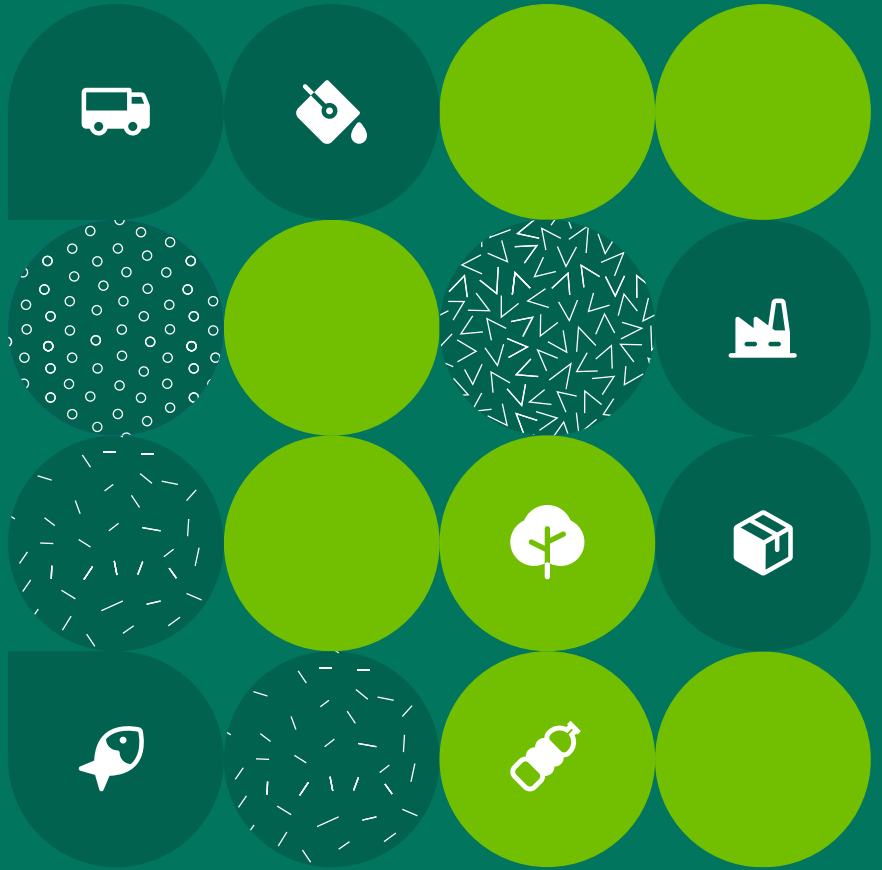
Plastic Footprint Network

Plastic Footprint Guidelines

Module on scope and boundaries

Version 1. November 2023



Convened by EA – Earth Action · www.plasticfootprint.earth

Introduction to the Plastic Footprint Network

Leading organizations have united within the Plastic Footprint Network to chart a new, more effective **path toward plastic pollution** mitigation.

