Resources, Trade and Circular Economy Transitions: Findings from the International Resource Panel

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16 April 2024

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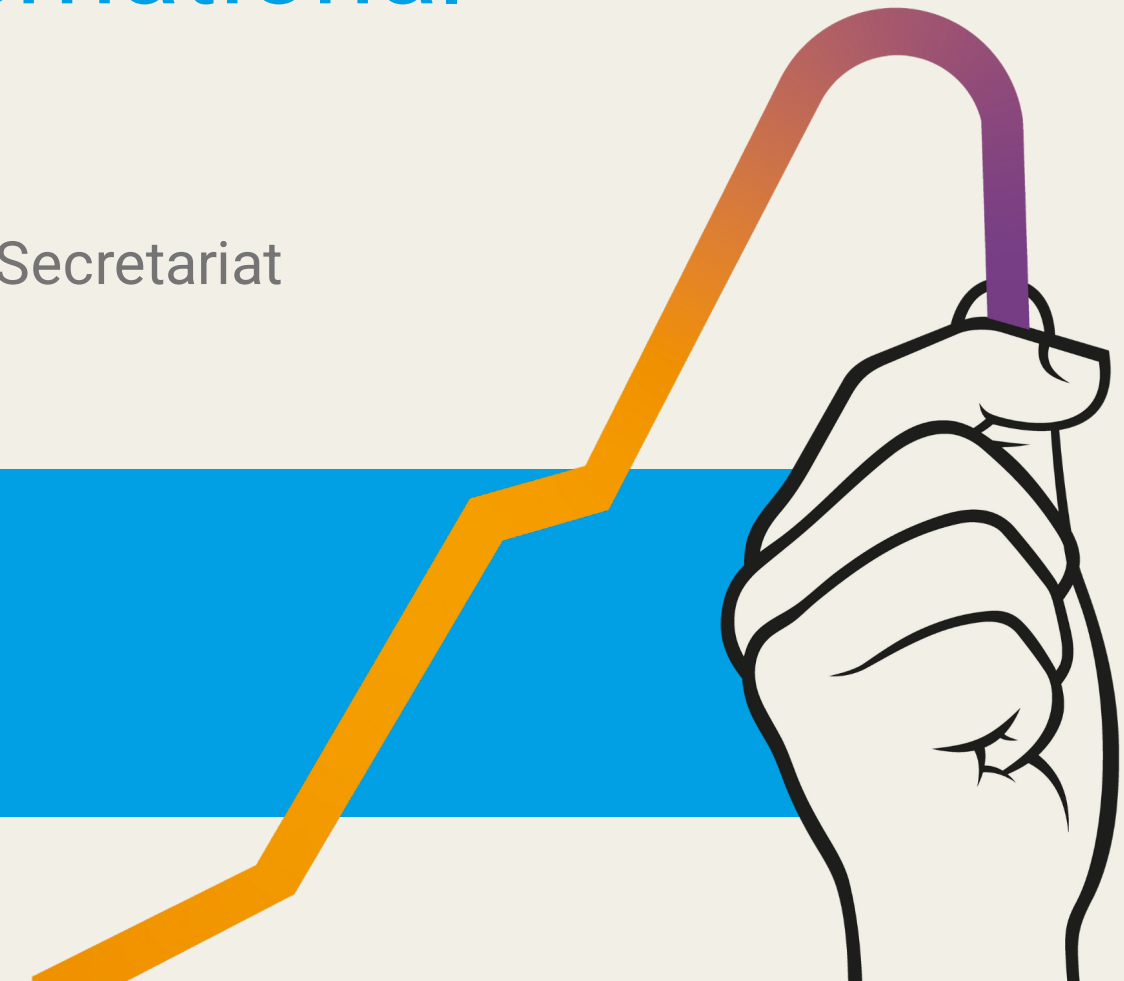

Who is the IRP?

The International Resource Panel (IRP) was launched in 2007 by the United Nations Environment Programme (UNEP) to establish a science-policy interface on the sustainable use of natural resources and in particular their environmental impacts over the full life cycle

Climate Change

Biodiversity

Natural Resources

What do we mean when we say '**resources**' ?

Biomass: crops for food, energy and bio- based materials, as well as wood for energy and industrial uses

Fossil fuels: covering coal, gas and oil, among other

Metals: such as iron, aluminum and cooper, among other

Non-metallic minerals: sand, gravel, limestone and minerals used for industrial applications

Land

Water

Material Resources (Biomass, Fossil fuels, metals and non-metallic minerals)

Natural Resources (Material Resources + land and water)

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Why do resources matter?

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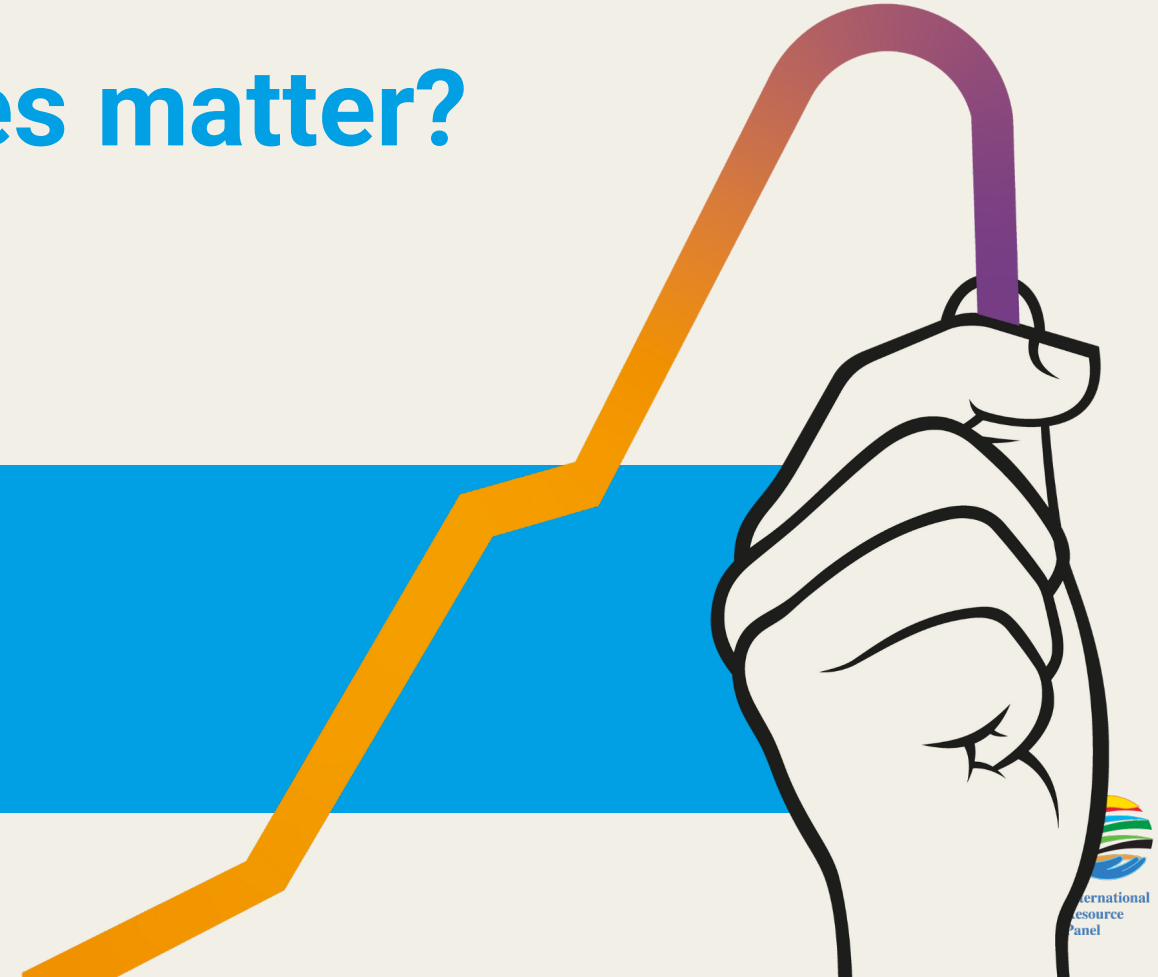
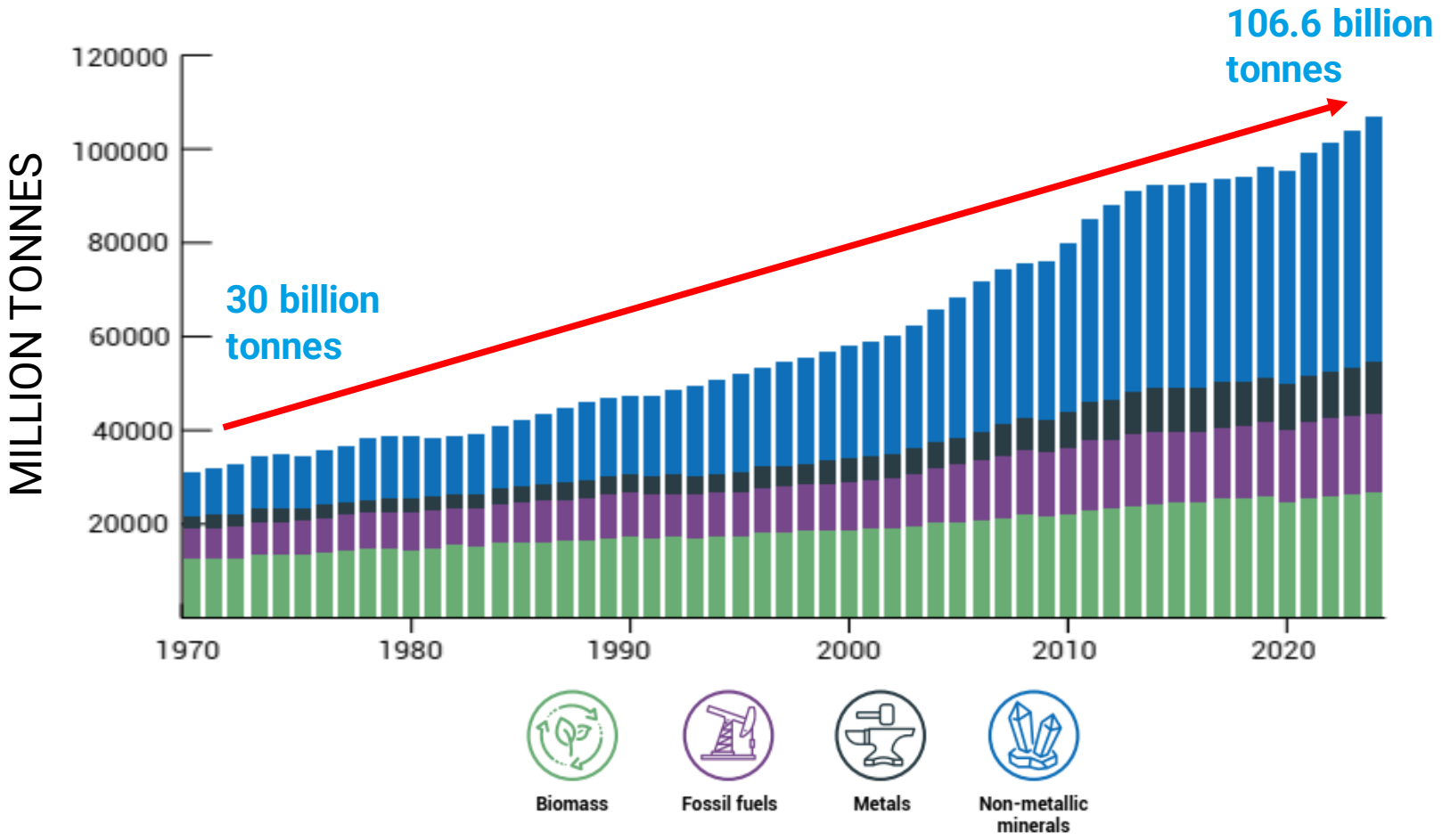


