric with clear and transparent definitions would allow for comparison between companies, creating a level playing field for competition to push action.
4. **The provision of a better picture of mismanaged waste streams and associated opportunities at company level.** Understanding where waste streams lie also presents a potential opportunity for new circular business development, facilitating meaningful investment in plastic waste collection and recycling infrastructure.
5. **The identification of stranded assets of a linear economy.** Understanding a portfolio's plastic footprint allows a company to identify the hotspots in its value chain and portfolio, and consequently its stranded production assets. Universally adopted metrics will thus give the company insights into its current and future value chain and business model.

Ultimately, the harmonized data and associated material flow visibility would provide a bridge to feed progress results into the UN Treaty on Plastic Pollution.

### 4.1 Metrics for corporate plastics disclosure

The aim of standardized plastics disclosure metrics that any environmental reporting system can adopt is to track the efficiency of plastic pollution mitigation initiatives, both public and private sector. Controllable metrics will enable the development of circular business models by allowing the identification of excesses of types of materials and their geographic location. To this end, we suggest a harmonization of the metrics already proposed by other initiatives; see figure 4.

Figure 4: Proposed corporate plastics disclosure metrics compared with existing plastics disclosure initiatives

Initiatives		Disclosure metrics	Tools		Modelling			Disclosure			
			MCI	CTI	SPHERE	PLP/PFN	ReSource	Global Commitment	CP90-3R1	GRI	CDP-2023
Metrics		Absolute (a) or relative (r) amounts or modelled (m)									
Total plastic produced	Polymer type level	a	a	ar		a	a		a		a
	Country level	a				a					
	1.A From recycled content	r	a	ar	r		r	r	r	a	a
	1.B From bio-based feedstock	r	a	ar	r		r				a
	1.C From fossil feedstock	r	a	ar	r		r	r	r	a	a
	1.J Biodegradable/ compostable	r	a	ar	r		r	r			a
Total plastic converted or used	Polymer type level	a	a	ar	r	a	a		a		a
	Country level	a				a					
	2.H Long life (reusable)	r	a		a	a	r	r			a
	2.I Short life (SUP)	r	a		a	a	r	r			a
	2.A From recycled content	r	a	ar	r		r	r	r	a	a
	2.B From bio-based feedstock	r	a	ar	r		r				a
Waste generated	2.C From fossil feedstock	r	a	ar	r		r	r	r	a	a
	2.D biodegradable/ compostable	r	a	ar	r	a	r	r			a
	Polymer type level	a	a	ar	a	ar	a		a	a	
	Country level	a				ar	a		ar		
	3.K Collected	ar	a	ar	r	ar	r		ar	a	
	3.L Uncollected	ar			a	ar	r		ar		
	3.M Recycled	ar	a	ar	r	ar	r		ar	a	
	3.N Properly disp.: landfilled	ar	a		r	ar	r		ar		
	3.O Properly disp.: incinerated	ar	a		r	ar	r			a	
Waste mismanaged	3.P Improperly disp.: dumpsites	ar				ar					
	3.Q Improperly disp.: unsan.landfilled	ar				ar					
Waste mismanaged	4. Polymer type level	ar			r	ar	r		a		
	4. Country level	ar			r	ar	r		a		
Modelled	5. Leakage	ar			r	ar	r		a		
	Circularity	m	m	m	m						

Legend: ar = absolute amount; r = relative amount (in %)   
■ = Producers   
■ = Converters & brand Owners   
■ = Waste Mgmt. & brand Owners   
 = Main output   
 = What the modelling can integrate   
 = N/A

We propose plastics disclosure metrics based on two levels: (1) the generic metrics that are applicable for any actor irrespective of its position within the plastic value chain; and (2) the metrics that are specific to some value chain actors. We also propose reporting additional modelled metrics for end-of-life scenarios to understand the circularity potential for materials.

