Resource-Efficiency and Circular Economy

Outlook to 2060 and policy implications

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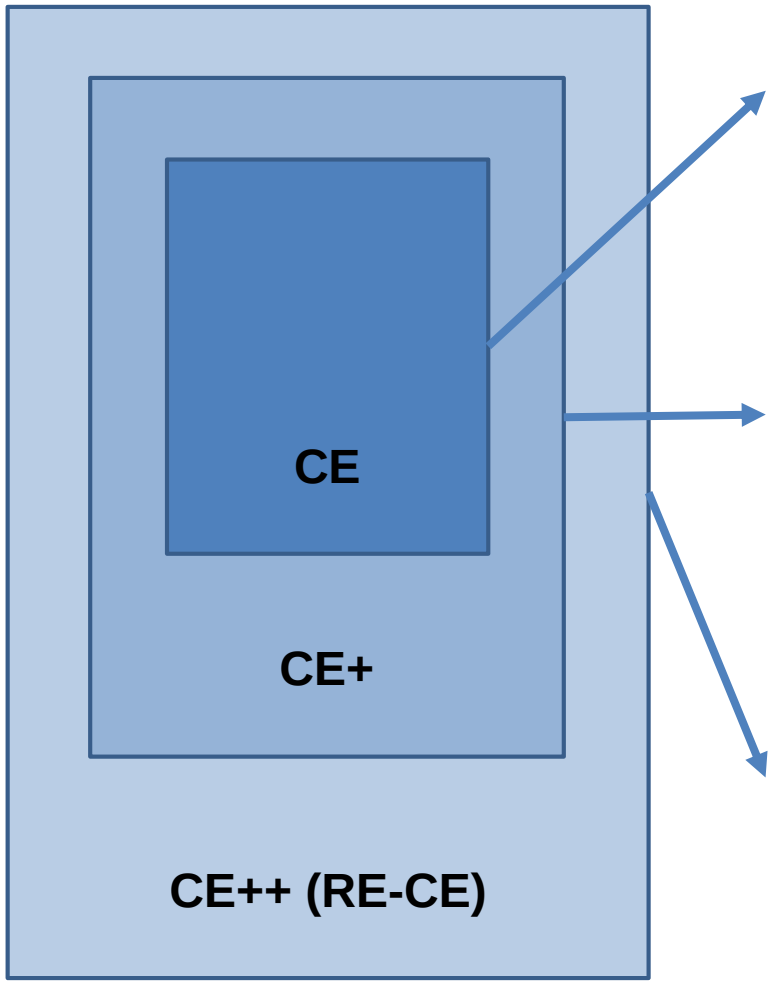
Circularity is a means, not a goal, and a broad interpretation is essential