Over the last 50 years, our consumption of materials **has more than tripled**, with an ongoing **annual increase of over 2.3%**

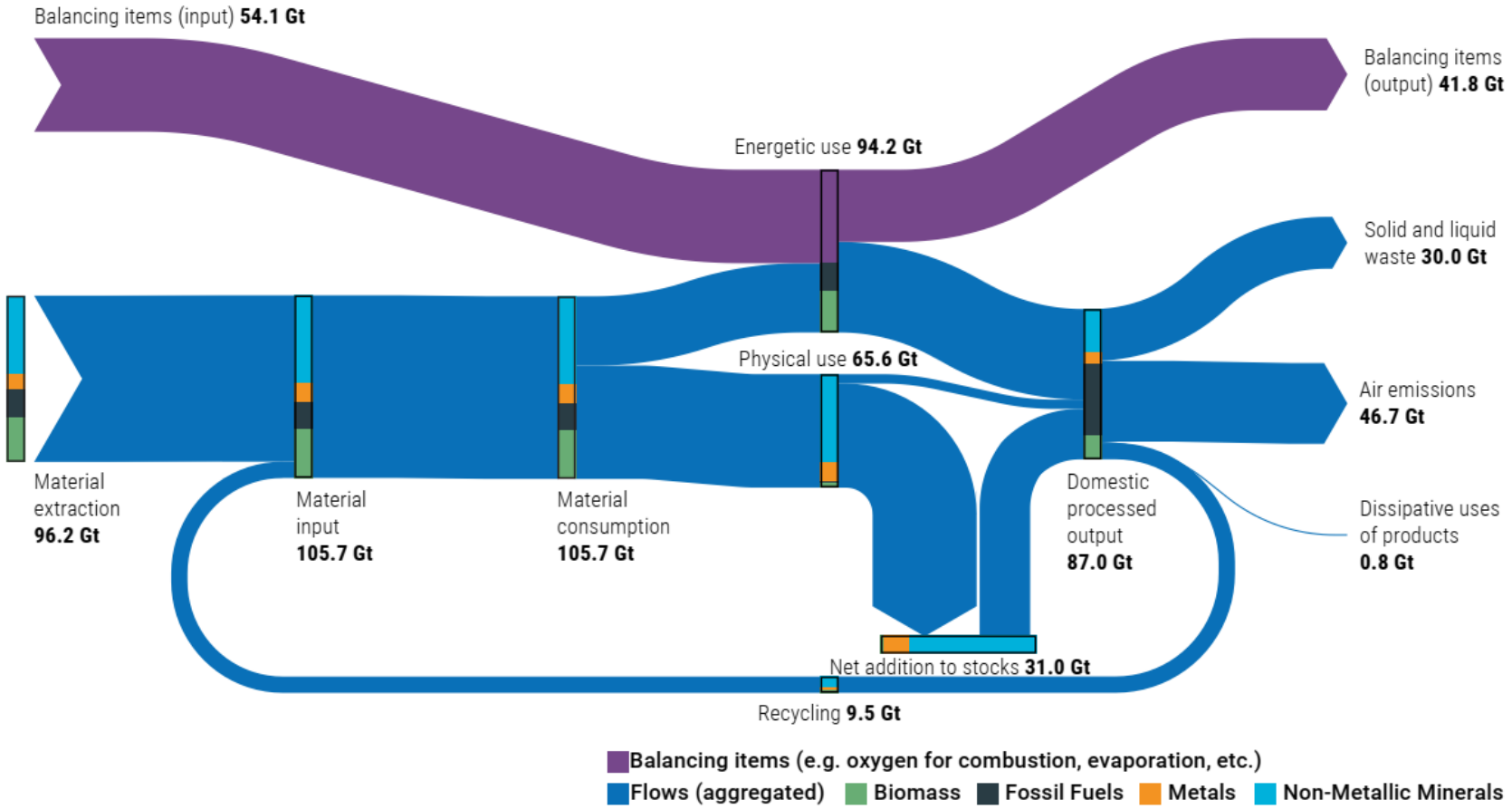
Rapidly increasing extraction and trade of materials, plus escalating waste and emissions.

Expected to continue to grow to meet SDGs for all and to build-up essential infrastructure, among other uses.

Material extraction could increase **60% by 2060** as compared to 2020 levels.



Secondary materials used in manufacturing and construction activities was **approximately 9% in 2019**



Note: Balancing items calculate 54.1 billion tonnes on the input side and 41.8 billion tonnes on the output side.
This accounts for, e.g. oxygen for combustion, evaporation, etc. These elements are needed for the system to be balanced (inputs, outputs).
Source: Global Material Flows Database (UNEP 2023a).