### Generic primary data metrics for all actors at each step of the value chain

- Total plastic usage (produced and/or used) in sales volume (in mass) by polymer type and geography
- Raw material composition:
  - Percentage post-consumer and post-industrial recycled raw material vs virgin raw material
  - Percentage bio-based vs fossil-based
  - Percentage of biodegradable and compostable vs non-degradable (following ISO-standard definitions)
  - Percentage of mono-material vs multi-material
  - Percentage of long-life or reusable vs short-life or single-use
  - Percentage of recyclable vs non-recyclable
  - Percentage of plastic materials used and avoided (compared with previous reporting period) to manufacture the organization’s primary products and services

### Specific metrics for actors per value chain step

- Material manufacturers and commodity traders:
  - Split sales volumes per intended end-market segments, where available
- Product and packaging manufacturers and converters:

- Polymer volume split per packaging and product
- Polymer volume split per single-use, durable or reusable
- Consumer-facing brands and retailers for their own brands:
  - Polymer volumes per polymer and format per geography of sales; for packaging, this could follow the EMF's list of 18 packaging categories
  - Polymer volumes per
    - i. Multi-material vs mono-material (including easy-to-separate components of mono-material)
    - ii. Transparent vs opaque
  - For retailers: potential to split between own private-label brand and other brands
- Waste management companies and community projects:\*
  - \*Those actors might be broken down into: collection, sorting, recycling, incinerating, landfilling
  - Annual collection and processing volumes per polymer type (including mixed)
    - i. Per geography waste origin (country)
    - ii. Does the output displace virgin material use and, if so, what fraction?
    - iii. Is material recycled in a closed loop or downcycled?
  - Energy consumption per volume processed
  - Planned future capacity

In addition to the generic primary data metrics and specific metrics for actors per value chain step listed above, we propose reporting additional modelled metrics for end-of-life scenarios. The additional metrics provide visibility over the circularity potential for materials.

### **Additional metrics**

- End-of-life fate of materials:
  - Volume collected
  - Volume recycled
  - Volume properly disposed of (landfill/incineration)
  - Volume improperly disposed of (dumpsites/unsanitary landfills)
  - Volume uncollected
- Targets and progress on target:
  - Target of reduction of plastic footprint (for example, projected recycled content)
- Participation in PROs
- Offsetting activities:
  - Collection projects: volumes offset, locations and whether certified by third party
  - Recycling projects: volumes offset, locations and whether certified by third party
  - Avoidance projects: investment in plastic avoidance projects

As illustrated in figure 5 and table 6, the metrics proposed in this white paper equally cover plastic inputs and outputs by targeting all the actors of the value chain who can influence the fate of plastic waste directly and indirectly (producers, converters and brand owners), as well as covering the different stages of the plastic life cycle (production and waste treatment).

