

Building circularity and sustainability in our economies

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Circularity

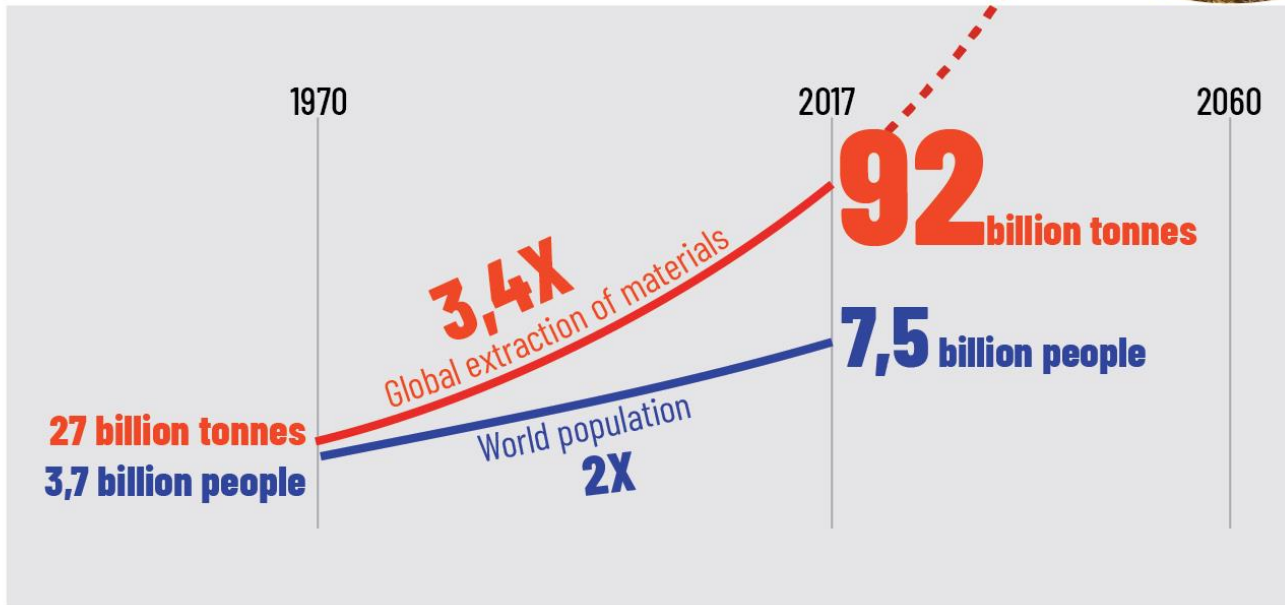
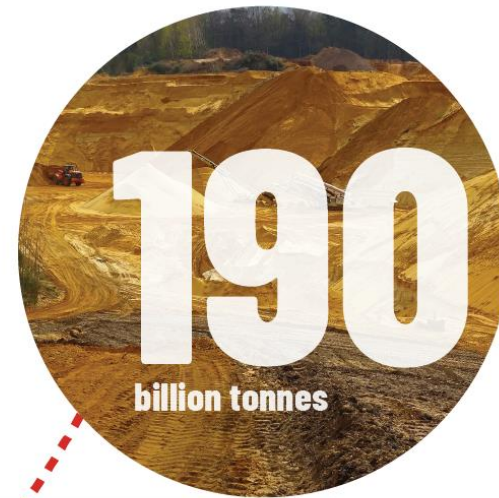
is a way to achieve
sustainable
consumption
and production
and other interlinked
SDG goals



Based on the One Planet Network Indicators of Success and the SCP impact indicators as developed by the One Planet Network, Life Cycle Initiative and the International Resource Panel.

WHY TAKE ACTION

it is impossible to continue extracting as we have been doing



If we continue business as usual, we will **double** the extraction of materials¹ in 2060, **far beyond the planetary boundaries²**.

Source: IRP (2019): Global Resources Outlook 2019: Natural Resources for the Future We Want. A Report of the International Resource Panel. United Nations Environment Programme. Nairobi, Kenya

1: "Materials" include biomass, fossil fuels, metals and non-metallic minerals, being a subset of natural resources which encompasses all material plus water and land.