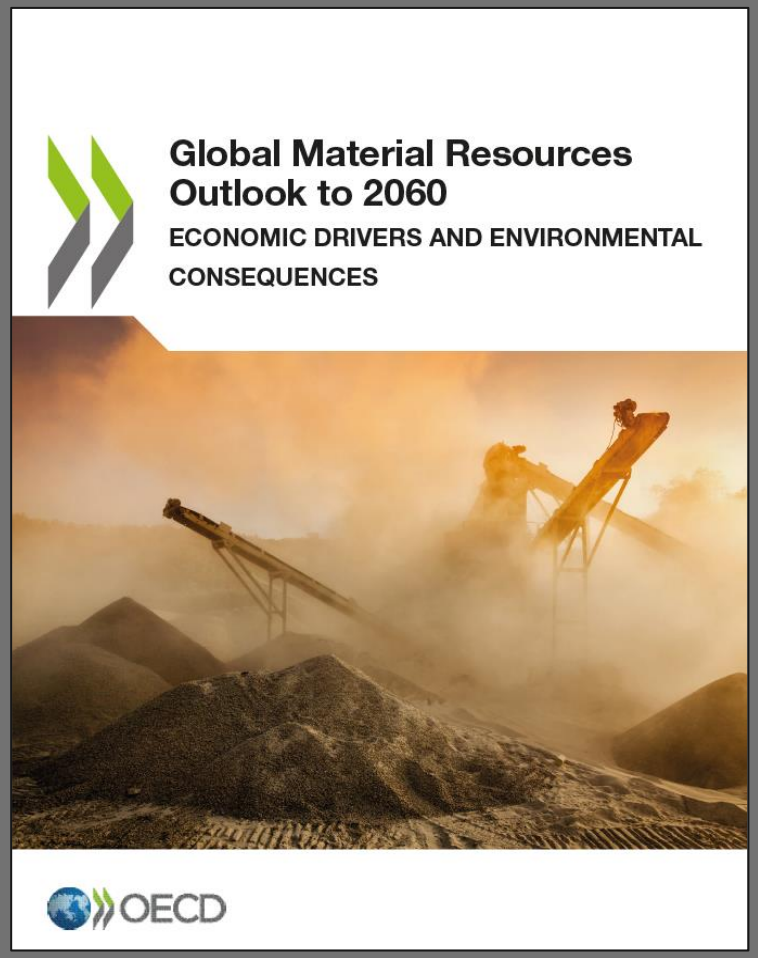


Closing resource loops
- Increased recycling

Slowing resource loops
- Durable design (eco-design)
- Increased repair, …

Narrowing resource loops
- Increased resource efficiency
- Behavioural changes

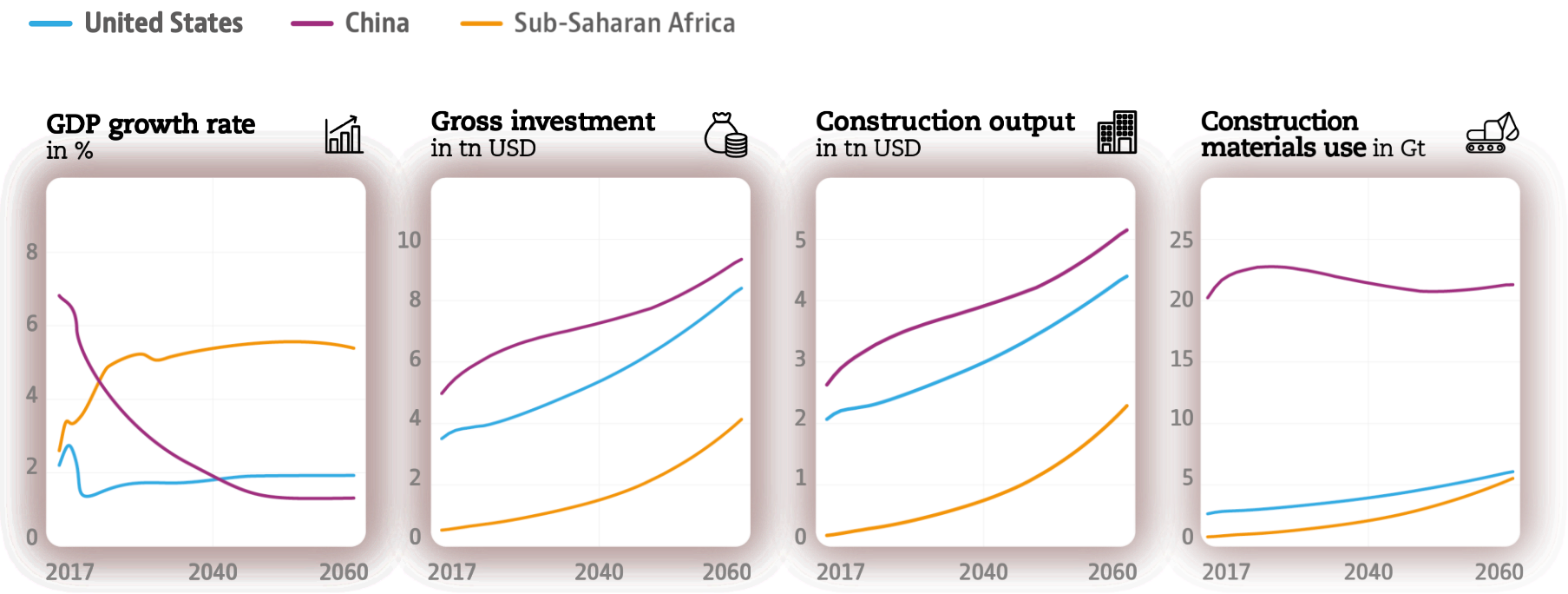
GLOBAL MATERIAL RESOURCES OUTLOOK



Competing forces lead to near doubling of materials use

Source: OECD (2019), Global Material Resources Outlook

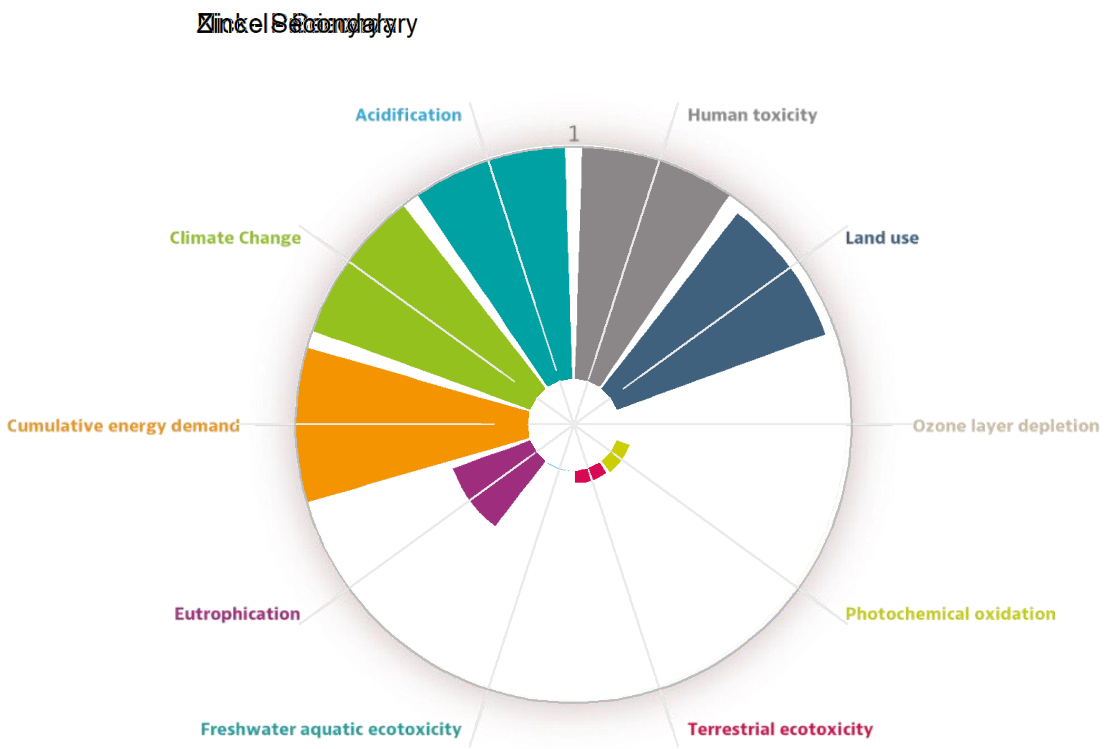
Investment increases over time and construction follows