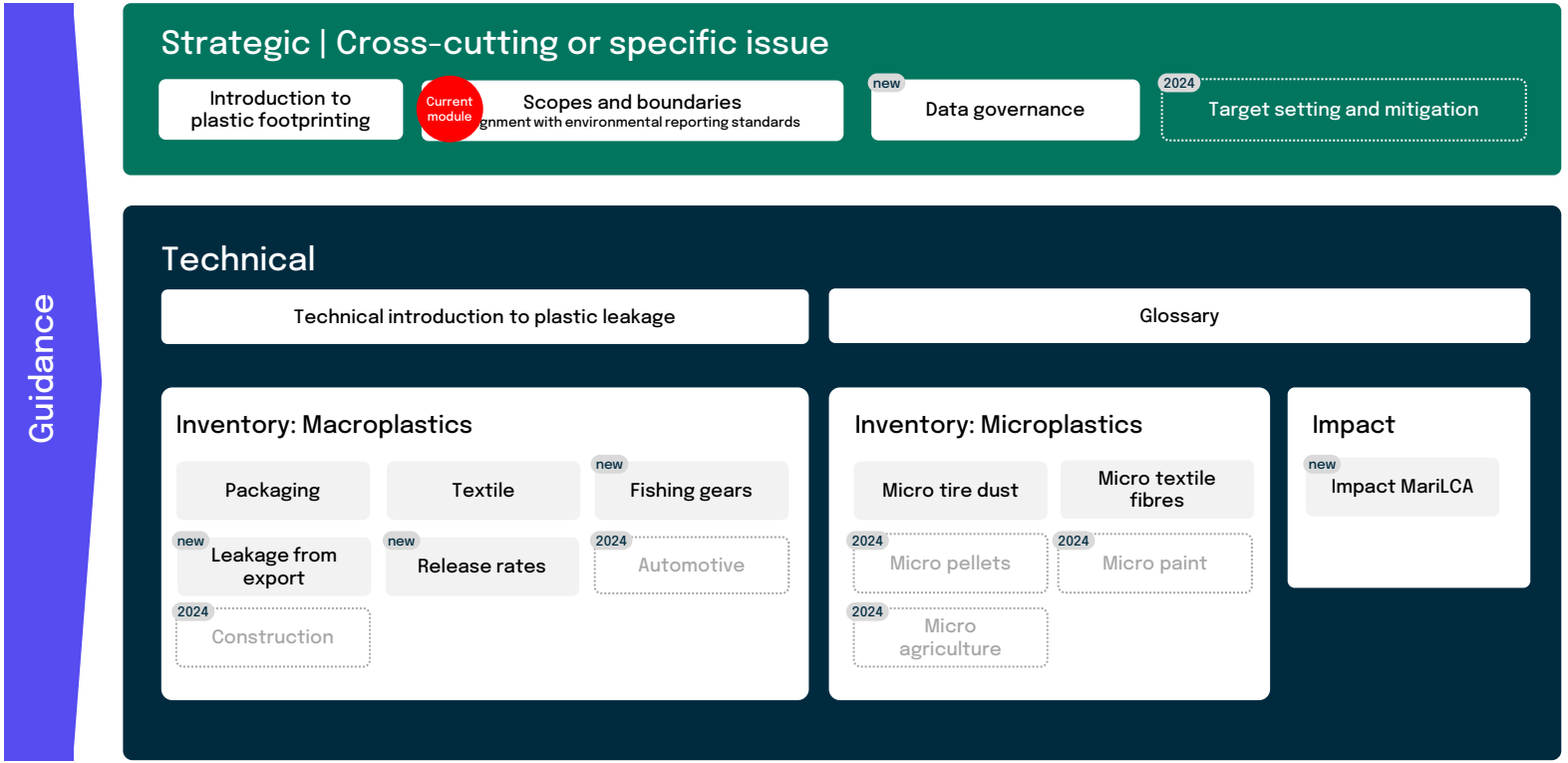
The network's first priority was **unifying the framework** for measuring plastic leakage into a **single**, **science-based methodology** for organizations to accurately assess the environmental impact of their plastic use. Over **100 professionals** from **35 organizations** worked to establish the resulting **methodology**, which consists of **11 modules**, all optimized for usability and delivery of **actionable results**.

Objectives

Unifying the methodologies and perspectives of leading scientists, experts, and global practitioners, PFN enables organizations to understand the full impact, or footprint, from the use of plastic in their companies, products, and services.

1. Update and unify plastic footprinting methodologies
2. Ensure the methodology is used consistently by practitioners
3. Disseminate and scale the use of plastic footprinting
4. Explore link with plastic credit schemes, and how to prevent greenwashing claims

Where does this module fit in the PFN landscape?



