End Plastic Pollution: Towards an international legally binding instrument

Plastics science and the intergovernmental negotiating committee process

PAGE Academy 2022
Accelerating the Transition to Inclusive Green Economy:
Synergies Between Pollution Control and Carbon Reduction

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End Plastic Pollution resolution

Key elements

End plastic pollution resolution in a nutshell

Develop an international legally binding instrument on **plastic pollution** addressing the **full life cycle of plastic**

UNEP to convene an **ad hoc open-ended working group (OEWG)** in May / June 2022 to prepare for the work of the INC

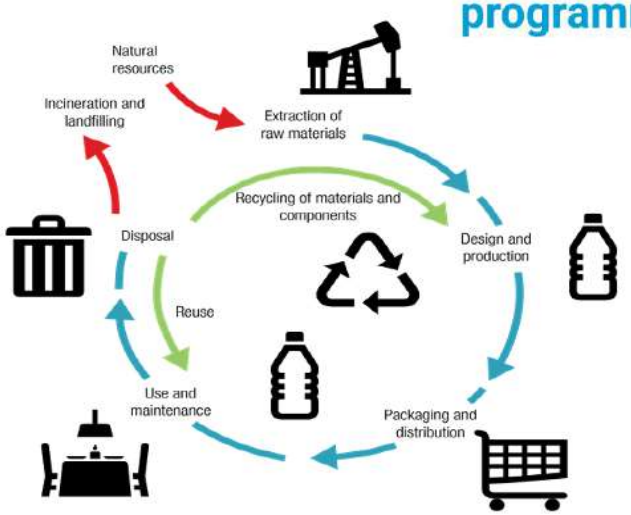
Convene an **intergovernmental negotiating committee (INC):**

- Starting work during the second half of 2022
- Convene a multi-stakeholder forum at INC-1 to exchange information
- Completing its work by the end of 2024
- (*an INC is the process to generate an international legal instrument*)

Convene a **diplomatic conference of plenipotentiaries** upon completion of negotiations to adopt the instrument and open it for signature

WHAT will the Instrument consider?

(para 3 of the resolution)



Promote sustainable production and consumption of plastics, including:

- product design
- environmentally sound waste management
- through resource efficiency and circular economy approaches.

Capacity building, technical assistance, technologies and adequate financial assistance.

Data, monitoring and reporting, means of assessing implementation and effectiveness.

Address Compliance.

Promote National Action Plans.

Research and innovation; scientific and socio-economic information and assessment.

Multi-stakeholder engagement, cooperation, coordination, and action at all levels.

HOW will the instrument deliver?

(para 4 of the resolution)

Consider obligations, measures, and voluntary approaches in supporting the achievements of the objectives of the instrument.

Finance mechanism to support the implementation, consideration of a dedicated multilateral fund.

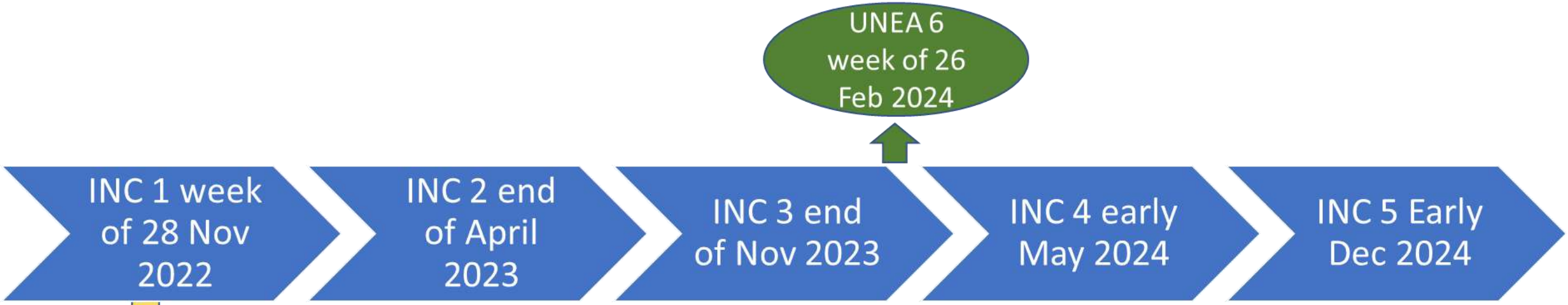
National circumstances.

Mechanism for policy relevant scientific and socio-economic information and assessment.

Lessons learned and best practices.

INC: The road ahead

Nominal dates for INC process (agreed at OEWG)



- INC 1 planned for week of 28 Nov. 2022, Uruguay, hybrid

INC-1 Meeting flow Scenario
Punta del Este, Uruguay

- First meeting of the Intergovernmental Negotiating Committee (INC-1) on 28th November – 2nd December 2022
- Multi-stakeholder Forum alongside INC-1 on 26th November 2022

Plastics Science

UNEP/PP/INC.1/7

Llorenç Milà i Canals, Life Cycle Initiative, Economy Division
Wednesday November 10th, 2022

Overview

Plastic pollution science

A. Summary
B. Trends in plastic production, waste generation and chemical use in manufacturing
C. Plastic pollution sources and pathways in the environment
D. Impacts of plastic pollution
E. Monitoring and reporting
F. Solutions and technologies and their costs and benefits

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B. **Trends in plastic production**, waste generation and chemical use in manufacturing

Production: exponential growth since 1950s, mainly from fossil feedstocks.