N.B. Baseline constructed before Covid-19 pandemic

Source: OECD (2019), Global Material Resources Outlook

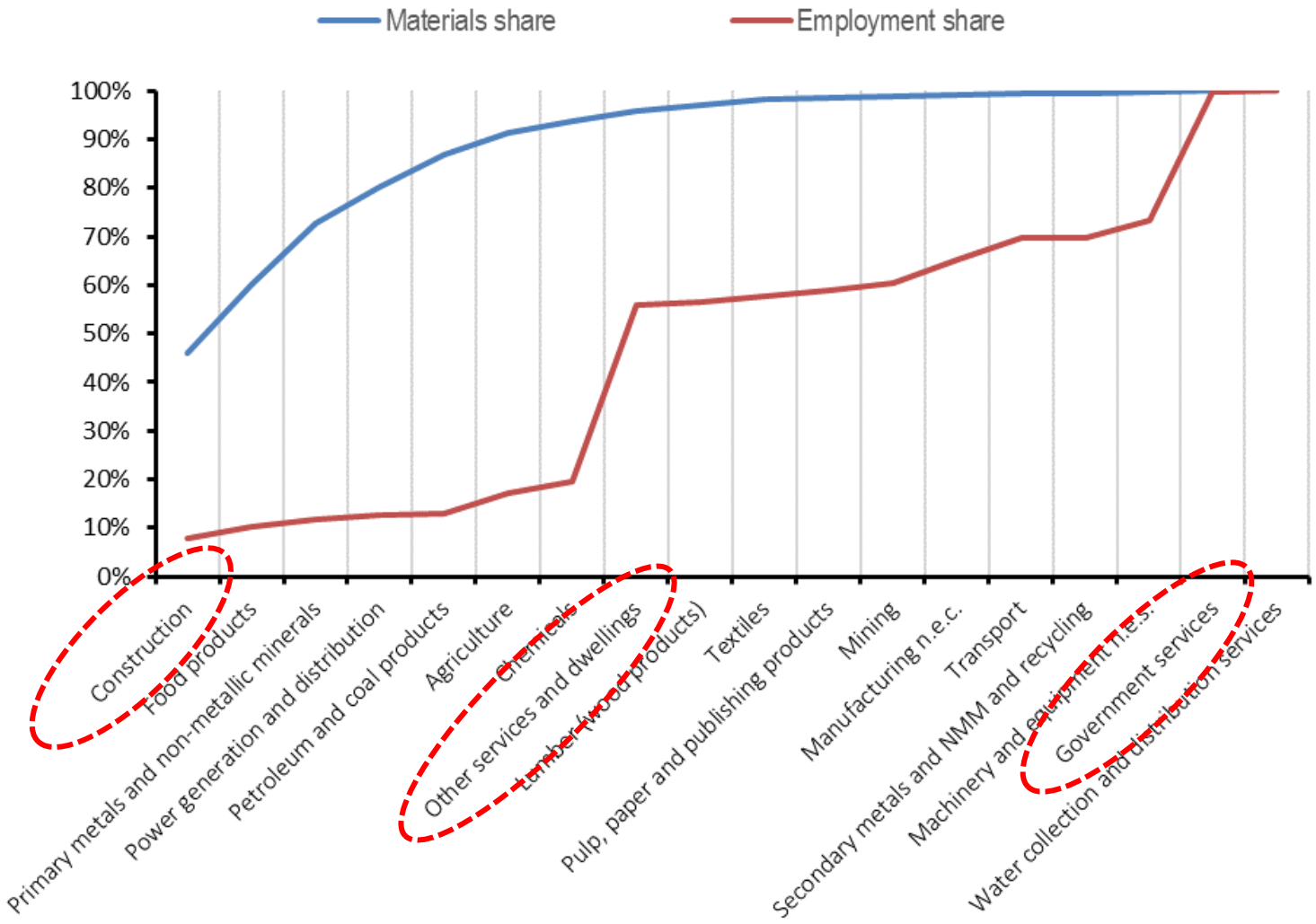
Primary materials cause much more environmental damage than secondary (recycled) materials