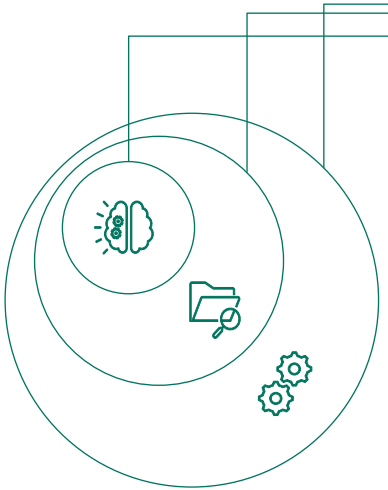
What are the objectives of this module?

The objective of this module is to establish a standardized approach for evaluating corporate plastic footprints, along with offering guidance tailored to specific industries and sectors. In pursuit of this goal, we will address the following three key questions:

1. What are the primary parameters for conducting a comprehensive corporate plastic footprint analysis?
2. How can industry-specific applications be defined and integrated into the framework for effective implementation?
3. What key definitions and guidelines are essential to establish a robust 'scope' system, enabling organizations to adopt a proficient approach towards managing their plastic footprints?

At the end of this module, the users should know how to define corporate plastic footprint scopes.

Structure of the module



1

Background & useful definitions

Why do we need scopes: sphere of influence

Target audience: busy reader, scientific journalist

2

Scopes & Systems

- How to define a scope that can be applied across industries?
- How to define the system and describe the steps needed to assess the plastic footprint under those scopes?

Target audience: scientists, experts

3

Case study

Case study example to help organization understand their scope and the steps needed to assess under those scopes.

Target audience: scientists aiming at performing a plastic footprint.

Reading keys: Main take away | Supporting information | Key warning

Part. 1

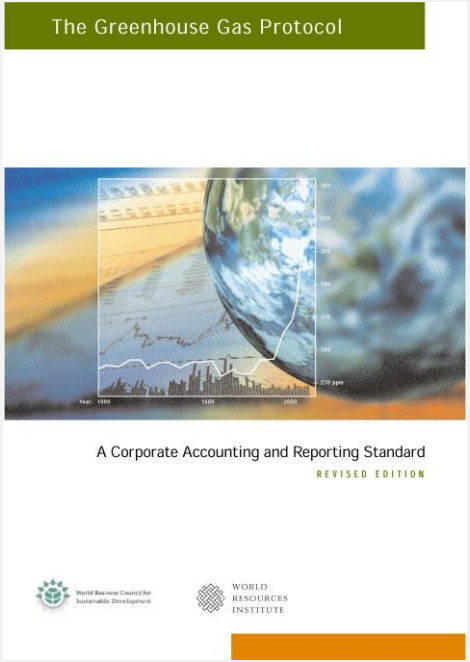
Background & useful definitions

Why do we need scopes: sphere of influence.

Why do we need scopes?

Popularized by the **Greenhouse Gas Protocol**, scopes define how corporations should account for their relative environmental footprints.
Widely accepted scoping approaches for environmental pollutants, such as carbon, water, and plastic, are fundamental in informing corporate environmental strategies. The system must provide insight into the nature of the environmental footprint to inform reduction opportunities and allow for comparisons across organizations and industries.

Scopes define and categorize emissions sources based on the degree of control an organization has over them. Understanding the sphere of control helps organizations assess their influence and responsibility for reducing emissions more effectively.
Developing scopes for plastic footprinting is intended to standardize plastic footprint analysis and disclosure across industries.