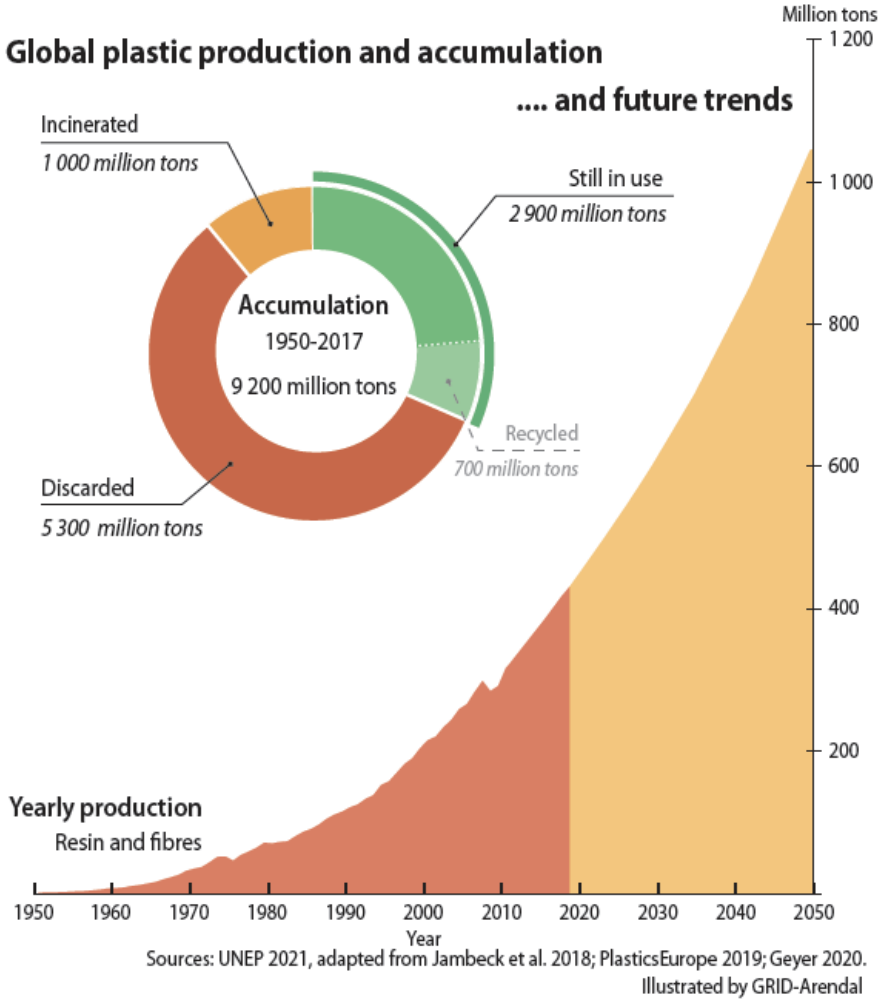
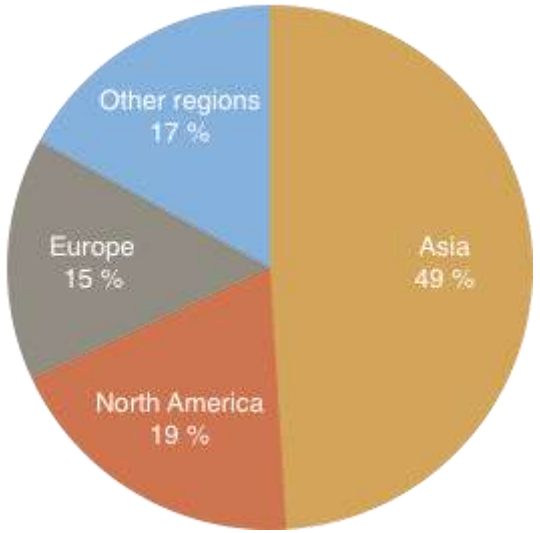


Figure 2. Plastic production by region in 2020



- By 2060 OECD non-member countries are expected to account for 64% of global plastic use (Emerging Economies in sub-Saharan Africa and Asia).
- OECD member countries are set to remain the largest consumers of plastics on an average per capita basis **in 2060**: **238 kg**, compared with **77 kg** in OECD non-member countries.