Per kg environmental impacts (highest impact normalised to 1) for 2015

Source: OECD (2019), Global Material Resources Outlook

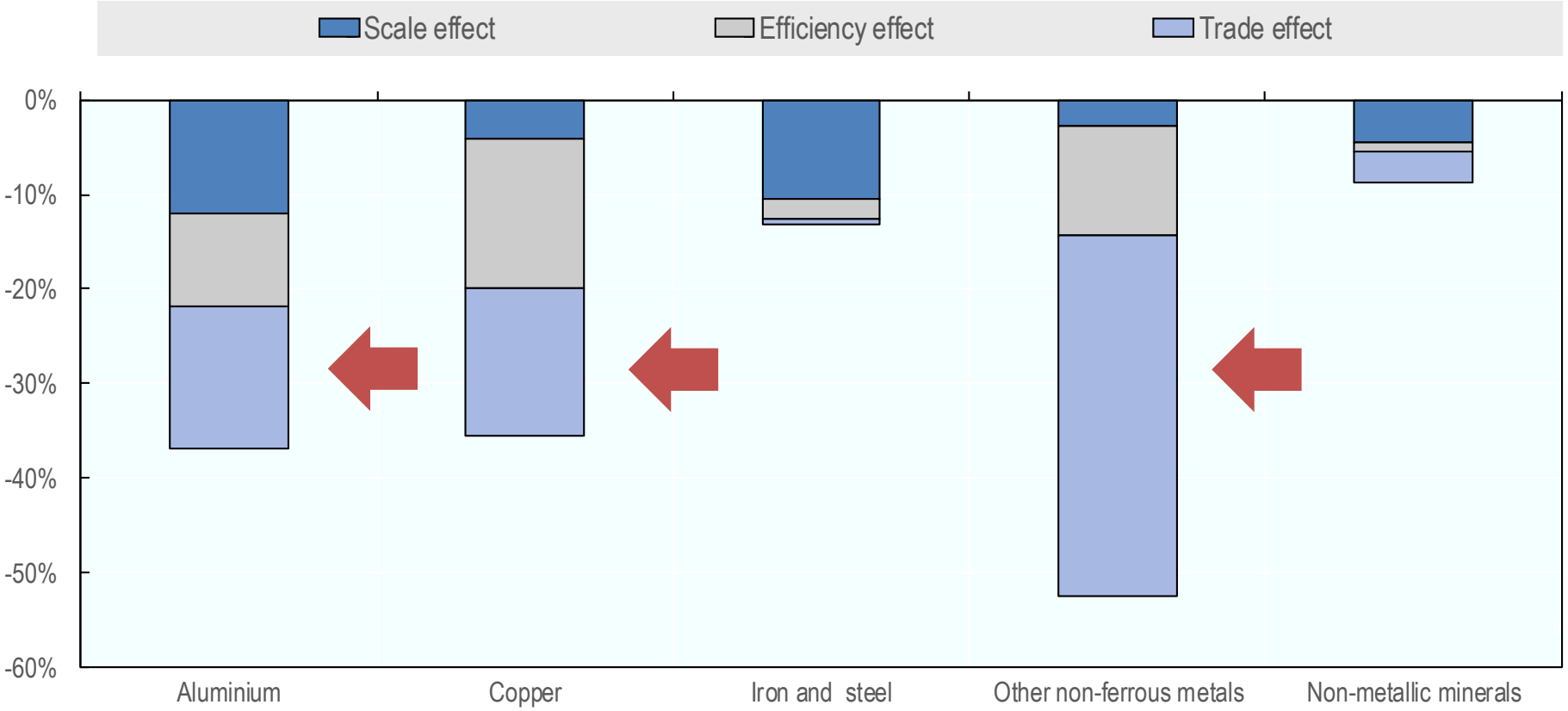
The CE transition affects labour markets