2: For more information: <https://www.stockholmresilience.org/research/planetary-boundaries/planetary-boundaries/about-the-research/the-nine-planetary-boundaries.html>

Source: UNEP Circularity Platform:
<https://www.unep.org/circularity>

WHY TAKE ACTION

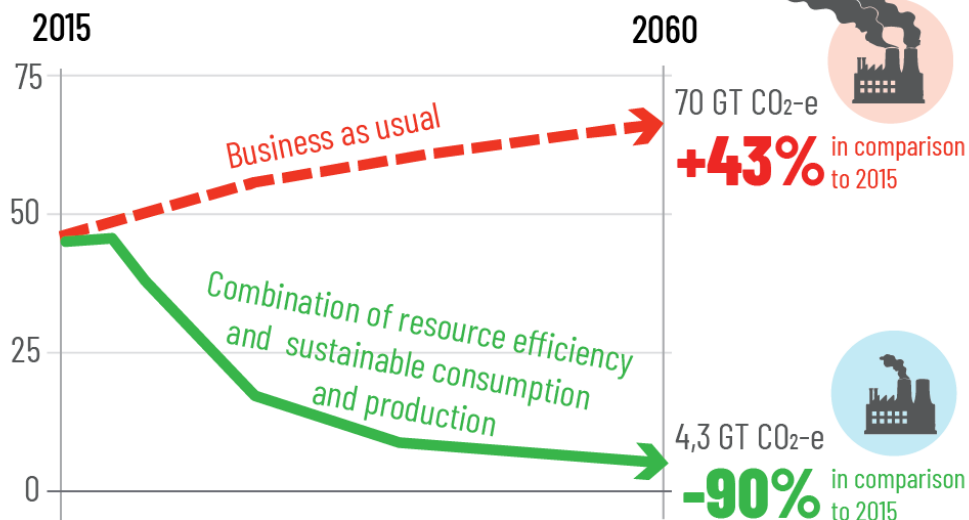
The 1.5° target of the paris agreement can **only** be achieved by **combining** circular approaches with the current efforts on renewable energy and energy efficiency¹

Past and current extraction and processing of materials (including fuels and food) are responsible for:

90%
biodiversity
loss



World emissions (in GT CO₂-e²)



Data source: IRP (2019): Global Resources Outlook 2019: Natural Resources for the Future We Want. A Report of the International Resource Panel. United Nations Environment Programme. Nairobi, Kenya.

1: Ellen MacArthur Foundation (2019): Completing the Picture: How the Circular Economy Tackles Climate Change

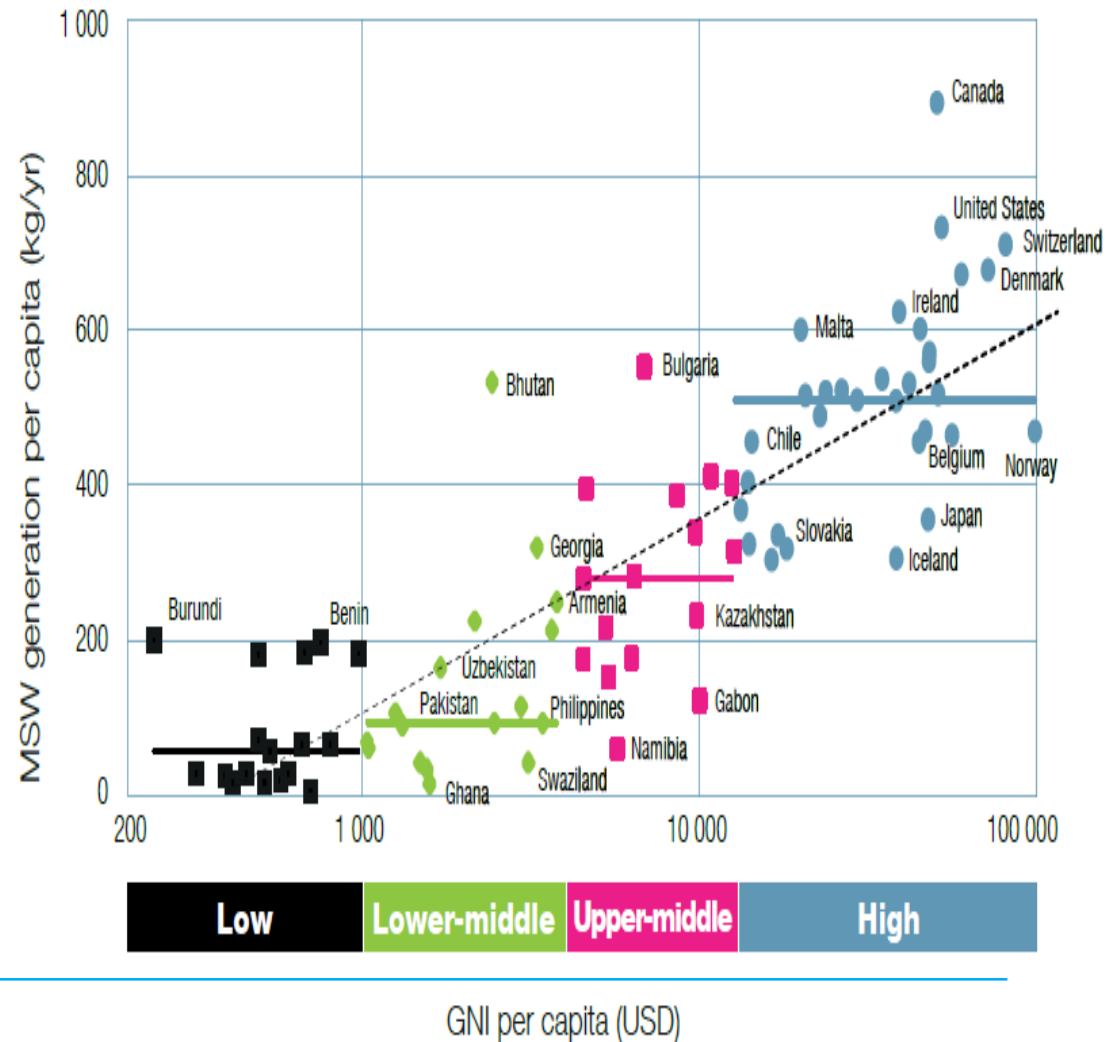
2: One GT CO₂ e is one billion tons of CO₂-equivalent emissions