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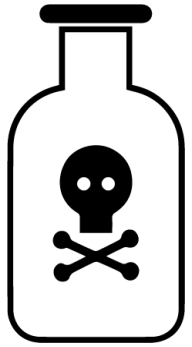
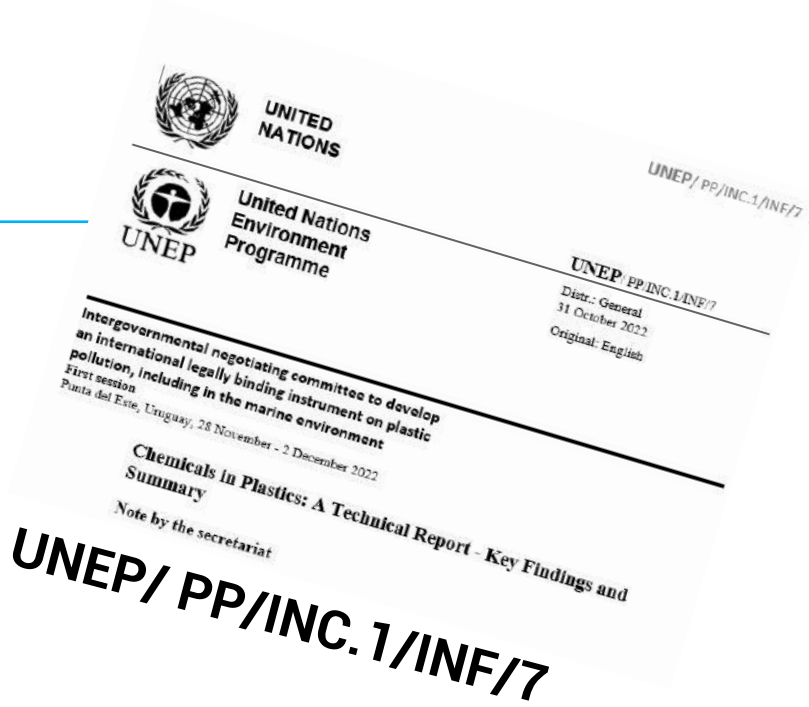
B. Trends in plastic production, waste generation and **chemical use in manufacturing**

Chemical use in manufacturing



Around a quarter of the over 10,000 unique chemicals used in plastics are of potential concern to human health and safety.



- Chemicals are either added deliberately during the production process or are unintentionally added by-products, breakdown products or contaminants. Around 20 additives per product were found on average.

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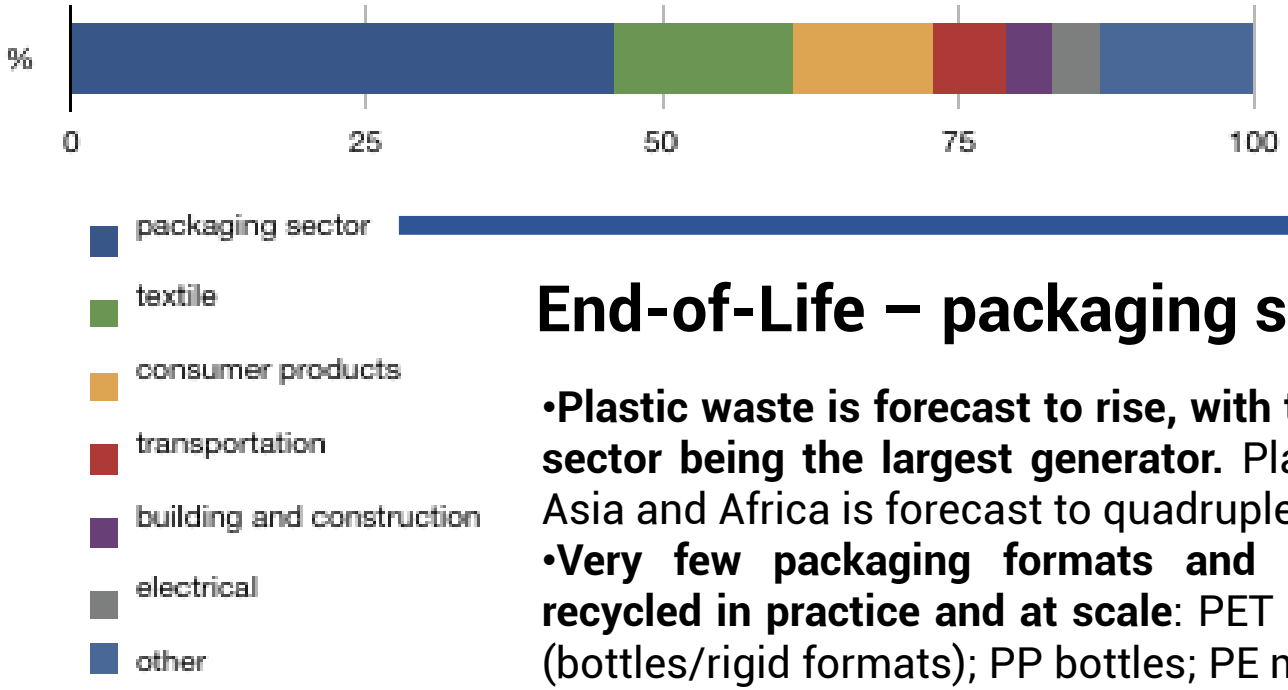
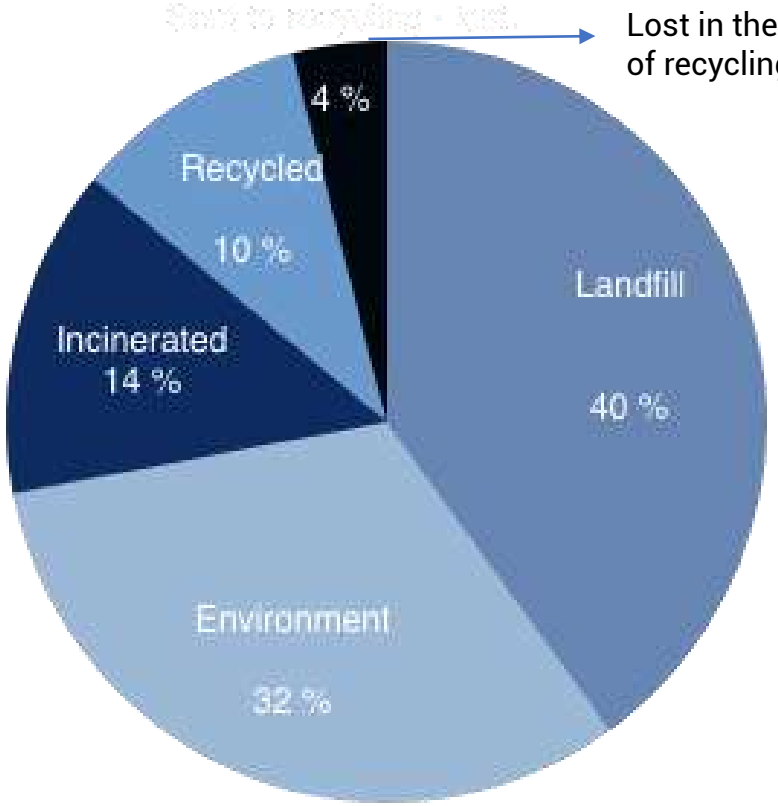
B. Trends in plastic production, **waste generation** and chemical use in manufacturing