Figure 5: Visual of proposed plastics disclosure metrics

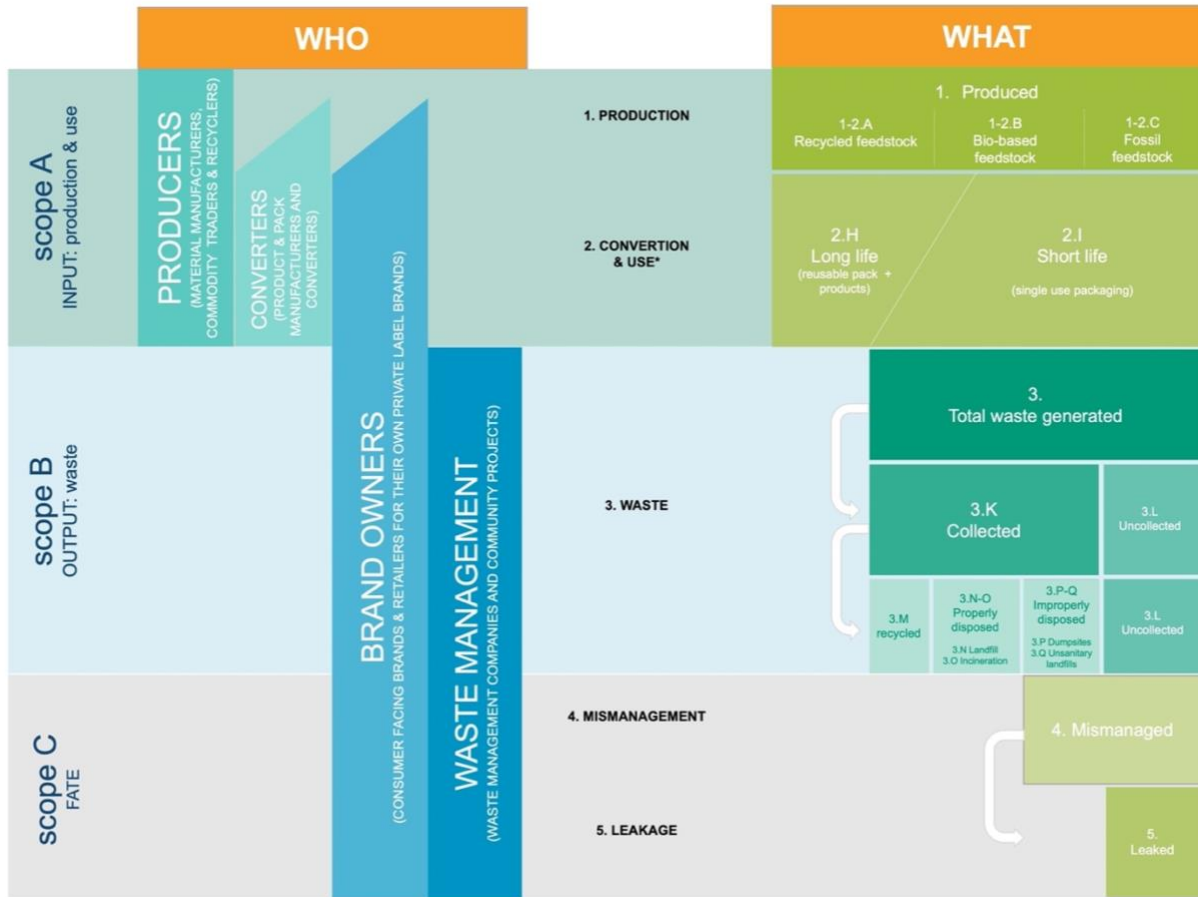


Table 6: Proposed plastics disclosure metrics

		Relative (%)	Absolute (Mt)	Disclosure by				
				Producers	Converters	Brand owners	Waste management	
<b>1. Total plastic produced</b> 	Polymer type level		x	x				
	Country level		x	x				
	Source	1.A From recycled content	x		x			
		1.B From bio-based feedstock	x		x			
		1.C From fossil feedstock	x		x			
Fate	1.J Biodegradable / compostable	x		x				
<b>2. Total plastic converted or used</b> 	Polymer type level		x		x	x		
	Country level		x		x	x		
	Source	2.A From recycled content	x		x		x	
		2.B From bio-based feedstock	x		x		x	
		2.C From fossil feedstock	x		x		x	
		2.D Mono-material	x		x		x	
	Complexity & recyclability	2.E Multi-material	x		x		x	
		2.F Recyclable	x		x		x	
		2.G Non-recyclable	x		x		x	
	Durability	2.H Long life (reusable packaging + products)	x		x		x	
		2.I Short life (single use + non-reusable packaging)	x		x		x	
Fate	2.J Biodegradable / compostable	x		x		x		
<b>3. Total waste generated</b> 	Polymer type level		x			x	x	
	Country level		x			x	x	
	Collection	3.K Collected	x	x			x	x
		3.L Uncollected	x	x			x	x
		3.M Recycled	x	x			x	x
	Properly disposed fate	3.N Properly disposed – landfilled	x	x			x	x
		3.O Properly disposed – incinerated	x	x			x	x
	Improperly disposed fate	3.P Improperly disposed – dumpsites	x	x			x	x
3.Q Improperly disposed – unsanitary landfilled		x	x			x	x	
<b>4. Total mismanaged waste</b>	Polymer type level		x			x	x	
	Country level		x			x	x	
<b>5. Total leaked</b>	Polymer type level	out of scope	out of scope			x	x	
	Country level	out of scope	out of scope			x	x	

We have highlighted that our proposition is an initial suggestion to ignite a debate that can lead to consensus on the universal adoption of generic metrics for plastics disclosure. Public disclosure of the proposed generic and specific metrics are inevitable data points for businesses and governments to jointly build a circular economy. In most cases, one or more value chain steps already account for these data points. A strong majority of WBCSD members interviewed indicated the feasibility and added value of public disclosure on these key metrics. To go a step further, if brand owners also report on the additional metrics on circularity, this would help identify where waste hotspots are occurring and where the greatest need for waste management infrastructure is.

We recognize that gaps remain that require solving; for example, the intricacies of specific industries or products. Furthermore, adoption is not necessarily straightforward for all value chain actors, such as distributors. In addition, there has been no exploration of how the metrics suggested above will feed into existing systems. We see this as a starting point for further engagement.