Source: Chateau and Mavroeidi (2021), OECD Environment Working Paper 167

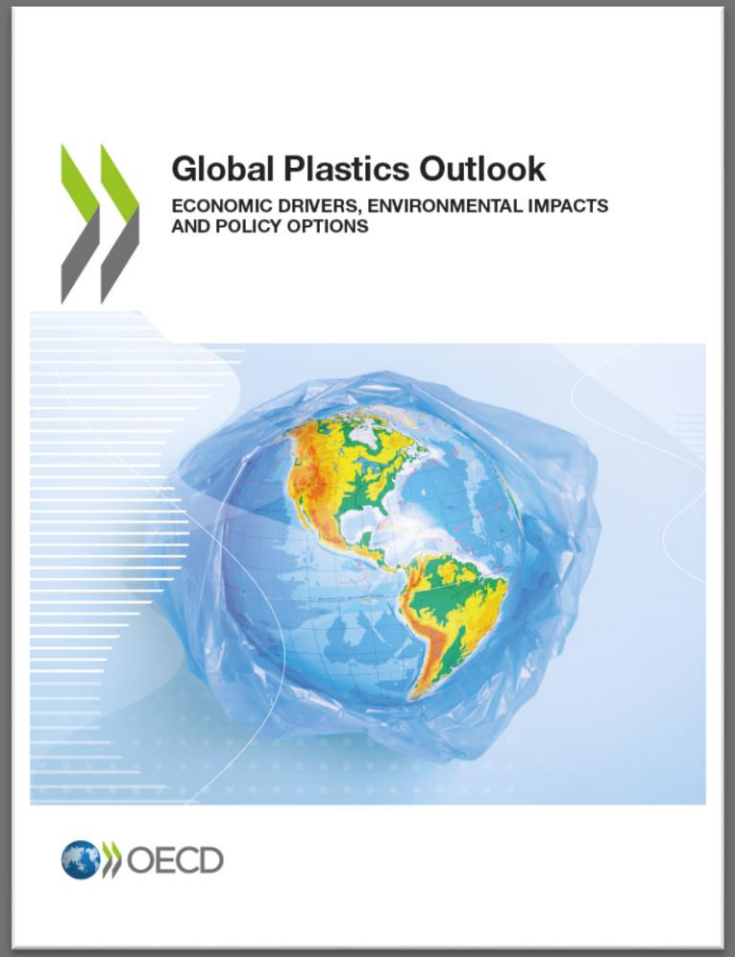
International trade can contribute to reduced materials use

Effects of RE-CE policies on global materials use by driver (percentage deviation from baseline in 2040)



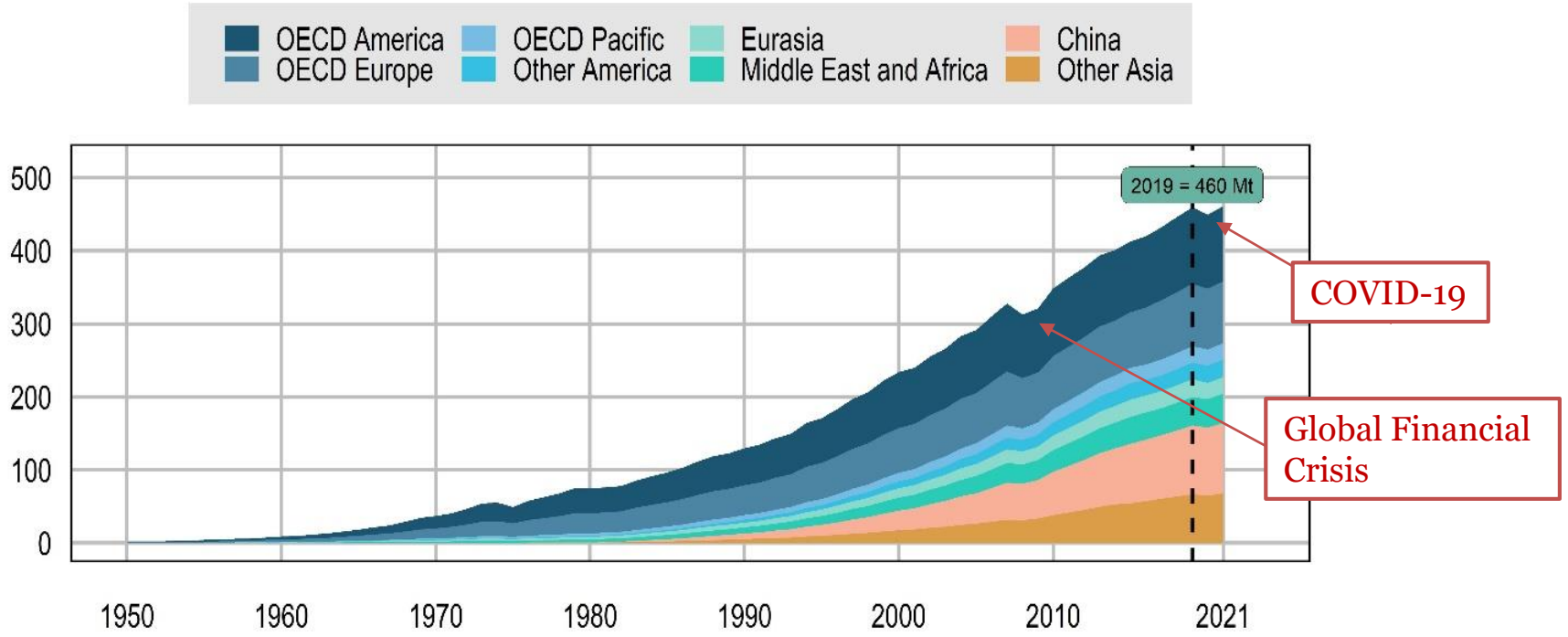
Source: Dellink (2020), OECD Environment Working Paper 165