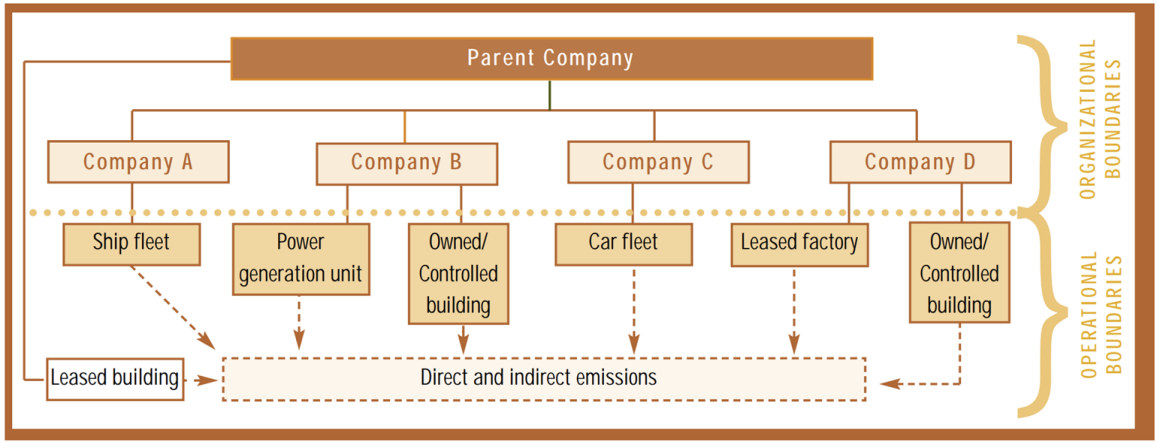


Source: A corporate accounting and reporting standard, the greenhouse gas protocol, 2015

Organizational and Operational Boundaries

The organizational boundaries are set to determine how the environmental footprint must be accounted for or 'allocated' among the organization's subsidiaries. Typically, this is achieved through an equity share or financial control model.

Once the organizational boundaries are established, the operational boundaries need to be set. Operational boundaries dictate which scopes (1, 2, and 3) are to be accounted for. This decision is made at the corporate level.



Source: Greenhouse Gas Protocol. (2023). The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard. https://ghgprotocol.org/corporate-standard

Glossary of terms and definitions

The sphere of control defines and categorizes emissions based on the degree of control an organization has over them:

Direct Control

Refers to the ability of an organization to directly manage or govern the emissions sources within its own operational boundaries or activities. This means that the organization has immediate authority over these emissions sources and can implement measures and decisions to reduce or mitigate them.

Indirect Control

Refers to the organization's capacity to influence or affect emissions that are not directly owned or operated by the organization but are influenced to some extent by the organization's actions and decisions. While the organization does not have direct operational authority over these emissions sources, it can make choices and take actions that indirectly impact the emissions from these sources, such as the selection of material, the product design, or the business model it employs.

Influence

Refers to an organization's ability to affect or shape emissions sources that are beyond its direct control or ownership. While the organization does not have immediate operational authority over these emissions sources, it can exert an indirect impact on them through its activities, decisions, and collaborations with external parties. The organization's choices, policies, and initiatives can influence emissions sources in its supply chain, product lifecycle, or other areas. This influence may involve encouraging suppliers to adopt more sustainable practices.

Glossary of terms and definitions

Primary, Secondary and Tertiary Packaging definitions*

*following the EU standard

Primary packaging

Primary packaging often referred to as sales packaging is conceived so as to constitute a sales unit to the final user or consumer at the point of purchase. – EEA.

Example of primary packaging for plastic bottles:
PET Plastic Bottle and PP lid.

Secondary packaging

Secondary packaging or group packaging is packaging conceived so as to constitute at the point of purchase a grouping of a certain number of sales units whether the latter is sold as such to the final user or consumer or whether it serves only as a means to replenish the shelves at the point of sale; it can be removed from the product without affecting its characteristics. – EEA.

Example of secondary packaging for plastic bottles:
LDPE film to group the water bottles.

Tertiary packaging

Tertiary packaging transport packaging is packaging conceived so as to facilitate handling and transport of a number of sales units or grouped packaging in order to prevent physical handling and transport damage. Transport packaging does not include road, rail, ship and air containers. – EEA

Example of tertiary packaging for plastic bottles:
LDPE protective wrap for pallet.