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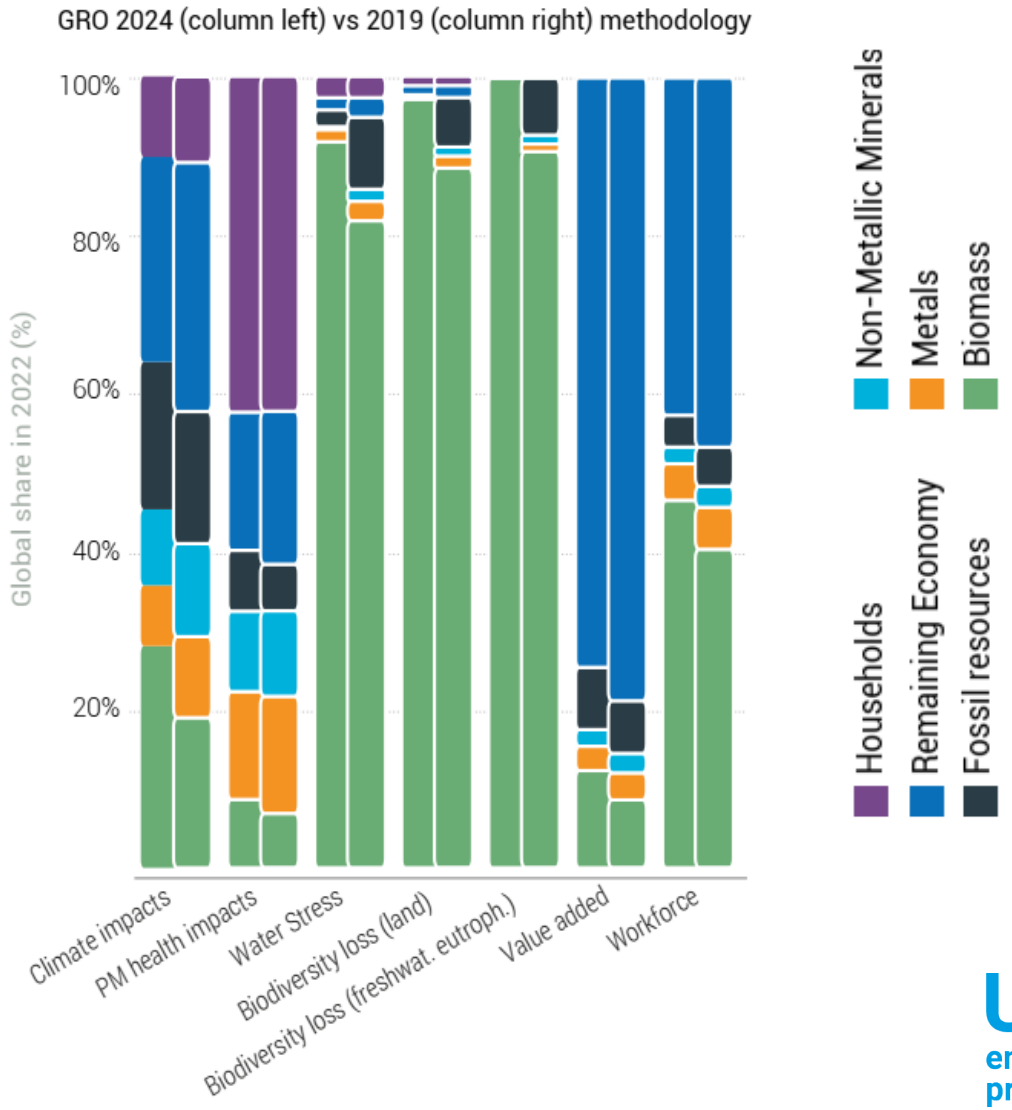
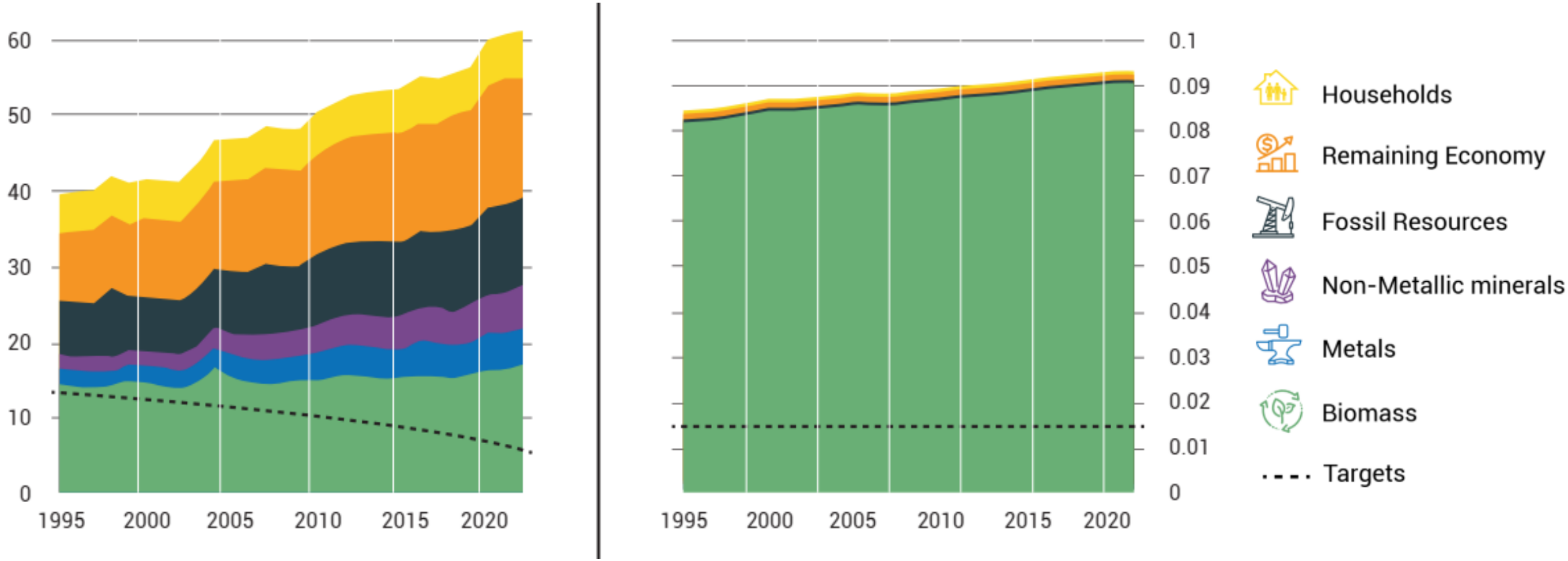
Increasing **resource use** is the **main driver** for the triple planetary crisis

Extraction & processing of material resources accounts for:

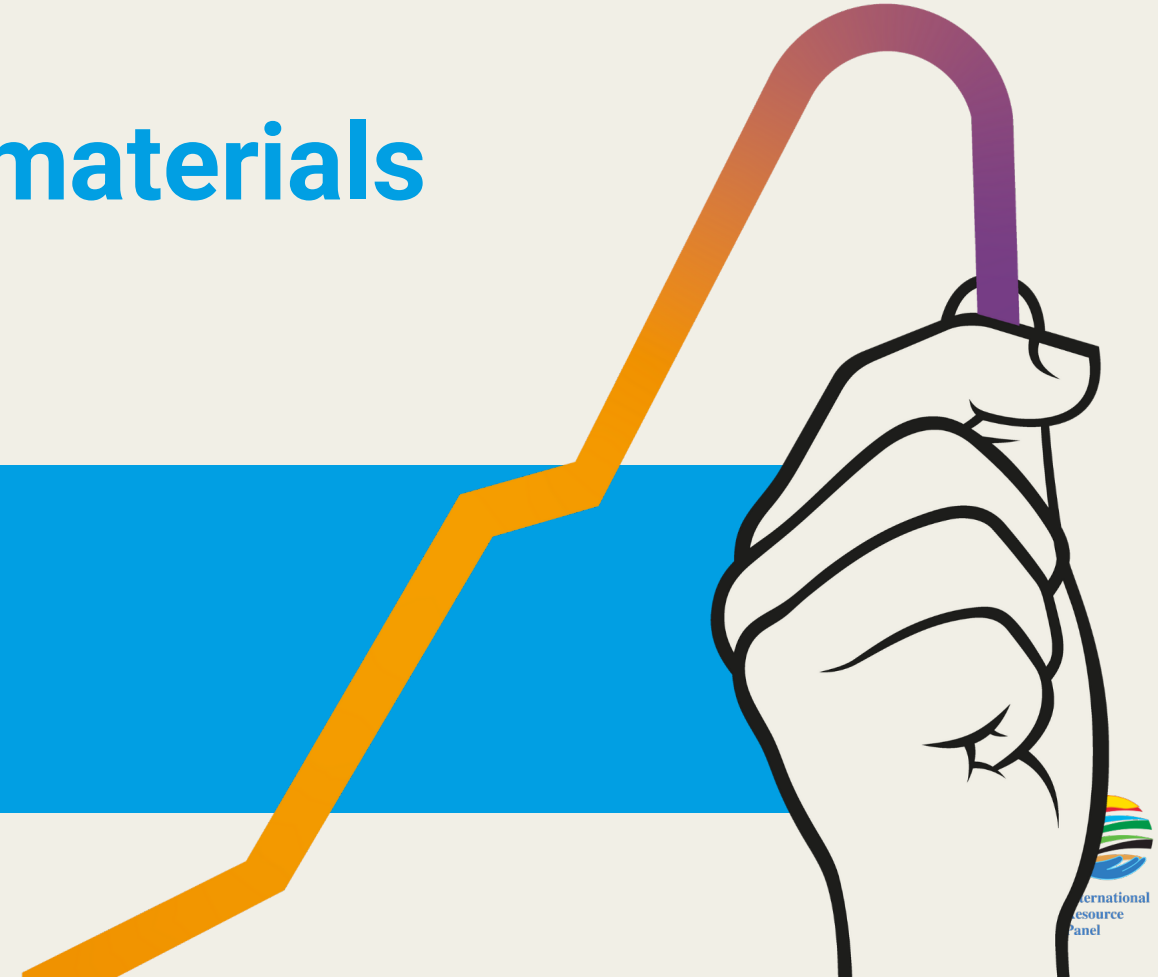
- **>90%** of impacts on land-use related **biodiversity loss** and **water stress**
- **>55%** of **GHG emissions**
- **up to 40%** of particulate matter related **pollution**.