Plastic waste and recycling

Figure 4. Plastic consumption, share by sector





End-of-Life – packaging sector

- **Plastic waste is forecast to rise, with the packaging sector being the largest generator.** Plastic waste in Asia and Africa is forecast to quadruple by 2060.
- **Very few packaging formats and polymers are recycled in practice and at scale**: PET bottles; HDPE (bottles/rigid formats); PP bottles; PE mono-material flexibles (in business-to-business)

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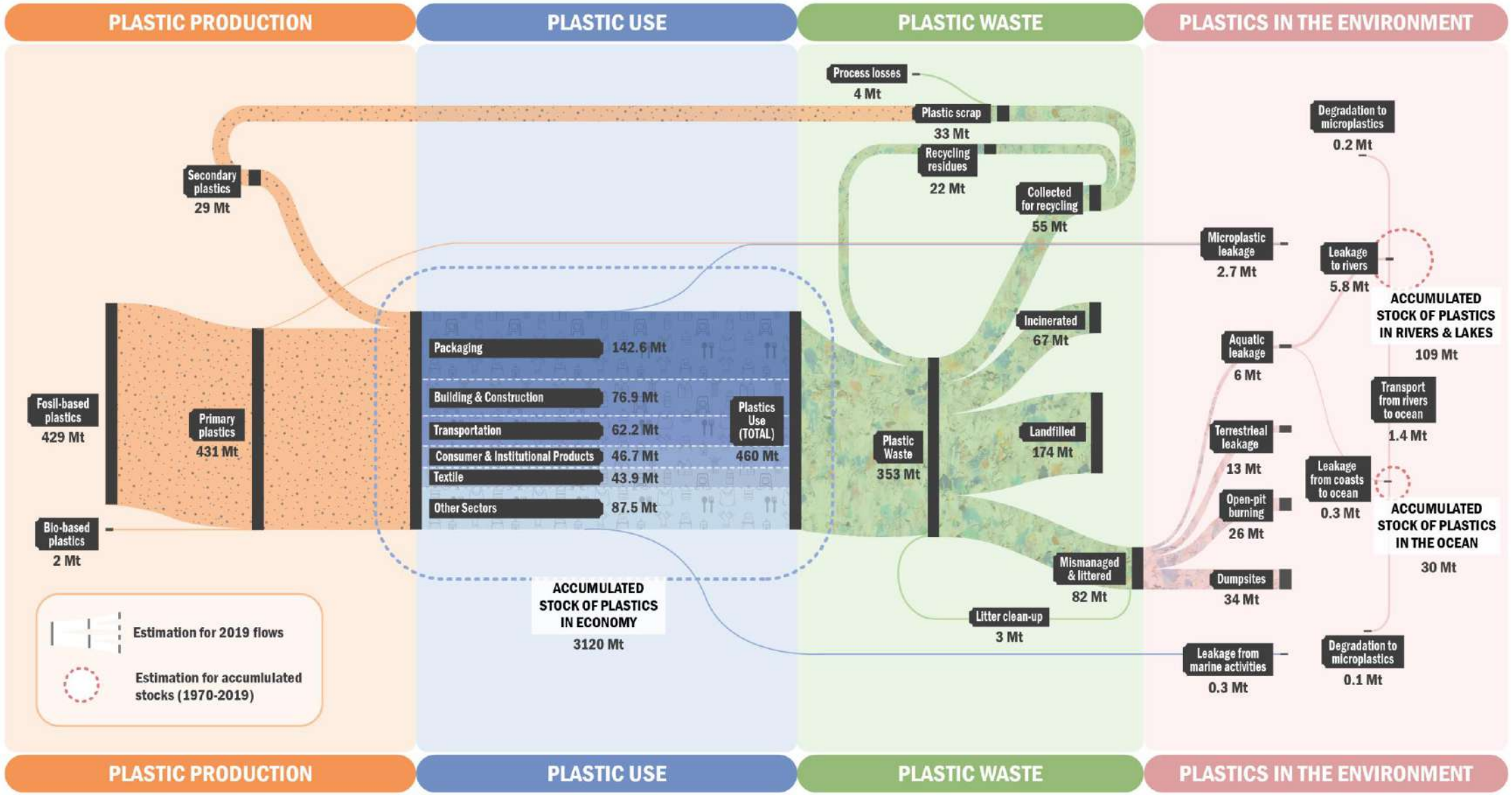
C. Plastic pollution sources and pathways in the environment