Source: UNEP Circularity Platform:
<https://www.unep.org/circularity>

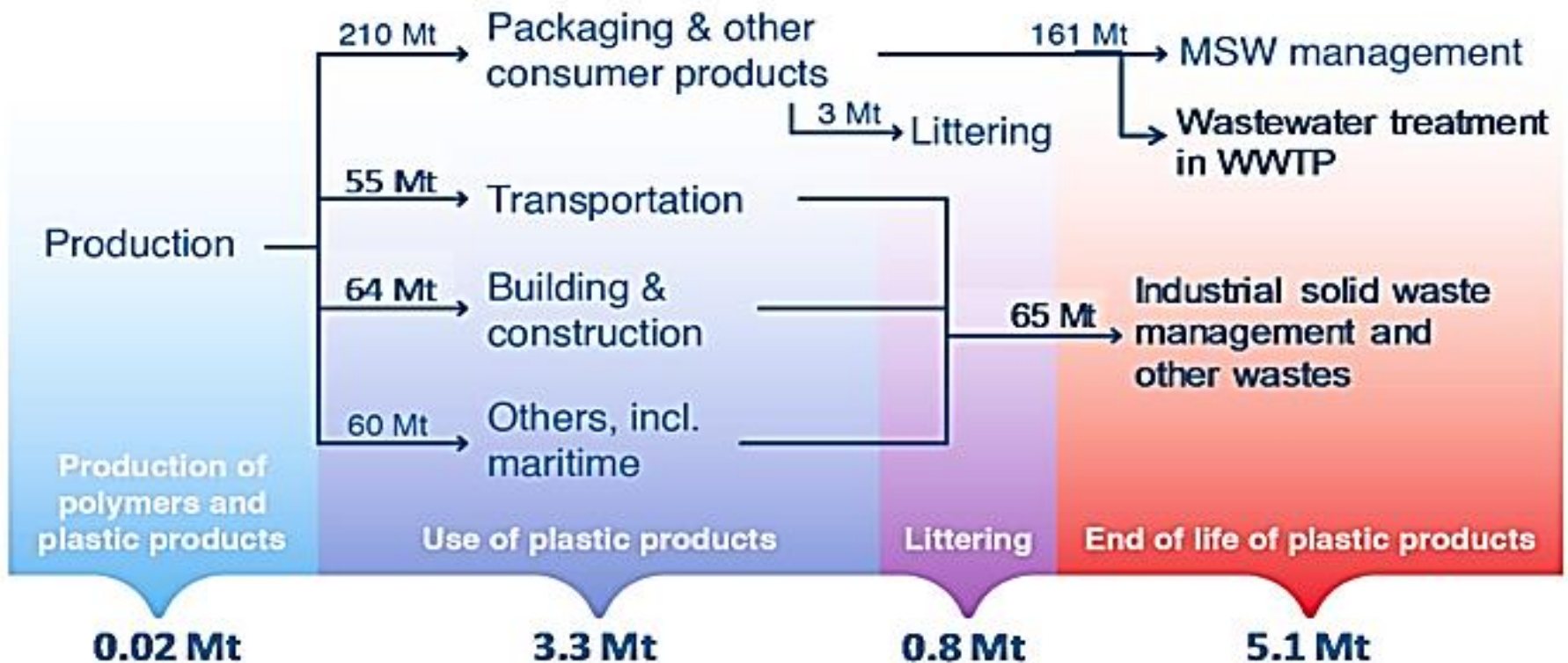
Increasing Waste Generation

- Currently, cities generate 1.3 billion tonnes of solid waste per year.
- By 2025 this volume is expected to increase to 2.2 billion tonnes.
- MSW generation rates vary widely within and between countries.
- The generation rates depend on income levels, socio-cultural patterns and climatic factors.