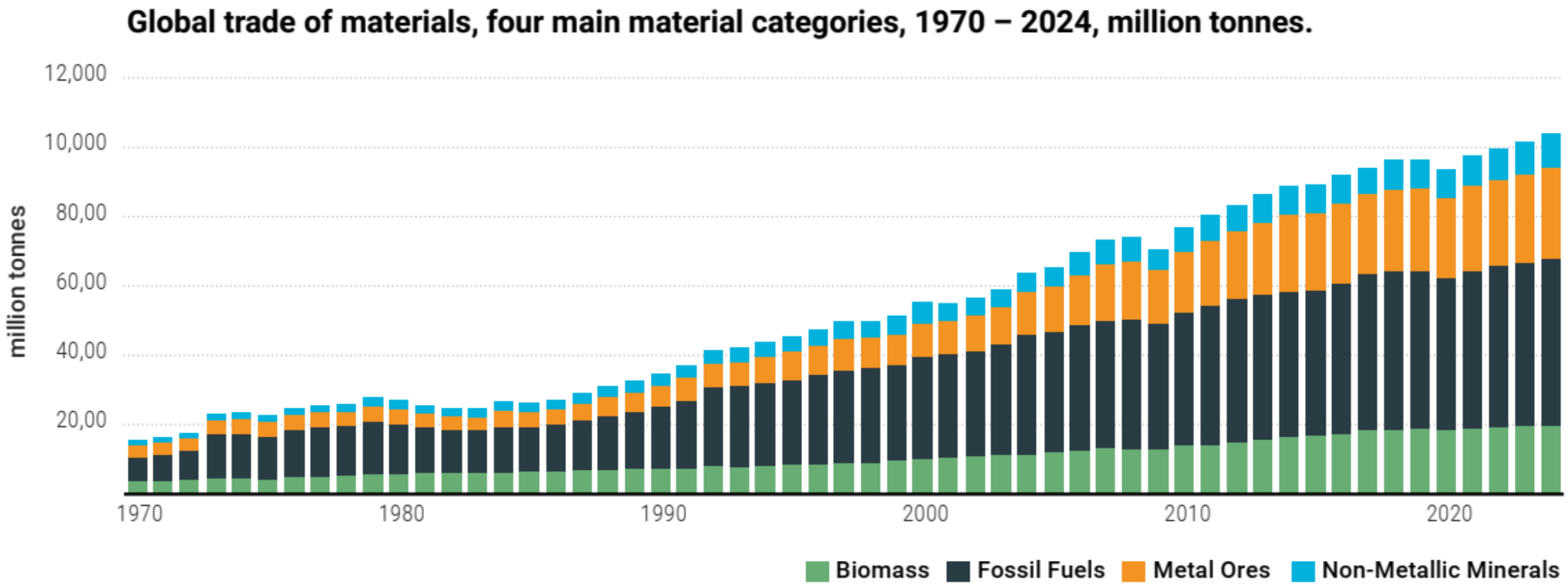
Impacts from material extraction and processing **greatly exceed targets** based on global biodiversity loss and 1.5°C climate goals



Global trade in materials

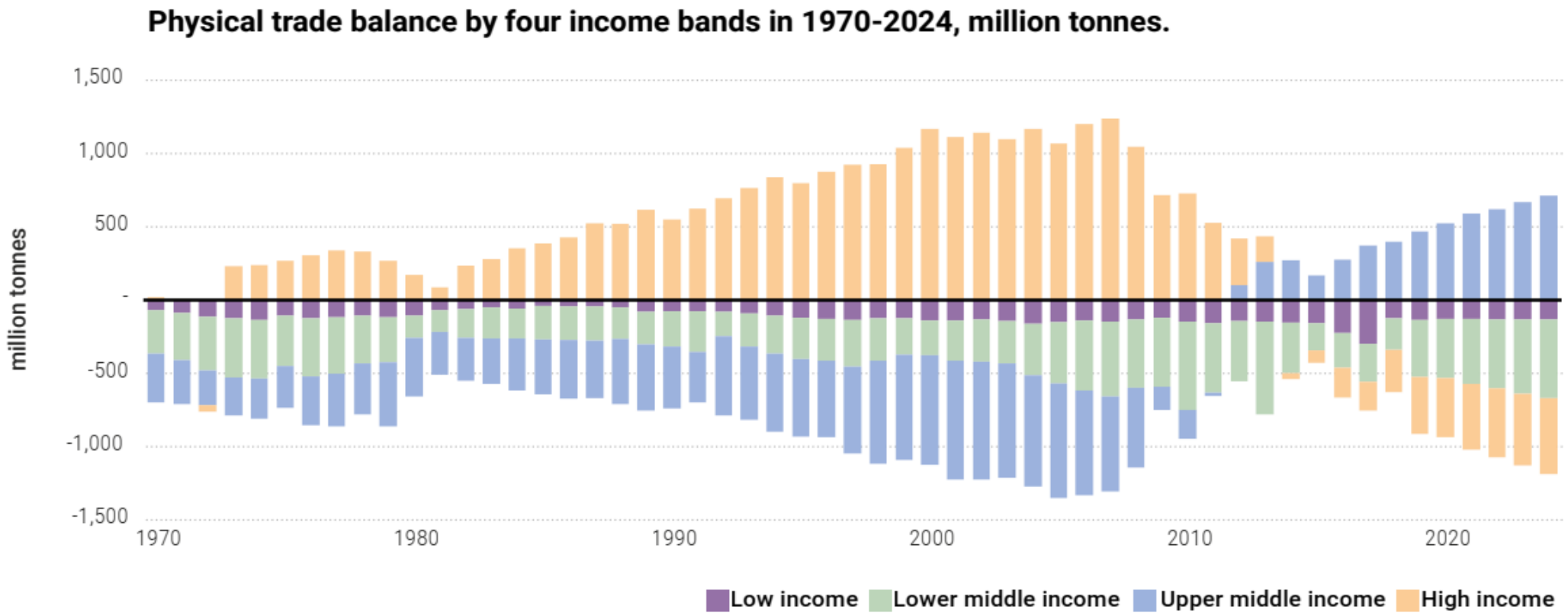


Total direct trade of materials was around six times the 1.6 billion tonnes recorded in 1970.