GLOBAL PLASTICS OUTLOOK



Global use of plastics is growing steadily…

In million tonnes (Mt), 1950-2021



45 500

40%
quicker growth than GDP in 2000-2019

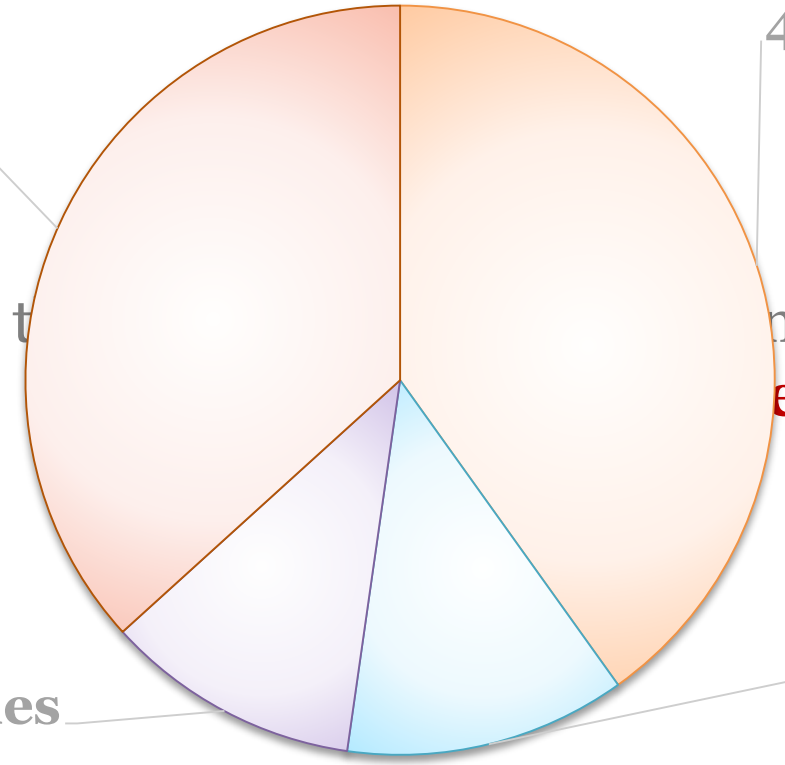
1.8 Gt
GHG emissions generated annually

156 kg
per capita /year in OECD

39 kg
per capita /year in non-OECD

Source: OECD (2022), Global Plastics Outlook

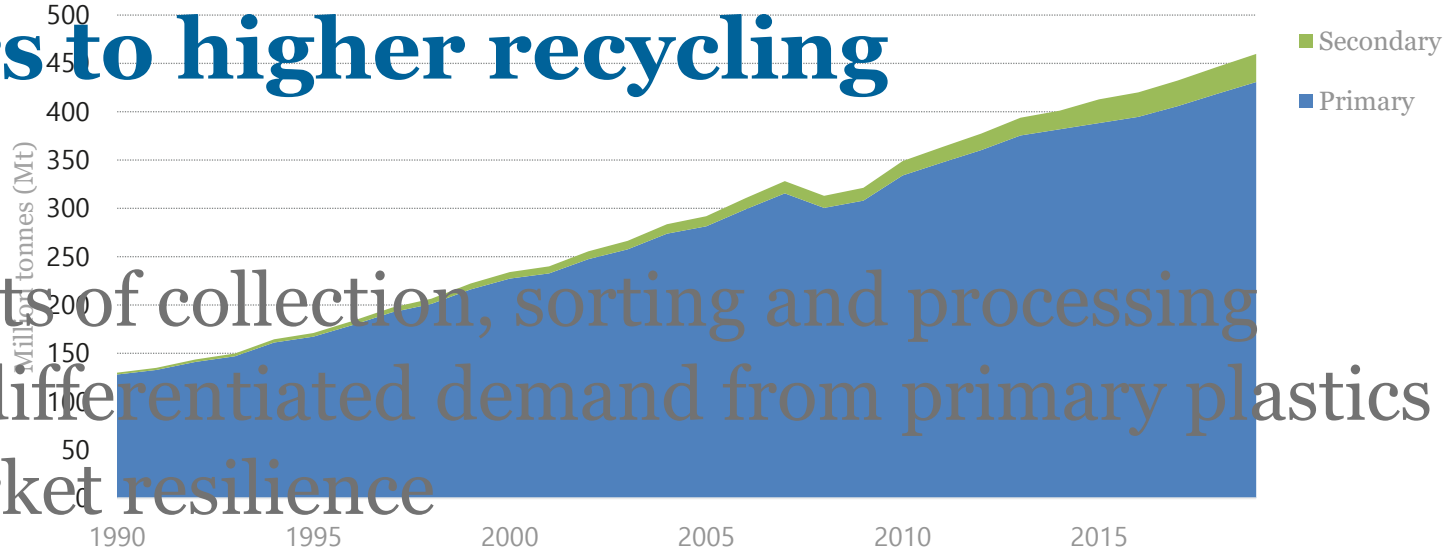
In 2019, plastic waste generation amounted to 353 Mt



More t nera
ess

Markets for recycled plastics

Barriers to higher recycling



- High costs of collection, sorting and processing
- Lack of differentiated demand from primary plastics
- Low market resilience

Secondary production remains marginal (**only 9% of total plastics gets recycled**)

Key levers for intervention

- Bolster markets for recycled materials and plastics
- Boost innovation for more circular production
- Scale-up international financing and co-operation
- Increase ambition of domestic policies

Lever #1: How to bolster markets for recycled materials?