Flows of plastic in the global plastic life cycle, and losses to and accumulated stocks in the environment.



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D. Impacts of plastic pollution

1. **Impacts** of plastic pollution on **human health**

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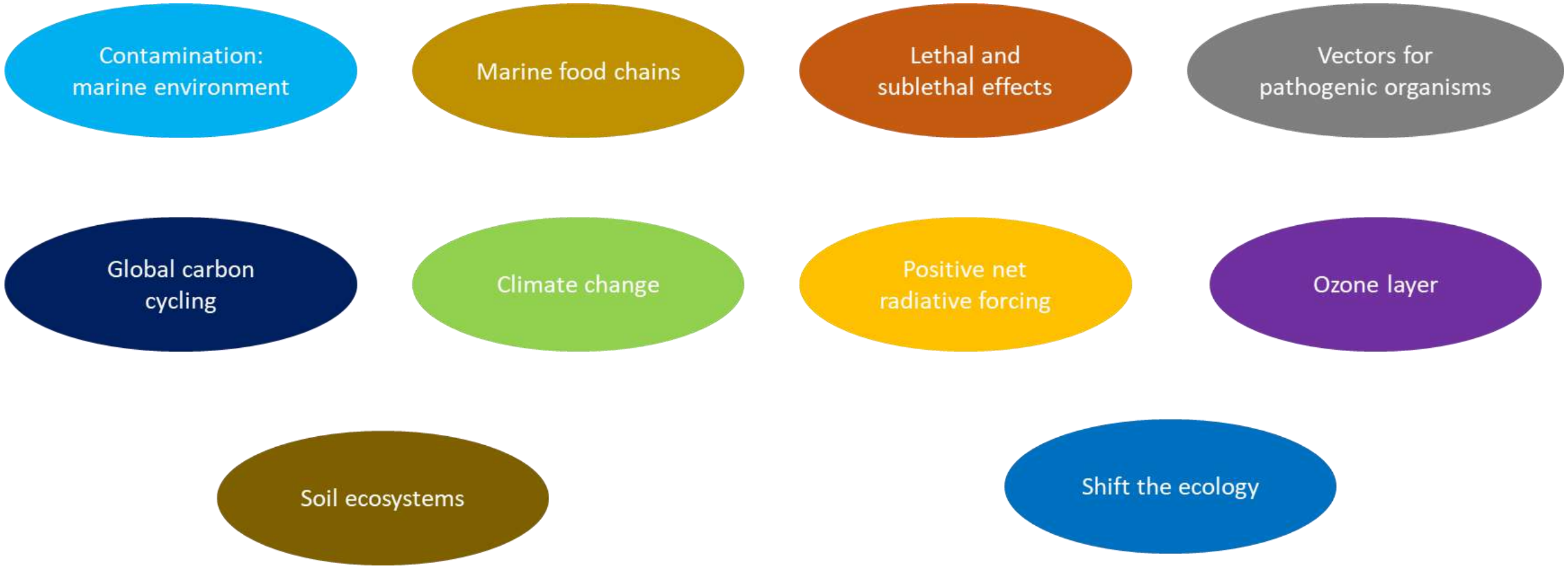
D. Impacts of plastic pollution