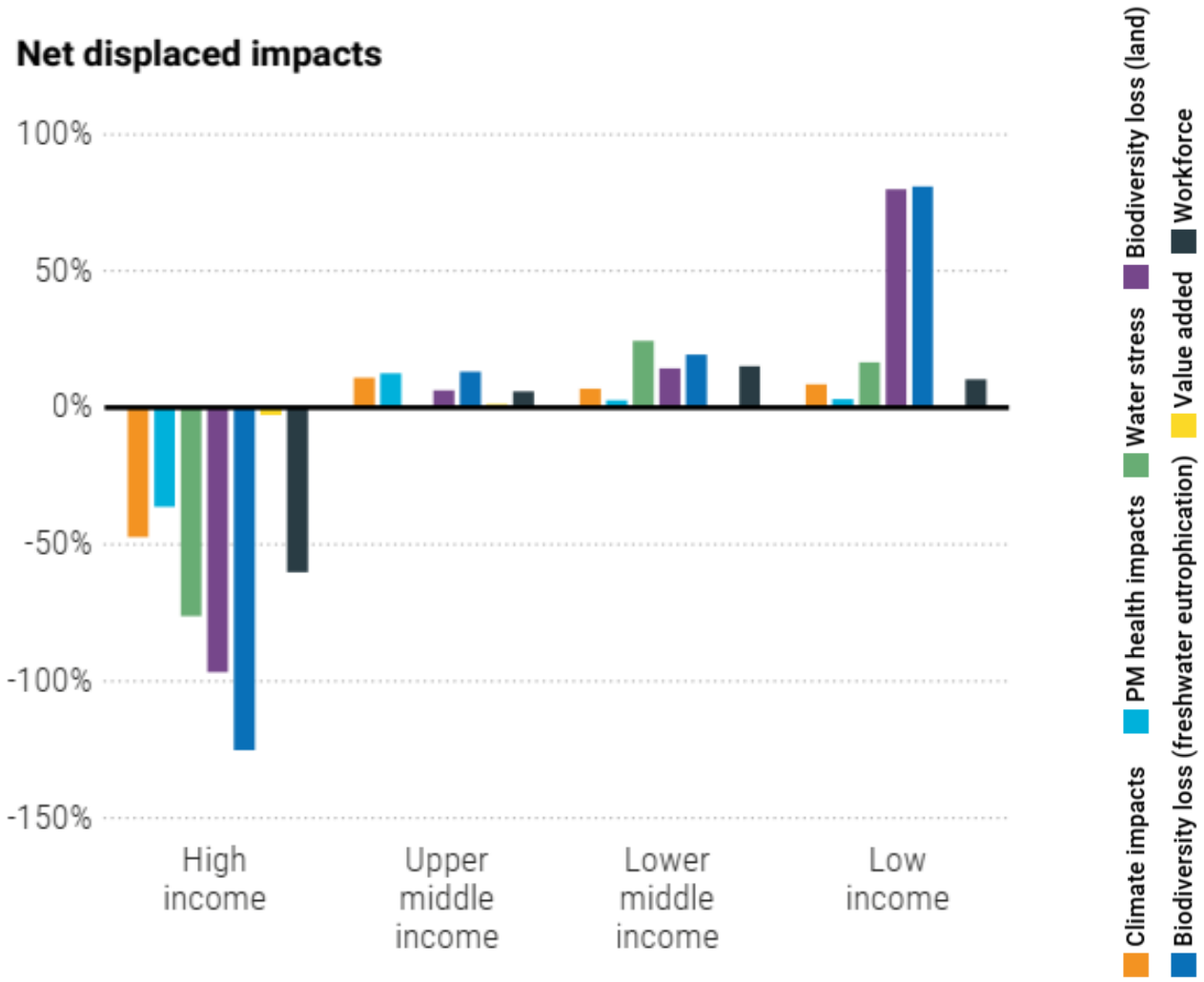
Source: Global Material Flows Database (UNEP 2023a).

Low-income and lower middle-income countries supply material resources to higher-income nations



Source: Global Material Flows Database (UNEP 2023a).

Environmental impacts are transferred from the high-income (consuming) countries to resource-extracting countries.



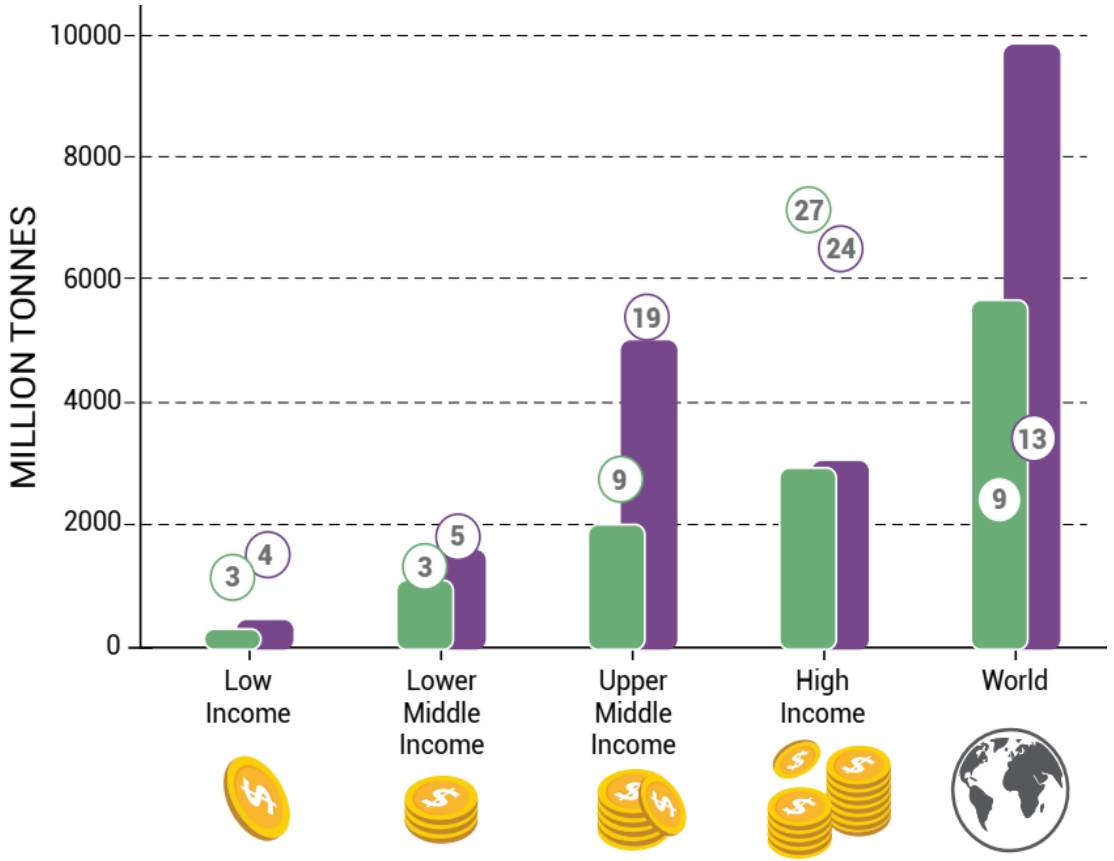
This inequality must be addressed as a core element of any global sustainability effort.