- **Trade** is a key component of scaling up markets for recycled materials
- **Demand pull measures** such as recycled content standards and green procurement
- **Supply push measures** such as Extended Producer Responsibility schemes or R&D support for recycling technologies can lower costs
- Eco-design and information requirements and bans on hazardous substances **can improve the quality of secondary feedstock**
- **Level the playing field** by pricing externalities of use of primary materials

Lever #2: How to boost innovation for circular plastics?

Measure circular innovation

Strengthen framework conditions for such innovation

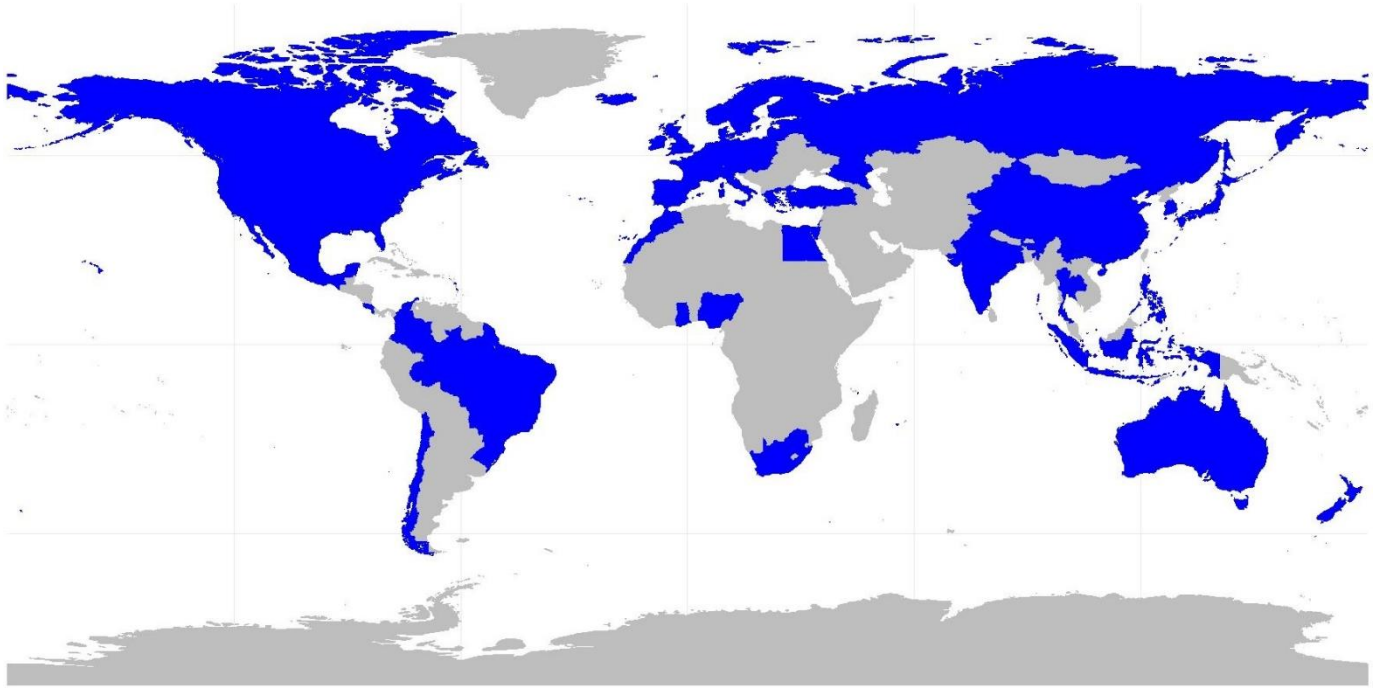
Price environmental externalities of primary materials

Strengthen policies to incentivise design for circularity, boost demand for secondary, close material loops, and curb (plastics) leakage in the environment

Lever #3: How to scale-up international co-operation?

- Mobilise **all sources of funding**, including ODA, to help set up recycling and waste management systems and close (plastics) leakage
- Efficient use of such investments will also require **effective legal frameworks** to enforce disposal obligations
- **Upstream action** is also necessary to enhance circularity
- … including **international alignment** of design approaches, product policies, and the regulation of chemical substances across countries

Lever # 4: Coverage of domestic policies in 50 countries shows a very fragmented landscape



- Only 13 countries incentivise **waste sorting at source**
- 25 have policy **instruments to incentivise recycling**
- 33 have national schemes for **Extended Producer Responsibility**
- Several countries have **bans and taxes on single-use plastic items**
- The **vast majority** of countries **do not have adequate incentives** in place

THANK YOU!