Waste generation versus income level by country, UNEP/ISWA (2015)



Plastics in the Environment



Impacts of the textile industry

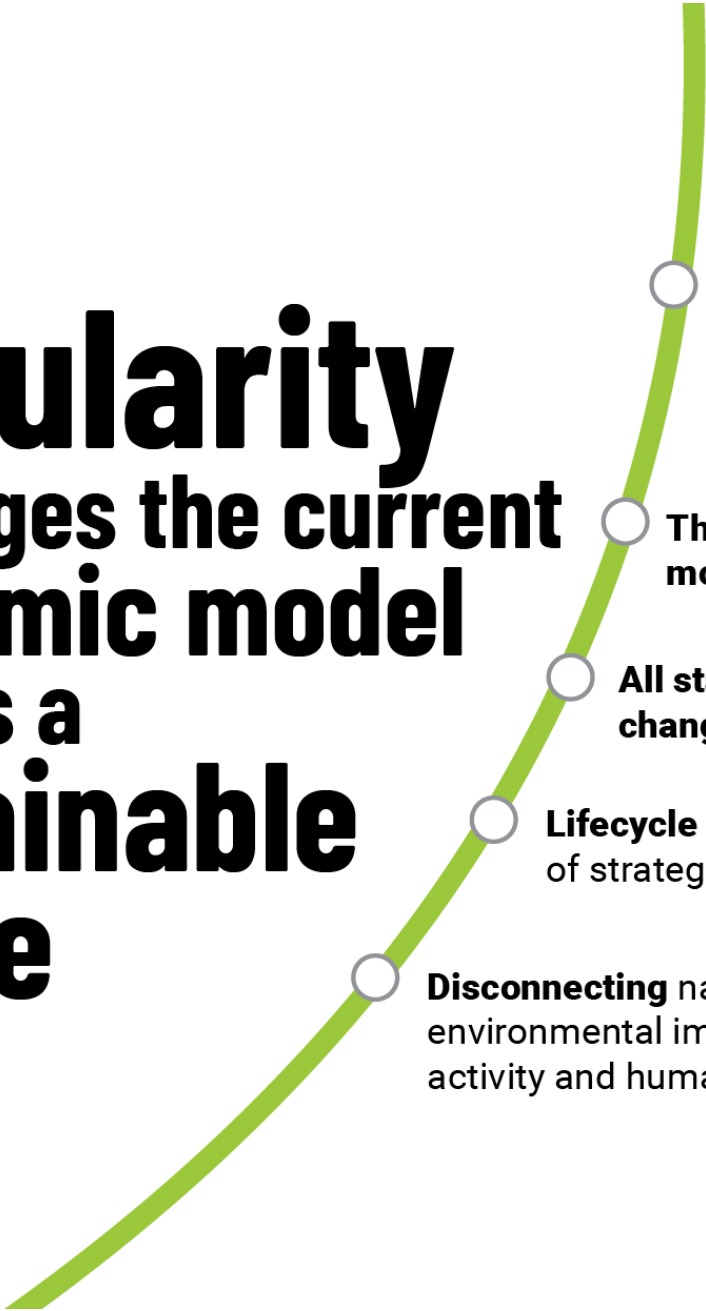
- 215 trillion litres of water used per year (apparel) and 20% of industrial wastewater pollution worldwide
- 9% of annual microplastic losses to the oceans
- More carbon emissions than all international flights and maritime shipping combined
- About 3 500 substances are used in textile production, amongst which 750 classified as hazardous for human health and 440 as hazardous for the environment.
- Loss of \$460 billion in value every year due to under-utilized clothes and the lack of recycling (73 % of clothing currently ends up in landfills or incinerated)

UN Environment Assembly

Resolutions guiding UNEP's mandate

- UNEA4 Resolution 1 on Innovative Pathways to achieve Sustainable Consumption and Production
 - Requesting UNEP to study potential of current sustainable economic models for achieving sustainable consumption and production in certain sectors, such as plastics, textiles and construction, and including through value retention processes, such as direct reuse, repair, refurbishment and remanufacturing
- Resolutions on marine litter and microplastics adopted at all United Nations Environmental Assemblies (UNEA 1/6, 2/11, 3/7 and 4/6)
- UNEA4 also adopted a key resolution on Addressing Single-use Plastic Products Pollution (Res 9)
 - Requesting UNEP to compile LCA studies on SUPP and their alternatives

Circularity challenges the current economic model towards a sustainable future



Disconnecting natural resource use and environmental impacts from economic activity and human well-being is essential

Lifecycle thinking enables the identification of strategic intervention points

All stakeholders are engaged in changing the system

The entire value chain matters, more than each stage individually

Inspired by nature based solutions, **circular models keep materials at the highest possible value** along the value chain



Circularity requires creativity and cooperation among all value chain actors

Everyone involved should work together:

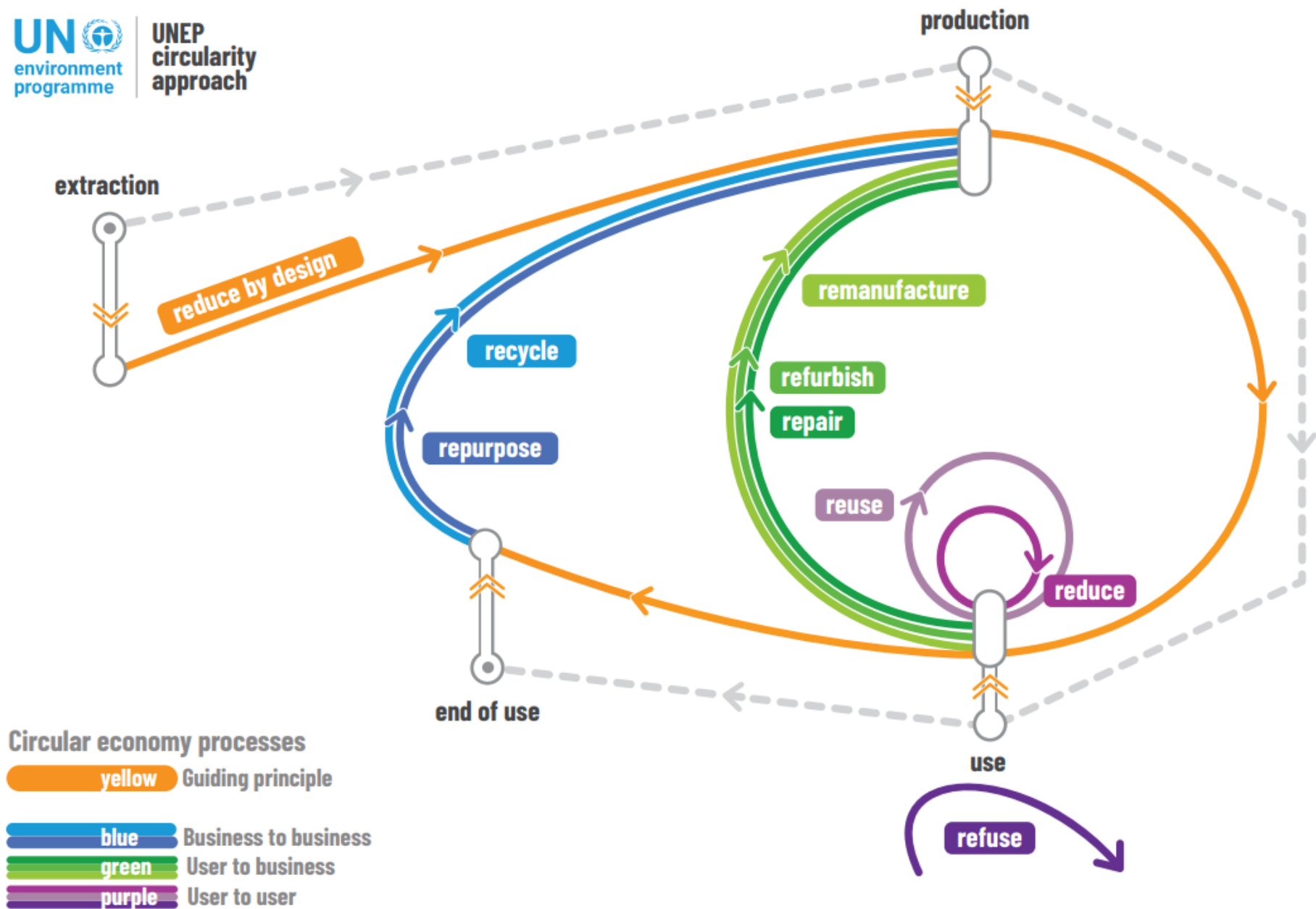
- businesses, at all stages (raw material production or extraction, brands, retailers, waste management)
- governments
- research institutions
- finance sector
- civil society
- individuals

Behavioral change of all those actors is required to achieve transformation

Create **innovative solutions** throughout the value chain

Chemicals of concern need to be kept away or easy-to-separate from recycled streams

Plan the transition to circular business models, ensuring **nobody is left behind**, especially in the informal sector



Shorter loop: where a product remains close to its user and function (client / user choices)

- Predominantly consumer – consumer
- More suitable to more advanced economies
- Offers potentials for leapfrogging and building on traditional choices
- Potential policies: taxation, pricing, labeling, economic incentives, industry standards, chemicals regulation, consumers protection, measures to promote innovative consumption, funding for innovation, ...

Medium long loop: where products are upgraded and producers involved again (products improvement)

- Predominantly business – consumer
- Integration of the Product *concept and design* lifecycle
- Potential policies: regulation on eco-design, regulation on planned obsolescence, taxation, economic incentives, industry standards, public procurement, labeling, chemicals regulation, regulation for innovation, funding for R&D, ...

Long loop: where products lose their original function (downcycling)

- Predominantly business – business
- More relevant / more demanded in developing countries
- Potential policies: Extended Producer Responsibility, incentives to recycling, waste legislation including landfilling targets, integration of informal sector ...