Inequality in material use must be addressed

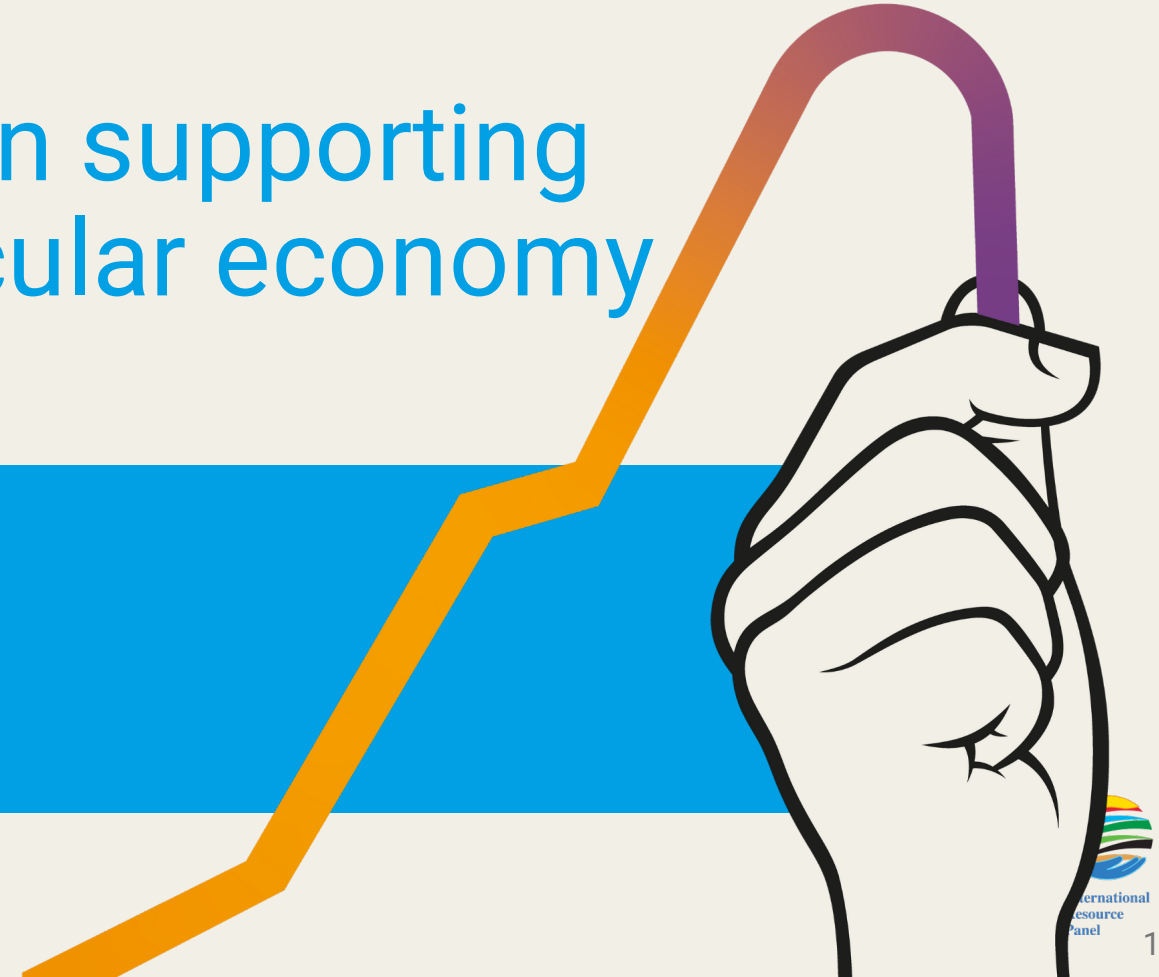
Since 2000, the **Material Footprint** for:

- *High-income:* Stayed constant,
  Climate impact per capita = 10 x low-income group.
- *Upper middle-income:* More than doubled, approaching high-income levels. Climate impact per capita = roughly 50% of high-income; 6 x low-income group.
- *Lower-middle and Low-income:* Remained comparatively low

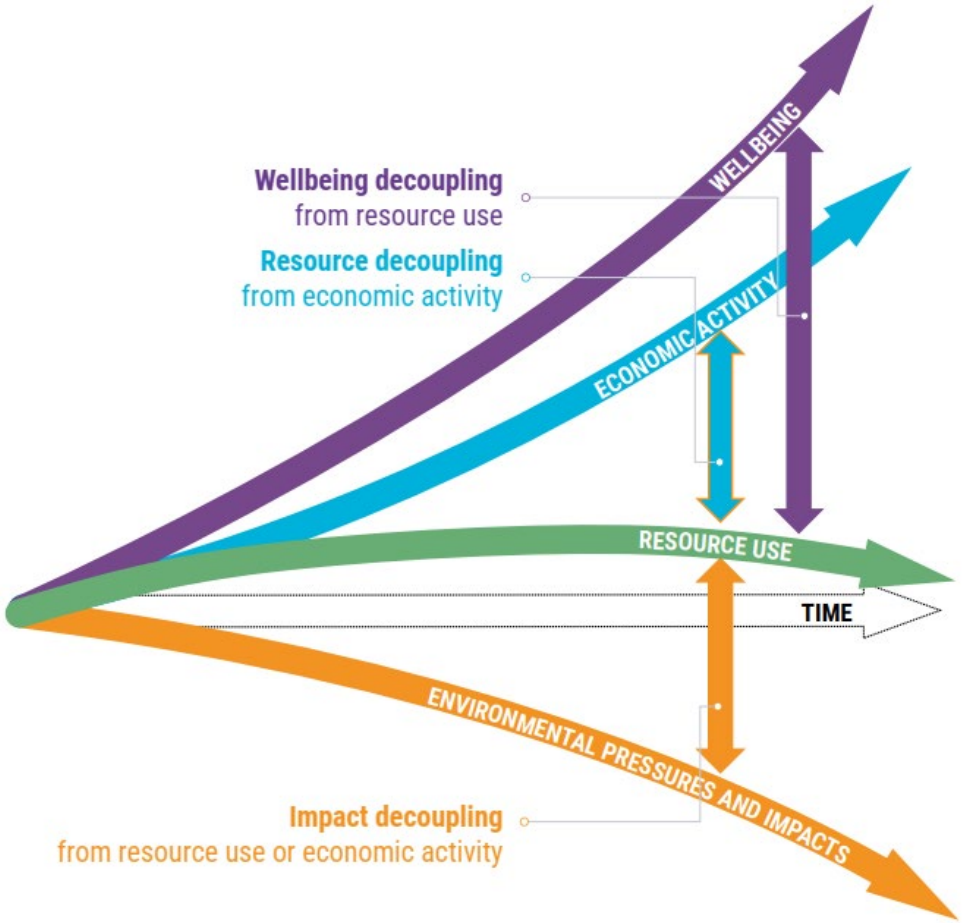
Material footprint by income group (2023)



The role of trade in supporting transitions to a circular economy



Delivering on the **SDGs** requires **decoupling**, so that environmental impacts of resource use fall while well-being contributions increase



High resource consumption**: absolute decoupling** (resource use decreases, well-being increases)

Growing resource consumption to enable dignified living: **relative decoupling** (resource use increases more slowly than well-being)

For all: **impact decoupling** as a precondition

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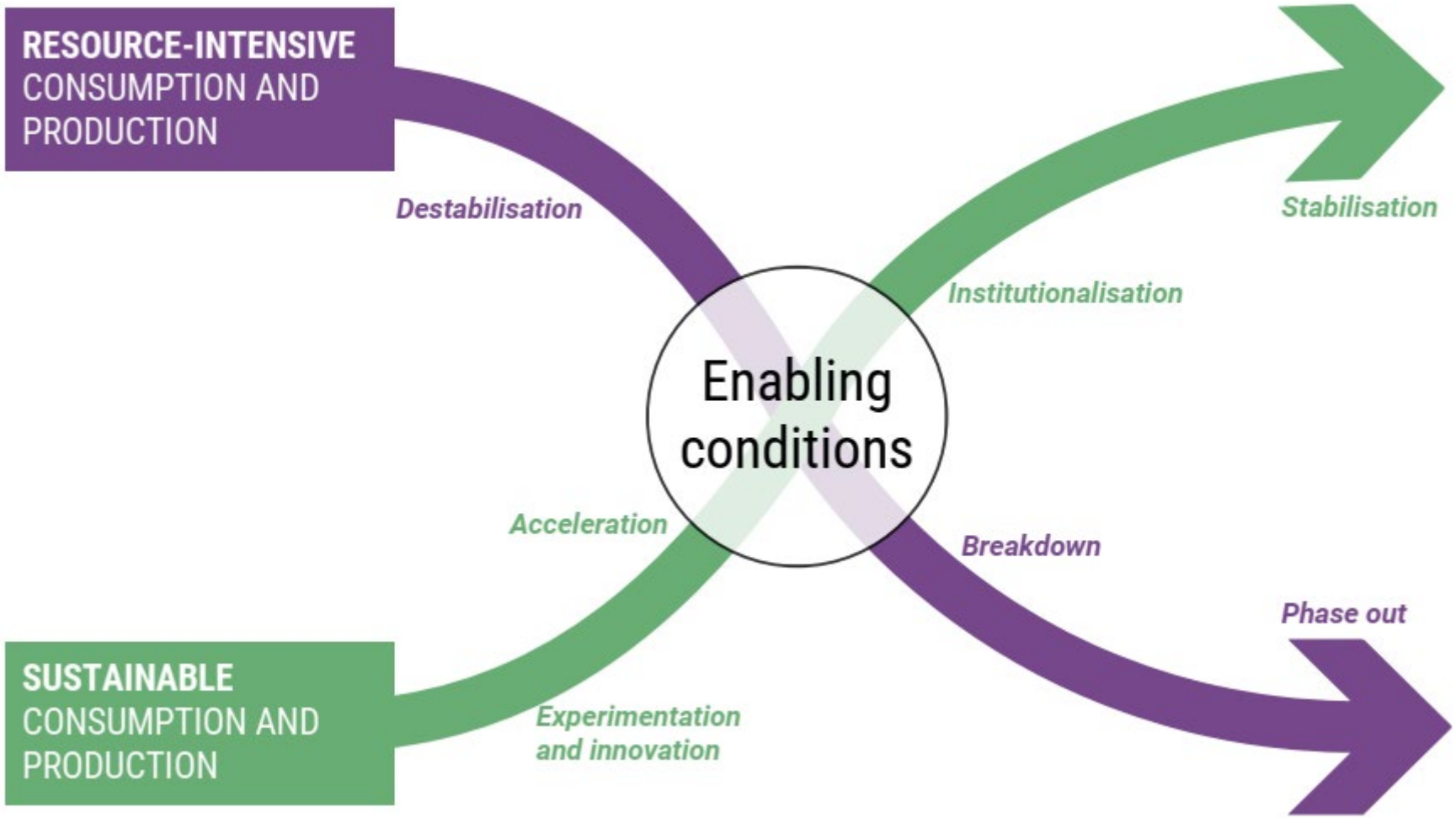
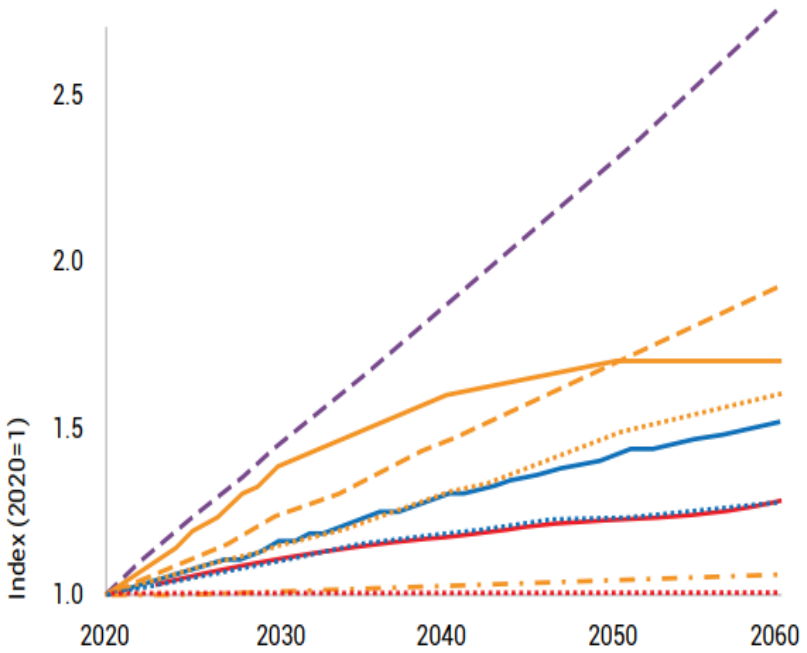
The challenge is to speed up and scale up more integrated solutions