2. **Impacts** of plastic pollution on the **environment**



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D. Impacts of plastic pollution

3. **Socioeconomic impacts** of plastic pollution

63. Addressing plastic pollution will **require consideration** of the impact on **different communities**.

64. The **aggregate value** of plastic is lost to the economy when it becomes waste...

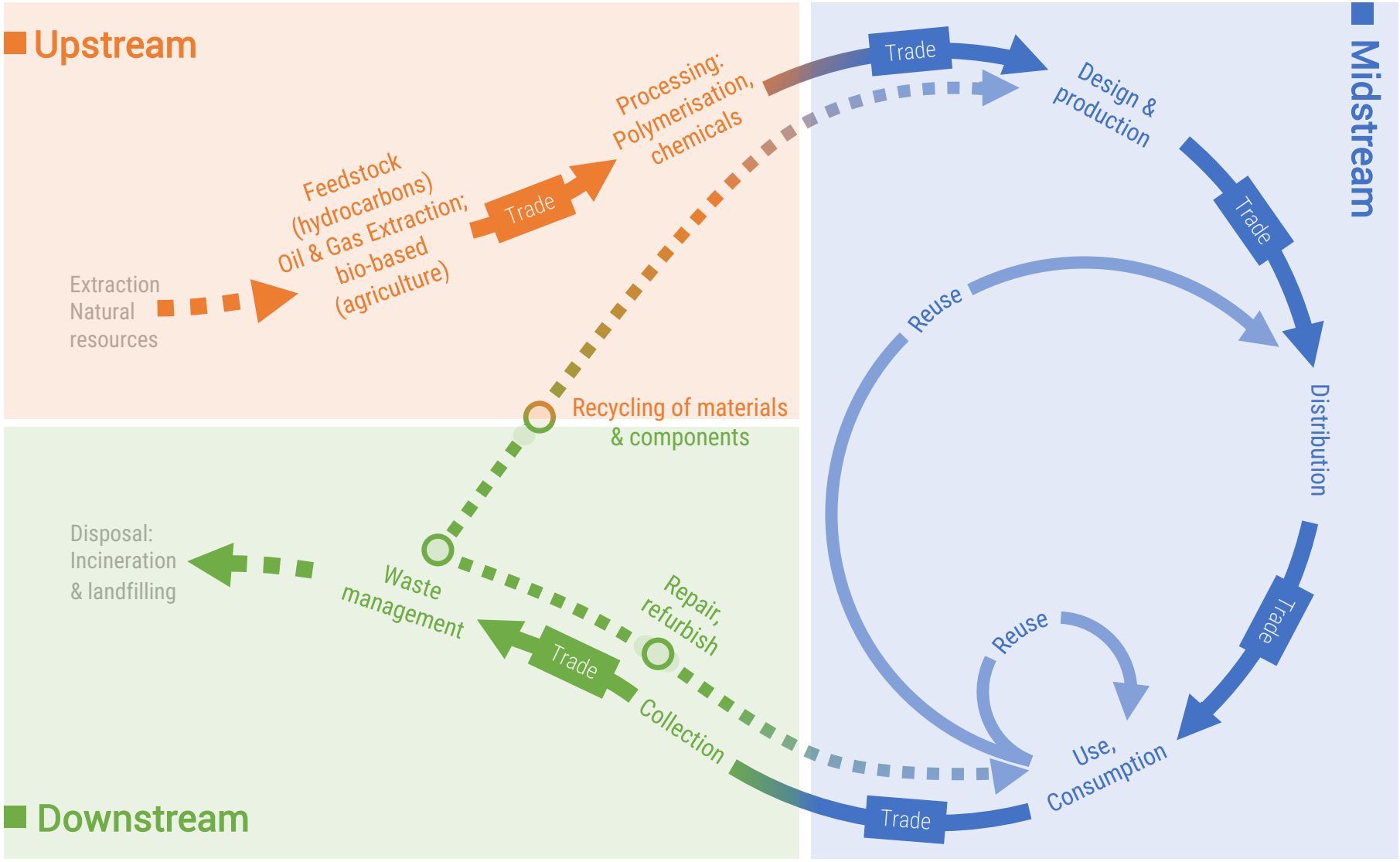
65. …while plastic waste adds a **burden** to human health and the environment.

66. **Investing** in the **prevention** of waste and pollution at source is **less expensive** than remediation.