Sources: European Environment Agency (2023). GEMET - Environmental thesaurus (https://www.eea.europa.eu/help/glossary/gemet-environmental-thesaurus) and European Communities (1994). EEA Glossary. (http://europa.eu.int/eur-lex/en/search/search_lif.html)

Part. 2

Scopes & Systems

Defining scopes that can be applied across industries

Defining the system and describe the steps needed to assess the plastic footprint under those scopes.

Illustration of plastic footprint scopes

Inside company operations

Direct control

Scope 1

Plastic waste from pre-consumer activities, from the manufacturing of the products or service within the company owned operations.

Indirect control

Scope 2

Plastic waste from post-consumer activities, from product or service use and end of life, including packaging waste.

Upstream — Downstream

Outside company operations

Influence

Scope 3

Indirect plastic waste in upstream activities, including organizational supply chain, transportation and distribution.

Influence

Scope 3

Indirect plastic waste in downstream activities, including transportation and distribution.

Source: PFN

Corporate Plastic Footprints Scope 1

Direct control

Scope 1

Direct plastic use from pre-consumer activities, from the manufacturing of the products or service within the company owned operations.

Category 1.A

Operational macro-plastics used and disposed of during operational activities (upstream-operational).

Category 1.B

Workplace-related plastics used and disposed of by employees (operational).

Category 1.C

Primary microplastics from pre-consumer activities.

Corporate Plastic Footprints Scope 2

It was determined that since the focus around direct plastic waste was priorities, that all packaging should be grouped in sub-scope 2.B

Indirect control

Scope 2

Direct plastic use from post-consumer activities, from product or service use and end of life, including packaging waste.

Category 2.A

Plastics in the product(s) distributed to end consumers (upstream-downstream).

Category 2.B

Plastics in the product's primary, secondary and tertiary packaging distributed to end consumers (operational-downstream).

Category 2.C

Primary microplastics lost and released from post-consumer activities.

Corporate Plastic Footprints Scope 3

It was determined that scope 3 should be focused around indirect (out of sphere of control) and thus include all pre and post consumer activities.

Influence

Scope 3
Indirect plastic use in upstream activities, including organizational supply chain, transportation and distribution.

Influence

Scope 3
Indirect plastic use in downstream activities, including transportation and distribution.

Category 3.A
Indirect upstream plastics that are disposed of before they reach owned production site (upstream).

Category 3.B
Indirect plastic usage as a result of increased economic activity.

Category 3.C
Indirect microplastics lost and released.

Category 3.D
Indirect downstream plastics used in other shipping and distribution processes (downstream).

Understanding the Corporate Value Chain

An organization's definition of pre-consumer and post-consumer activities depends on its own value chain. The level of control over these activities is determined by the services and products the organization provides. An organization may have complete or partial control/ownership over all pre-consumer and post-consumer activities within the value chain.

Suppliers

- Raw Material Extraction and Transformation
- Polymerization
- Mixed Material Production
- Material Enhancement

Production

- Conversion of plastic pellets into packaging
- Packing products in plastic
- Manufacturing plastic-based products
- Producing items that contain plastic components

Product Use

- Retail operation including sale of products containing plastic
- Hospitality services
- Consumer use of products containing plastic
- Rental and leasing of products containing plastic
- Repair services for product containing plastic
- Take back services

End of Life

- Collection of plastic waste
- Sorting
- Mechanical recycling
- Chemical recycling
- Waste to energy facilities
- Sanitary landfills
- Unsanitary landfills
- Dumpsites
- Littering
- Leakage

Transport

- Logistic and distribution
- Shipping and freight
- Warehousing
- Reverse logistic
- Consumer delivery