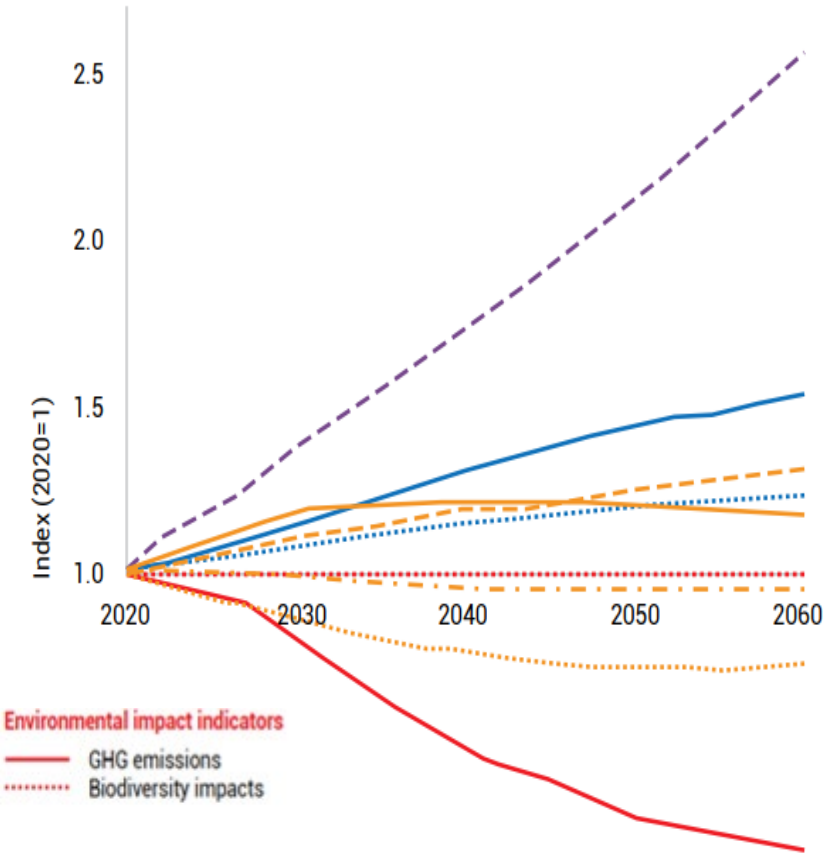


It is possible to use less, grow the economy, **improve well-being for all**, and cut environmental impact

Historical Trends



Sustainability Transition



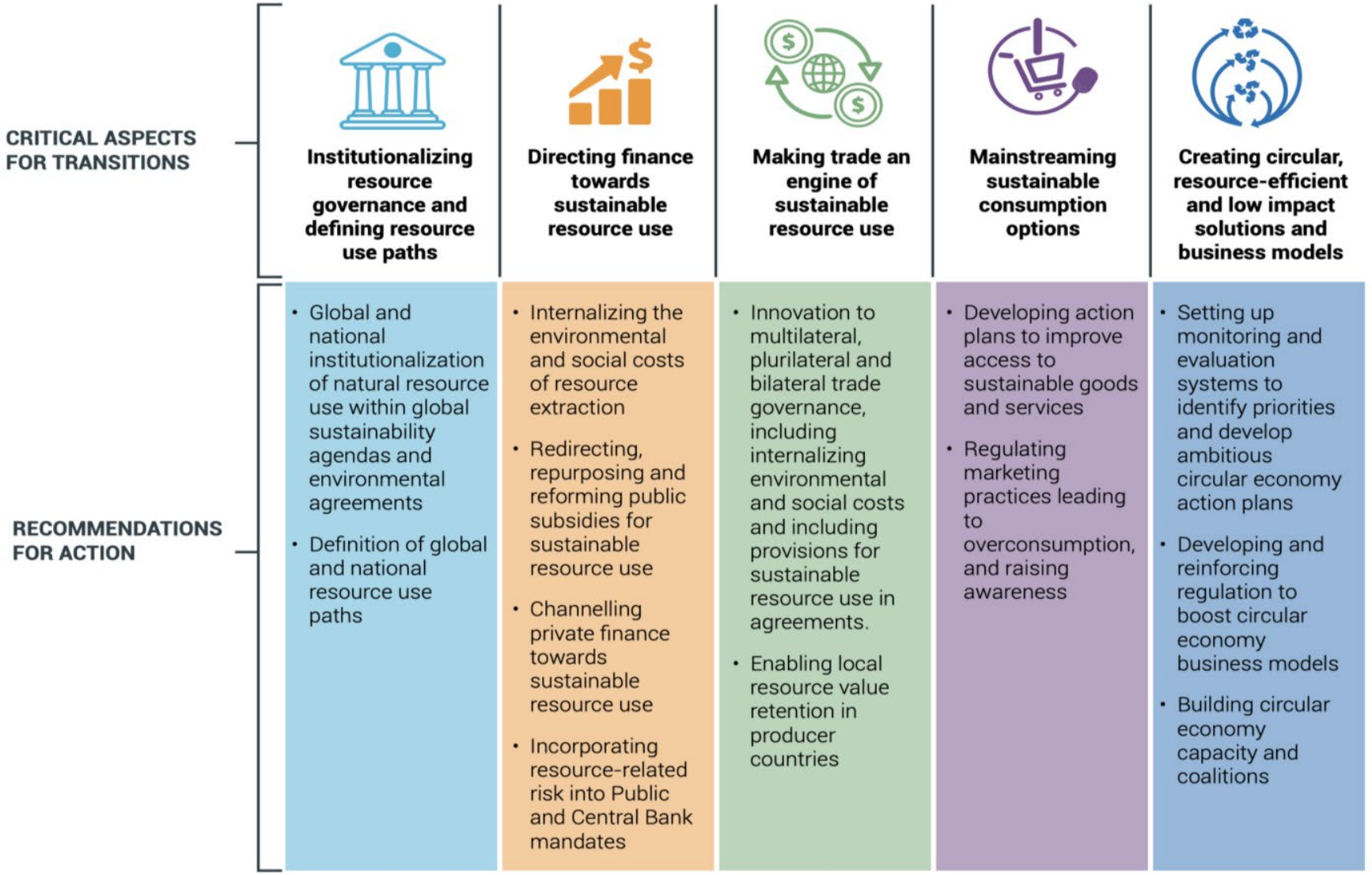
Socioeconomic indicators
HDI
Population

Economic indicators
GDP

Resource use indicators
Domestic extraction (DE)
DE-Food and fibre biomass
Primary Energy PE
Agricultural Land