Policy Shifts to support extended business models that focus on resource value creation, preservation and recovery

Towards Circular electronics in Nigeria



promoting public – private collaboration to respond to infrastructure gaps and to create spaces for collaboration

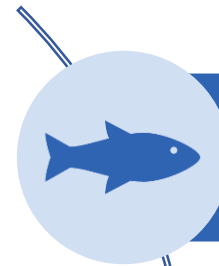


Support the Government of Nigeria in implementing the Extended Producer Responsibility (EPR) legislation in the electronics sector

Establish an efficient collection system through various channels, as well as engaging informal collectors

Establish cost-effective recycling solution for various product categories, and work with producers to develop upstream circular economy solutions for the electronics sector in Nigeria and Africa

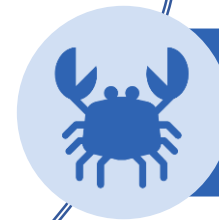
Fighting Plastic Pollution from a Life Cycle Perspective



**Recommendations for
Global Action and
Implementation**



**National Guidance for
Plastic Hotspots**



**Impact Assessment of
Marine Litter**

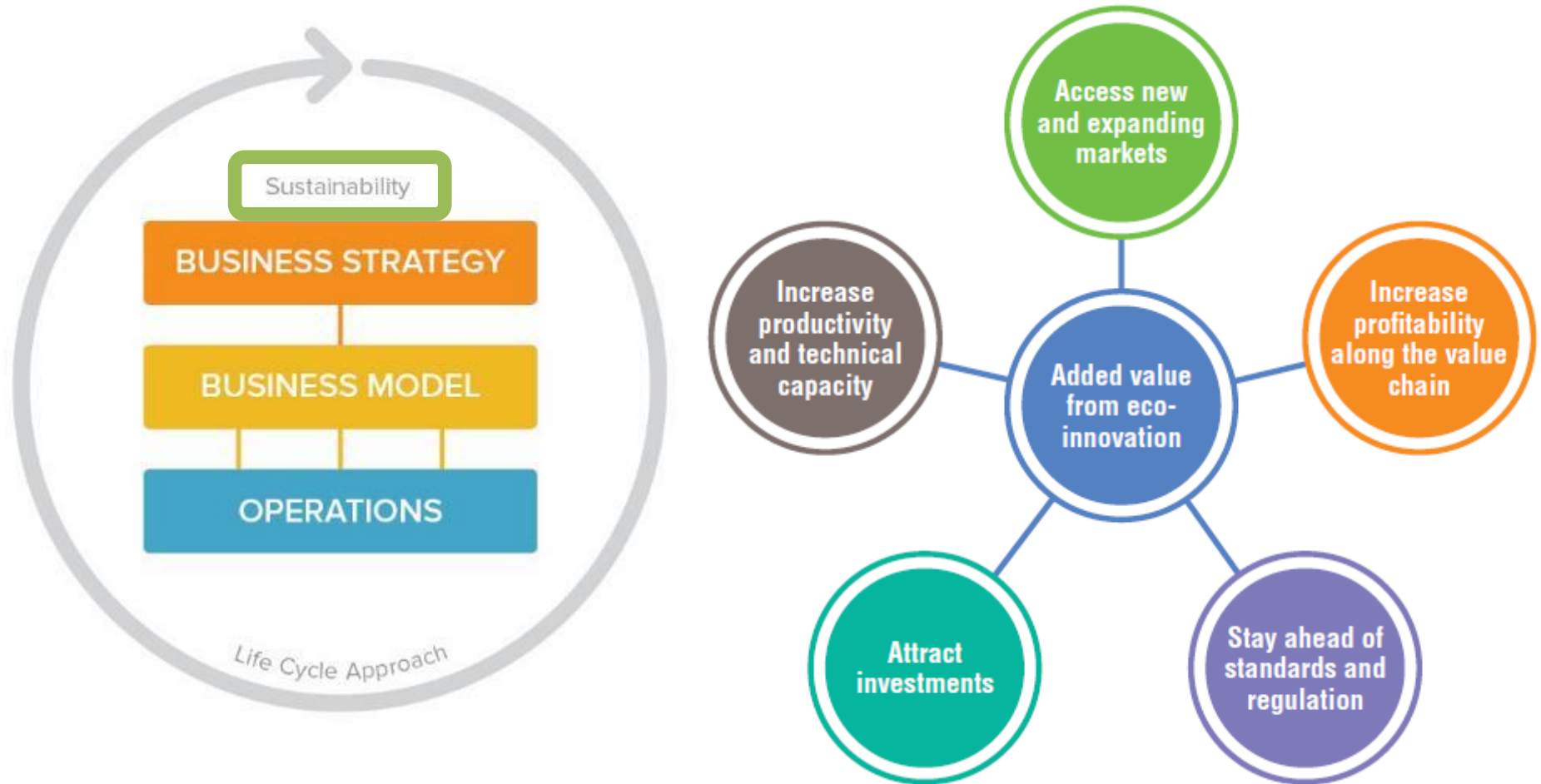


Life Cycle Initiative



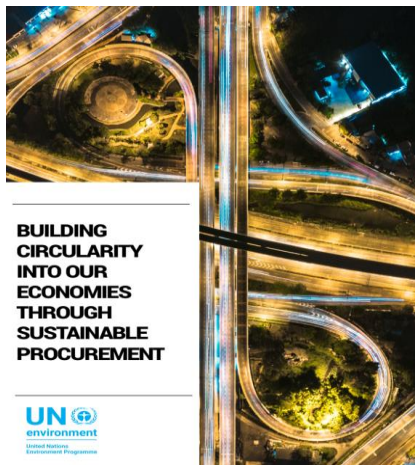
**Global Tourism
Plastics Initiative**

Eco-innovation to integrate sustainability & circularity in businesses



Focus on functionality rather than ownership

- ✓ Better control over energy use for lighting as well as end-to-end solution to maximize recycling in line with circular economy aspirations