67. Plastic pollution has a **human rights dimension**, too.

F. Solutions and technologies and their costs and benefits

Life-cycle approach to addressing plastic pollution



Resolution 5/14 requests

- the need for a comprehensive, integrated application of solutions across the **full life cycle of plastics**
- and the need to shift to a **resource-efficient circular economy**

(full) Life-cycle approach: *means considering all potential impacts of all activities and outcomes associated with the production and consumption of plastics…* (working definition, see Appendix I)

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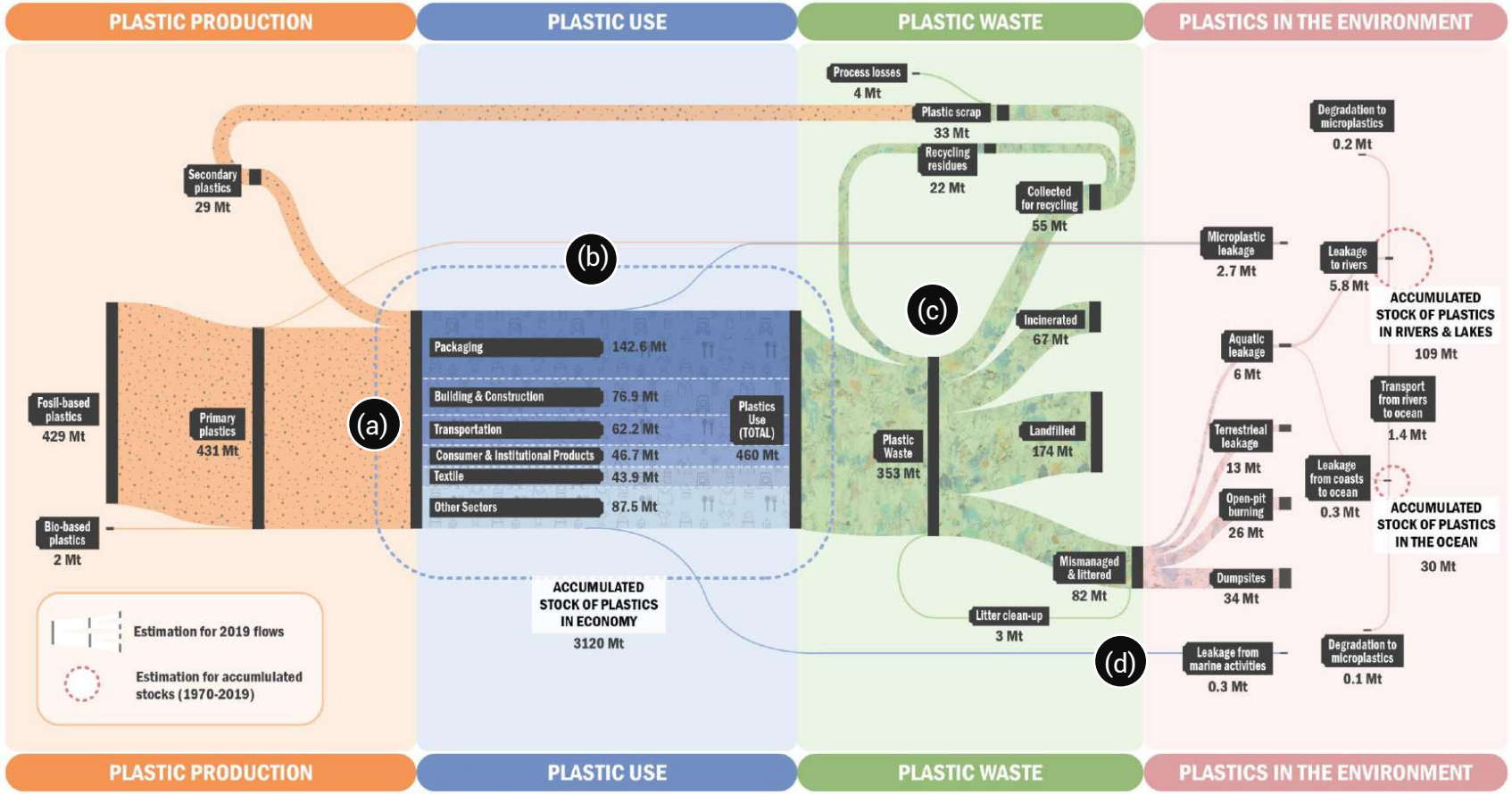
F. Solutions and technologies and their costs and benefits

Policy and legislative tools across the life cycle



(a) SG1. The elimination of problematic and unnecessary plastic, including hazardous additives.

(b) SG2. Innovation to ensure that the plastics used in the economy are reusable, recyclable or compostable.

(c) SG3. Circulation of all the plastic items used, to keep them in the economy and out of the environment (reused, recycled or composted in practice).

(d) SG4. Collection and responsible disposal of plastics that cannot be recycled or have accumulated in the environment.

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F. Solutions and technologies and their costs and benefits

Strategic goals to support a systems change to address plastic pollution

SG 1: Reduce the size of the problem by **eliminating and substitutin g** problematic and **unnecessary plastic items**, including hazardous additives

Eliminating products by **rethinking design and purpose**.