Environmental impact indicators
GHG emissions
Biodiversity impacts

Bold policy action is crucial to **phase out harmful activities** and encourage responsible and innovative ways to meet human needs



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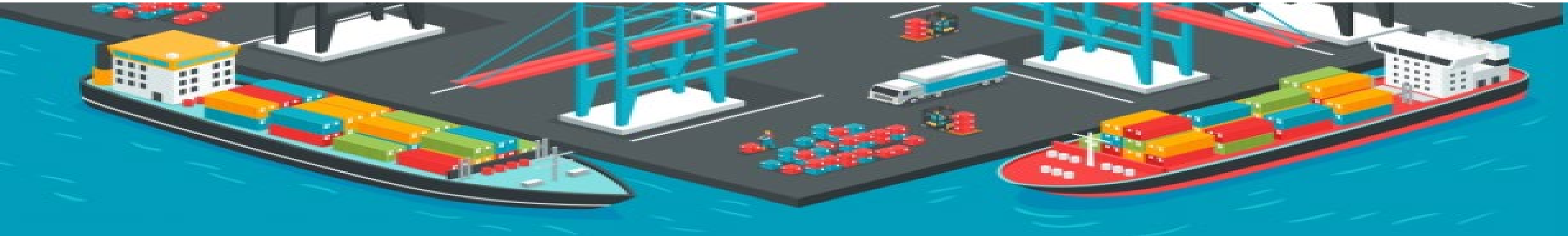
"Multilateral trade rules need to strike a balance between enabling countries to adopt environmental protection and circular economy measures and related technical regulations and standards, while abiding by the principle of non-discrimination in trade."

Trade and circularity in developing countries

For **developing countries**, the circular economy transition can convey environmental, economic and job creation benefits.

Yet, **resource dependent exporting countries** may need to diversify and implement appropriate compensation and adjustment measures.



Some recommendations include…

- Redirecting, repurposing and reforming public subsidies for sustainable resource use
- Trade governance innovations that recognize and reflect the (externalized) environmental and social costs of resource extraction
- Provisions for sustainable resource use in trade agreements such as reaffirming commitments to existing global environmental agreements
- Policy instruments that incorporate environmental impacts of resource extraction and processing into the cost paid for consumption
- Strengthened mandatory due diligence to set sustainable resource management standards for imported commodities
- Enabling local resource value retention in producer countries

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Policy implications

- ✓ Enhance alignment between international trade and environmental legal frameworks
- ✓ Align trade agreements with domestic environmental policies and priorities
- ✓ Ensure that trade agreements move towards a circular economy (beyond recycling) that is inclusive of developing countries
- ✓ Proactively use regional trade agreements to advance circularity and reduce demand for primary raw materials
- ✓ Advance the development of international standards for circularity, including definitions

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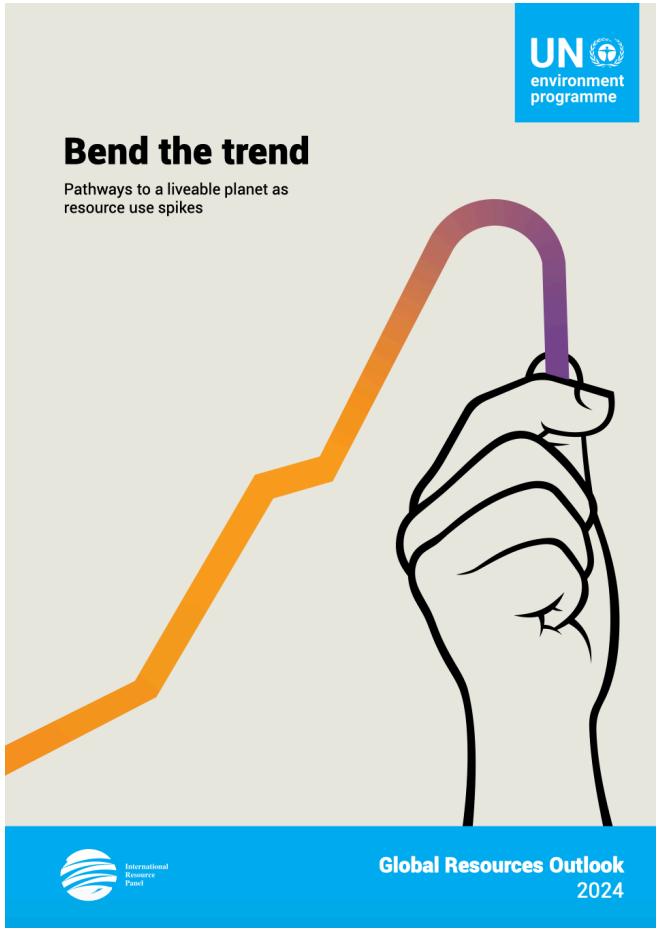
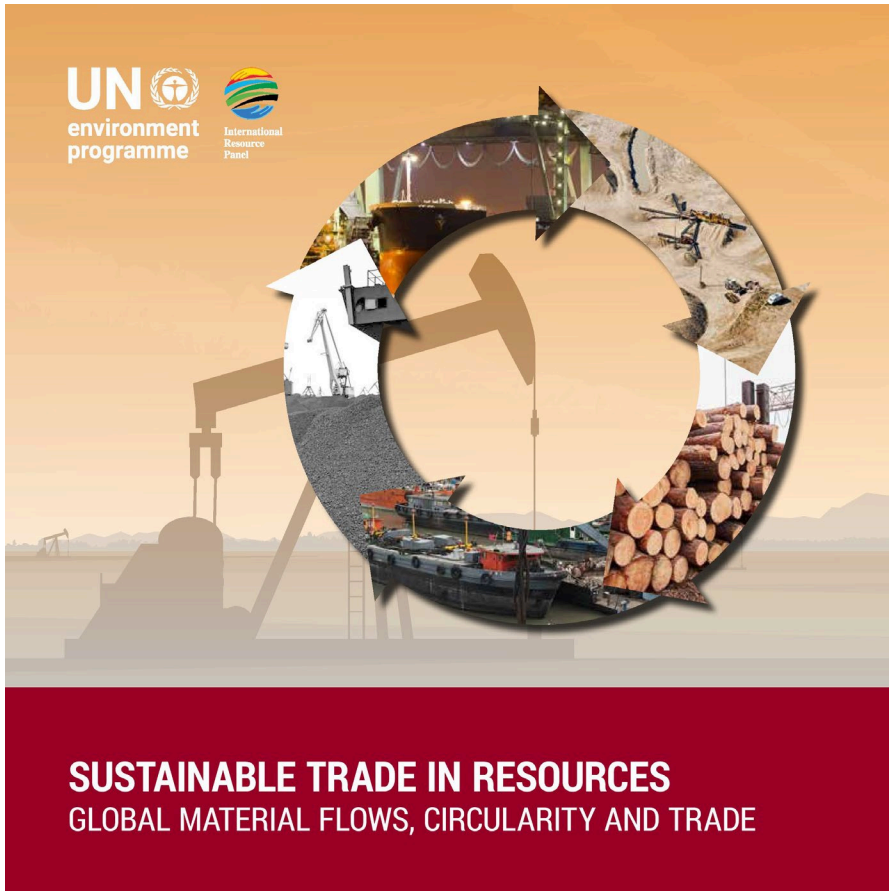
The **scientific community is united** on the **urgent need** for evidence-based **decisions** to protect everyone's interests, including future generations



Available to download at:
https://www.resourcepanel.org/reports/globa-resources-outlook-2024



Available to download at:
https://www.resourcepanel.org/reports/sustainable-trade-resources

Scientific Assessments Under Development:

Global resource trade for a circular economy with climate and just resource use goals

Advancing the Circular Economy in Consumer Electronic Markets

More at: www.resourcepanel.org

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Thank you

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