Industry and Sectors Applications

Textiles

- Clothing Brands
- Sporting Goods

Non-durable goods

- Food & Drinks Brands
- Cosmetics Goods
- Pharmaceutical Goods

Durable goods industries

- Automotive Industry
- Toys
- Electronics

Retailers

- Fashion Retailers
- E-commerce
- Distributors

Events

- Sporting Events
- Festivals

Plastic producers

- Petrochemical companies
- Monomer Converters
- Polymerization

Packing industry

- Plastic converters
- Packing and Labelling Centers

Service industries

- Fintech
- Shipping
- Office spaces

Construction

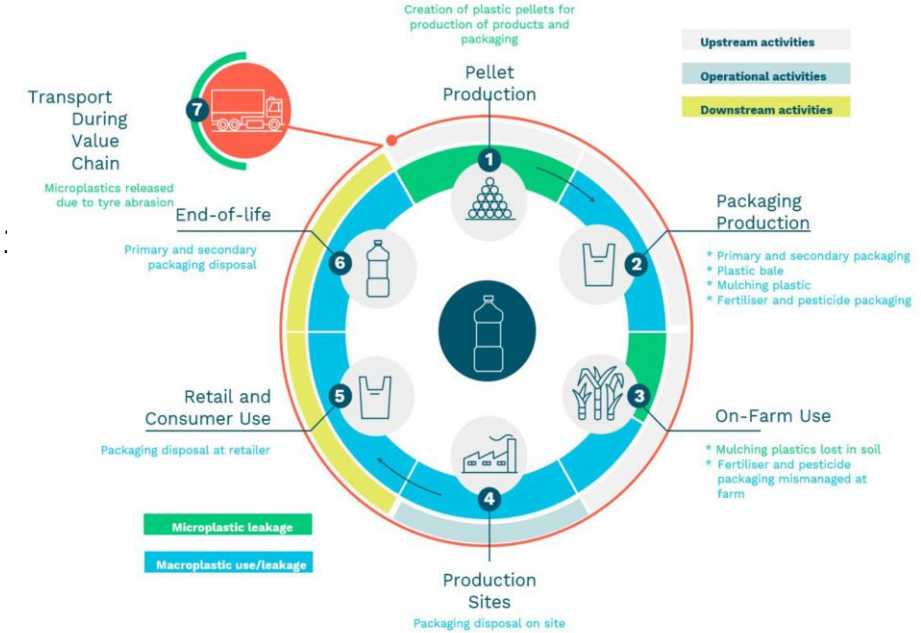
Part. 3

Case study

Case study example to help organization understand their scope and the steps needed to assess under those scopes.

Example: A beverage company Ice Tea Co.

This small company produces an Ice Tea drink and is a subsidiary a larger drinks company. Ice Tea Co. owns a production facility but relies on packaging suppliers for the drinks containers. They sells to distributors across the EU.



Source: 3R Initiative (2021). Guidelines for Corporate Plastic Stewardship www.3rinitiative.org/guidelines-for-corporates

Example: Scope 1 of beverage company Ice Tea Co.

Sub-scope 1.A
Operational macro-plastics used and disposed of during operational activities (upstream-operational).

Plastic packaging from procurement suppliers.

Plastics disposed due to manufacturing and fulfillment errors

Employee uniforms

Sub-scope 1.B
Workplace-related plastics used and disposed of by employees (operational).

Stationery products

Cleaning products

Food and beverage packaging waste

Plastic personal protective equipment

Sub-scope 1.C
Primary microplastics from pre-consumer activities.

No microplastic leakage at production site

Example: Scope 2 of beverage company Ice Tea Co.

Sub-scope 2.A
Plastics in the product(s) distributed to end consumers (upstream-downstream).

No plastic in the product

Polyester merchandise provide at brand events

Sub-scope 2.B
Plastics in the product's primary, secondary and tertiary packaging distributed to end consumers (operational-downstream).

Primary Packaging: PET Plastic Bottle and PP lid.

Secondary Packaging: LDPE film for the bundles

Tertiary Packaging: LDPE for pallet wrap

Sub-scope 2.C
Primary microplastics lost and released from post-consumer activities.