- ✓ Procurement according to “Lighting as a service” model



Consumption choices have consequences: awareness and information is key

- ✓ Life of product can be extended by:
 - ✓ simply using products for a long(er) time,
 - ✓ extending their use through maintenance and upgrades, and/or
 - ✓ recovering broken products through repair, refurbishment or remanufacturing
 - ✓ accessible and efficient end-of-use product collection systems to support reverse-logistics

- ✓ The French Consumption Law Decree no 2014-1482 requires manufacturers and retailers to inform consumers about how long **spare parts** will be available when consumers buy the product.
- ✓ For certain categories of products, **minimum durability criteria** are integrated as mandatory requirements in the European Eco-design Directive



But there are **MANY** challenges

- Implementation gaps
- Urgency of the problems not fully appreciated
- Solutions exist but not fully known or shared
- Capacity gaps
- Resourcing gaps



Knowledge – science
for policy

Implementation –
capacity, incentives
and integrated
policies

Infrastructure –
technologies,
innovation, circularity

Awareness –
communication,
education, consumer
information

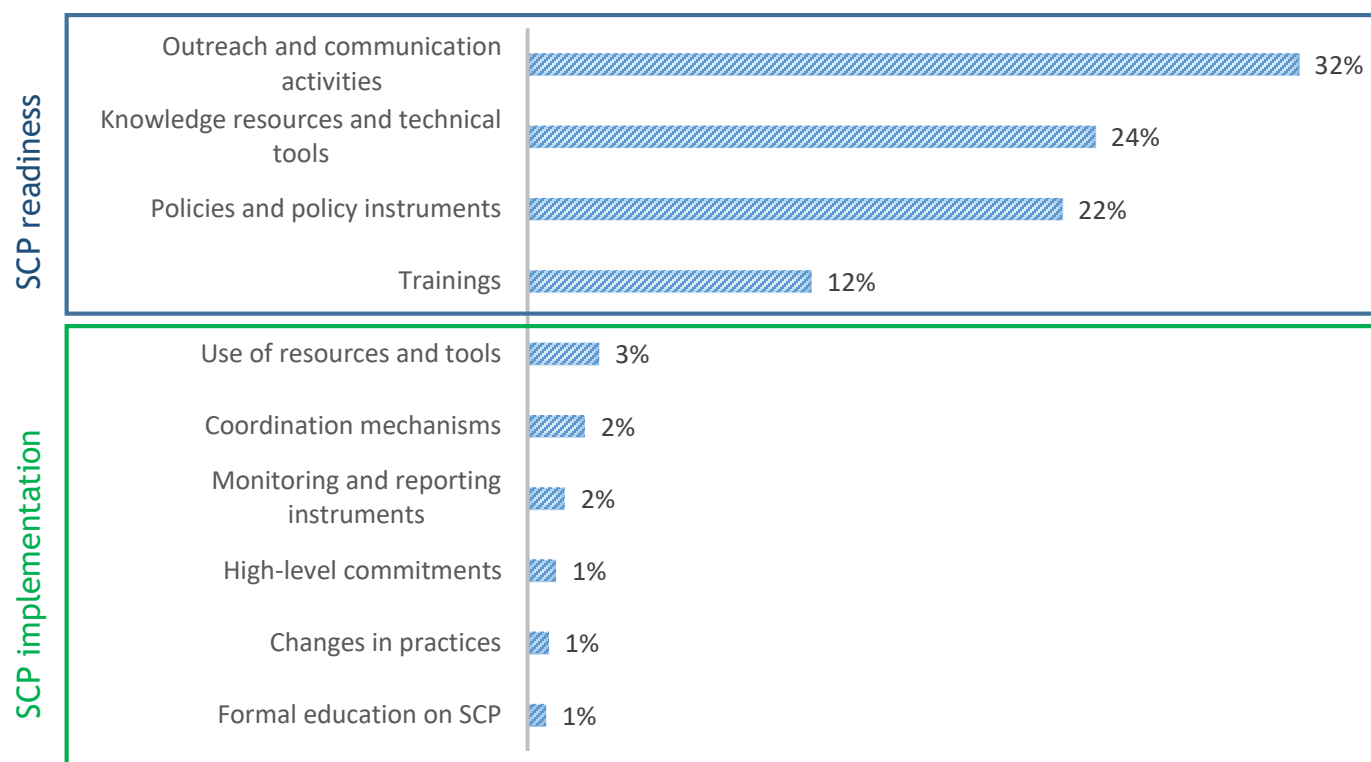
Leadership –
mobilizing leaders
and partners