## 4.2 Building concerted actions

While the public sector’s ability to measure and report on the outputs, or end-of-life realities, for plastic is rapidly evolving and the private sector moves to provide greater clarity on the input of plastic products into the marketplace, the true turning point, opportunity and imperative are in the transparency and exchange of data and knowledge between the public and private sectors. Like the wheels of a bicycle, only the momentum and participation of both will enable a ride beyond the current state of unsustainable leakage of plastic into the environment.

As discussed in section 2.2, the quality of plastic waste management data has improved substantially in recent years through multiple initiatives. Therefore, data scarcity can no longer be an obstacle to action.

We can only expect a further steep improvement in the quality of the data, making the disclosure effort timely.

Looking into the future, methodologies to build a clearer picture of reality, through modelling informed by on-the-ground scientific models, will allow a clearer and more precise picture of the fate of plastic after its use phase. This will go much further than “recycled in practice” or “mismanaged”. It will be precise, up to the level of leakage from littering and from the escape of mismanaged waste based on the format, shape and size of the plastic item, topography of the location, rain pattern, etc. While much remains for the expert community to do to enable an assessment at this level of granularity, it is key for the industry as a whole to start grasping the critical role it can play in curbing plastic pollution. It can start now by adopting measurement and disclosure practices that will inform the interventions needed for plastic pollution levels to drastically fall and allowing plastic to become a sustainable material from the perspective of all indicators, not only GHG emissions.

## 5. Conclusion and the way forward

As illustrated in this white paper, many civil society initiatives and those from the public and private sectors alike have paved the way in the past few years for corporate plastics disclosure to happen now. From developing the science and data to engaging and empowering the private sector to understand its plastic footprint and ways to remediate it, the excellent work done by many is the basis on which this white paper builds and proposes collective action and coordination.

As such, we propose metrics without inventing or reinventing any, rallying around existing work to develop the framework, governance and mechanisms that will activate transparency and action. Those metrics should then feed the processes of the Corporate Sustainability Reporting Directive (CSRD), CDP and the UN Treaty on Plastic Pollution.

With the UN Treaty on Plastic Pollution in development as a guiding legal framework and the CDP disclosure mechanism as an evolving instrument to increase the level of transparency that can inform action, the tone is set for the private sector to strengthen its grip on plastic footprint measurement and disclosure. It is imaginable that with an enforced treaty and the expectation of states to report against Nationally Determined Contributions, the burden will inexorably cascade to the private sector.

The work developed to date on plastic footprint measurement and disclosure can open the door for a global corporate accountability framework that can, in turn, serve as an active contribution from the private sector to the treaty process. WBCSD calls for **a debate and proactive coordination between multiple stakeholders to create this global corporate accountability framework**, in the context of the negotiations of the international legally binding instrument on plastic pollution. This debate needs to involve multiple stakeholders:

- *Organizations working in the field of sustainability reporting* to drive toward convergence on the plastic-related metrics that best reflect corporate progress toward the goal of ending plastic pollution.
- *Business* to test the metrics, analyze data gaps and ensure companies can effectively use the metrics.
- *Policy-makers and country delegations involved in the international legally binding instrument on plastic pollution* to discuss which reporting metrics make sense and how to integrate reporting provisions in the legally binding international instrument on plastic pollution that align both the public and private sectors.



## Endnotes

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## About the World Business Council for Sustainable Development (WBCSD)

WBCSD is the premier global, CEO-led community of over 200 of the world's leading sustainable businesses working collectively to accelerate the system transformations needed for a net zero, nature positive, and more equitable future.

We do this by engaging executives and sustainability leaders from business and elsewhere to share practical insights on the obstacles and opportunities we currently face in tackling the integrated climate, nature and inequality sustainability challenge; by co-developing “how-to” CEO-guides from these insights; by providing science-based target guidance including standards and protocols; and by developing tools and platforms to help leading businesses in sustainability drive integrated actions to tackle climate, nature and inequality challenges across sectors and geographical regions.

Our member companies come from all business sectors and all major economies, representing a combined revenue of more than USD \$8.5 trillion and 19 million employees. Our global network of almost 70 national business councils gives our members unparalleled reach across the globe. Since 1995, WBCSD has been uniquely positioned to work with member companies along and across value chains to deliver impactful business solutions to the most challenging sustainability issues.

Together, we are the leading voice of business for sustainability, united by our vision of creating a world in which 9+ billion people are living well, within planetary boundaries, by mid-century.

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