- (Eliminating problematic and unnecessary plastic products is best achieved by rethinking the design and purpose of products to "design out" problematic or unnecessary plastic use as well as hazardous chemicals and "design in" sustainable alternatives)

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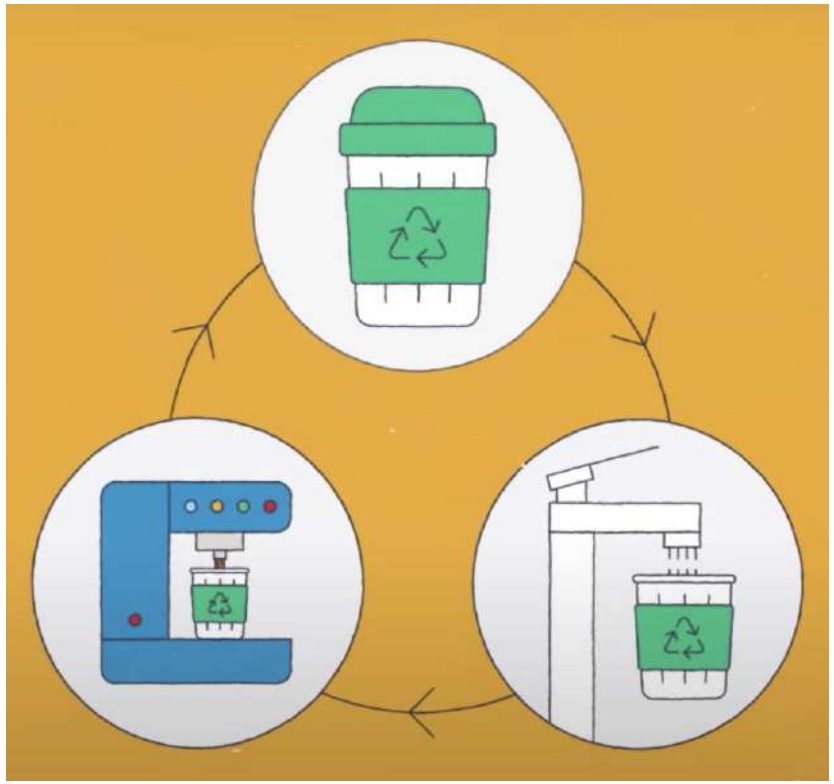
F. Solutions and technologies and their costs and benefits

Strategic goals to support a systems change to address plastic pollution



Ellen McArthur Foundation: Elimination of problematic or unnecessary plastic packaging.

SG 2: Ensure that plastic products are **designed** to be **circular** (**reusable**, recyclable or compostable).

Necessary plastic products will continue to play an important role in society.

Design phase critical to ensuring **reuse** and **recyclability** while addressing **chemicals of concern**.

Compostable plastic products: potential solution for very specific applications (provided adequate standards are enforced).

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F. Solutions and technologies and their costs and benefits

Strategic goals to support a systems change to address plastic pollution

Loop Durable System UK Ltd.

SG 3: **Close the loop** of plastics in the economy by ensuring that plastic products are **circulated** in practice (**reused**, recycled or composted)

Closing the loop of plastics in the economy is the key to transitioning to a circular economy. The two main possible technologies for recycling are **mechanical recycling** and **chemical recycling**.

Actions could help support the circularity of plastics across their life cycle. (e.g., Scale up alternative sustainable recycling technologies; Foster innovation in technologies for capturing leaked plastic)

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F. Solutions and technologies and their costs and benefits

Strategic goals to support a systems change to address plastic pollution

SG 4: Managing plastic waste that cannot be reused or recycled in an environmentally sound manner (including existing pollution).

Safe disposal is still needed for non-circular plastic products.

- Minimize end-of-life plastic disposal;
- Prevent the export of waste to nations with insufficient capacity to manage that waste;
- Capture leaked microplastics by enhancing collection and management systems;
- Foster innovation in technologies for capturing leaked plastic.

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F. Solutions and technologies and their costs and benefits

The importance of **trade** in the plastics economy

- economic weight
  - Over $1 Tn over one year ~ 5% of global trade in 2018

- occurs across plastics life cycle:
  - Primary, intermediate and final plastic products
  - Plastic waste

- flows are relevant to plastic pollution
  - GHG emissions
  - Adding to waste management burden

- has a broad geographic spread
  - Virtually all countries import
  - Many countries export
- requires an international approach

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F. Solutions and technologies and their costs and benefits

Opportunities in moving forward: the costs and benefits of systems change

80% ↓

Reduction of plastic pollution

700,000 Jobs

Greenhouse gas emissions ↓

Net savings

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A. Summary

Plastic pollution science

1. Massive global increase in plastic production.
2. Increasing clarity linking plastic to impacts on human and environmental health.
3. Lethal for many species, and contributes to climate change.
4. The resource-inefficient, linear, take-make-waste plastic economy is at the core of the plastic pollution crisis.
5. Millions of workers in informal settings ensure some level of waste collection and recycling in many countries across the world.

6. Circularity in the economy is a critical part of the solution: Four strategic goals across the full life cycle can guide the transition to a circular economy.
7. A comprehensive and integrated approach to solutions is needed: no silver bullets!
8. Harmonized measures and legal obligations will be key.
9. Systems change is possible, but this demands vision targets, monitoring and reporting.

Thank you

For questions and queries, please write to:

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