For example ...gap in SCP implementation

ACTIVITIES IMPLEMENTED 2012-2017

(PERCENTAGE OF 1669 ACTIVITIES IMPLEMENTED) *



*Implementation
Gap*

Life Cycle Knowledge Platform

Hotspots Analysis Tool – partnering for mainstreaming

Supporting the **enabling conditions** for the application of life cycle approaches:
Life Cycle Knowledge Platform



“Hotspot areas” of unsustainable consumption and production → setting priorities in national sustainable consumption and production and climate policies.



<http://scp-hat.lifecycleinitiative.org/>



A joint project of the Secretariats of:



In partnership with:



UNIVERSITY
OF VIENNA



One Planet Network to support SDG 12



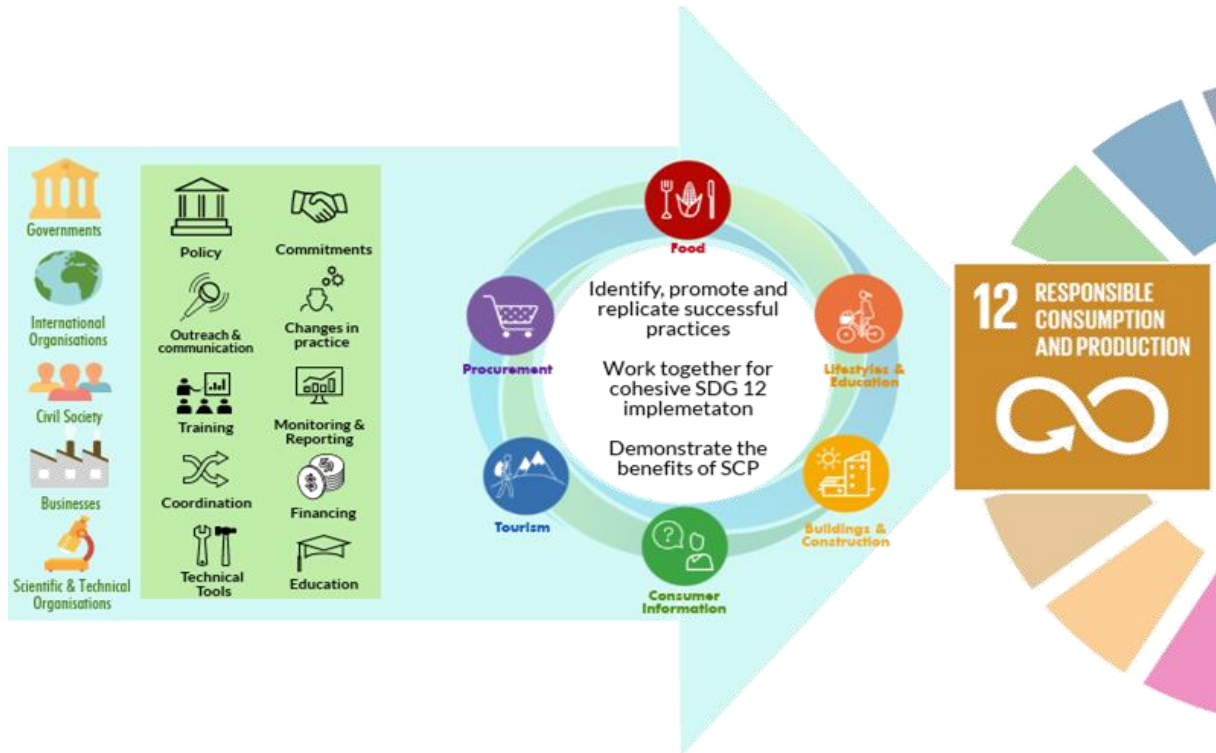
611
Programme
Partners



22
UN entities in the
10YFP Inter-Agency
Coordination Group



130
National
Focal Points



New strategy and MPTF: to resource SDG better and have a more coherent engagement of Un system to support implementation



One planet
consume and produce with care



Thank you very much!

<https://www.unenvironment.org/circularity>