Microplastic leakage resulting from the washing of Polyester merchandise provide at brand events.

Example: Scope 3 of beverage company Ice Tea Co.

Sub-scope 3.A
Indirect upstream plastics that are disposed of before they reach owned production site (upstream).

Sub-scope 3.B
Indirect plastic usage as a result of increased economic activity.

Sub-scope 3.C
Indirect microplastics lost and released.

Sub-scope 3.D
Indirect downstream plastics used in other shipping and distribution processes (downstream).

Plastic fertilizer containers disposed on supplier farms

Plastic mulch on suppliers' farms

Packaging supplier product scraps

No increase in baseline economic activity from Ice Tea drinks sales

Microbeads used during plastic manufacturing process (upstream)

Microplastic through mulching process (upstream)

Tire abrasion from transportation (Upstream - Downstream)

Plastic grocery bags at retail

Plastic films used for product bundling at real

Re-packaging of goods at downstream distributors

References

1. A corporate accounting and reporting standard, the greenhouse gas protocol, 2015
2. Greenhouse Gas Protocol. (2023). The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard. https://ghgprotocol.org/corporate-standard
3. European Environment Agency (2023). GEMET - Environmental thesaurus (https://www.eea.europa.eu/help/glossary/gemet-environmental-thesaurus)
4. European Communities (1994). EEA Glossary. (http://europa.eu.int/eur-lex/en/search/search_lif.html)
5. 3R Initiative (2021). Guidelines for Corporate Plastic Stewardship www.3rinitiative.org/guidelines-for-corporates

Our commitment to continuous improvement

The Plastic Footprint Network's successful collaboration is built on pillars of:

- Open
- Non-competitive and productive dialog
- Leveraging science and supporting ongoing research
- Broadly empowering global stakeholders (product manufactuers, brand owners, Treaty negotiators, regulators, consultants, NGOs, etc) to effectively do their part to address the plastic pollution crisis.

Given corresponding commitments to transparency and continuous improvement, we welcome and encourage your feedback and input on this document so that the methodology can continue to be enhanced and refined.

Thank you for supporting the work of the Plastic Footprint Network.

Contact us at: contact@plasticfootprint.earth

Our mission is to continuously advance Plastic Footprint Methodology, ensuring it remains at the forefront of sustainable practices and promoting its widespread adoption. By empowering companies to rigorously assess, enhance, and transparently report their plastic footprints, we aim to make significant strides in mitigating the plastic pollution crisis.

Plastic Footprint Network

Specific mentions for this presentation:
***Oliver Kade**, Seven Clean Seas*
***Alejandra Dueñas**, Seven Clean Seas*
***Dominic Santschi**, Ampliphi*

The Plastic Footprint Network is convened by EA - Earth Action

This working group was led by:

ampliphi & Seven Clean Seas

With the participation from:

Anthesis, ClimeCo, earth action, EVALUESERVE, Plastic Credit Exchange, rePurpose, south pole

PFN secretariat is led by

earth action & south pole

2023 members

ampliphi, Anthesis, CleanHub, ClimeCo, CIRAIG, ConsultantSeas, DECATHLON, earth action, evea, EVALUESERVE, GDFA, MarILCA, MARS, Minderoo Foundation, P&G, Polytechnique Montréal, Plastic Credit Exchange, Quantis, Removall, rePurpose, 2° Life, Seven Clean Seas, south pole, sympatex, SYSTEMIQ, Thai Union, THE OCEAN RACE, VERRA, WBCSD, WWF, ZERO PLASTIC OCEANS

Scientific Committee

Anthesis, earth action, SYSTEMIQ, Quantis, south pole, MarILCA, CIRAIG, Polytechnique Montréal, Minderoo Foundation, WWF

© Illustrations by German Kopytkov for Plastic Footprint Network

Plastic Footprint Network

www.plasticfootprint.earth

contact@plasticfootprint.earth

Convened by EA - Earth Action