For more information:

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Find out more about our work at:

www.oecd.org/environment/plastics
www.oecd.org/environment/waste/recircle.htm

OECD
BETTER POLICIES FOR BETTER LIVES

Towards a mutually supportive trade and CE agenda

Promoting trade in environmental goods and services
- Goods for recycling and waste management
- Secondary-raw materials, goods for refurbishment and remanufacturing

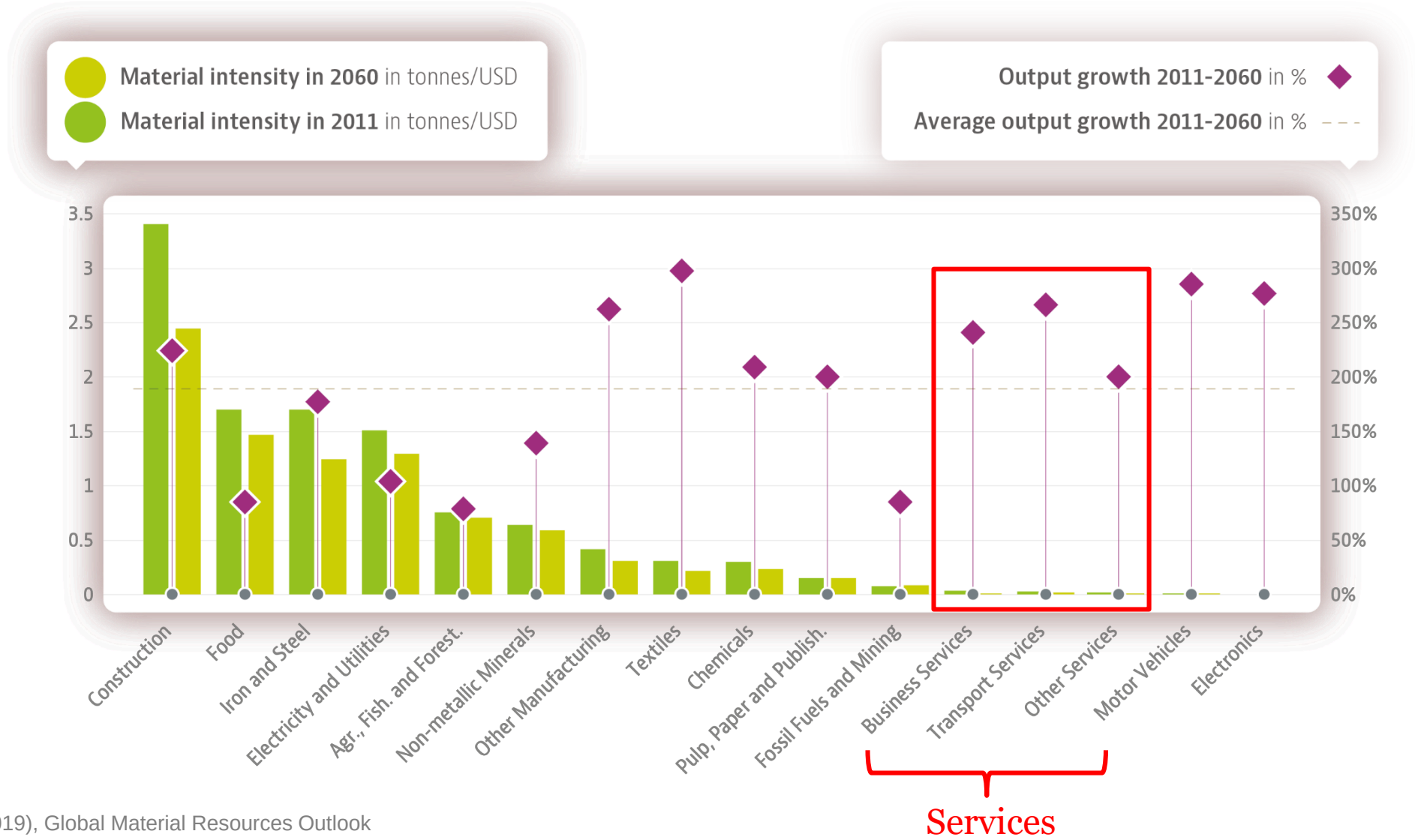
Definitions & classifications
- Clarify different definitions and classifications of waste, secondary materials, second-hand goods, goods for refurbishment and remanufacturing
- Co-operation towards establishing HS codes and alignment of industry codes

Standards
- Harmonisation and mutual acceptance of circular economy related standards and mutual recognition of conformity assessment procedures
- Co-operation towards common standards (e.g. quality of secondary raw materials)

Regulations
- Account for end-of-life value chains and tackle free-riding from online sales (EPR)
- Swift implementation of prior informed consent procedures, tackle illegal waste trade
- Removing trade restrictions where possible

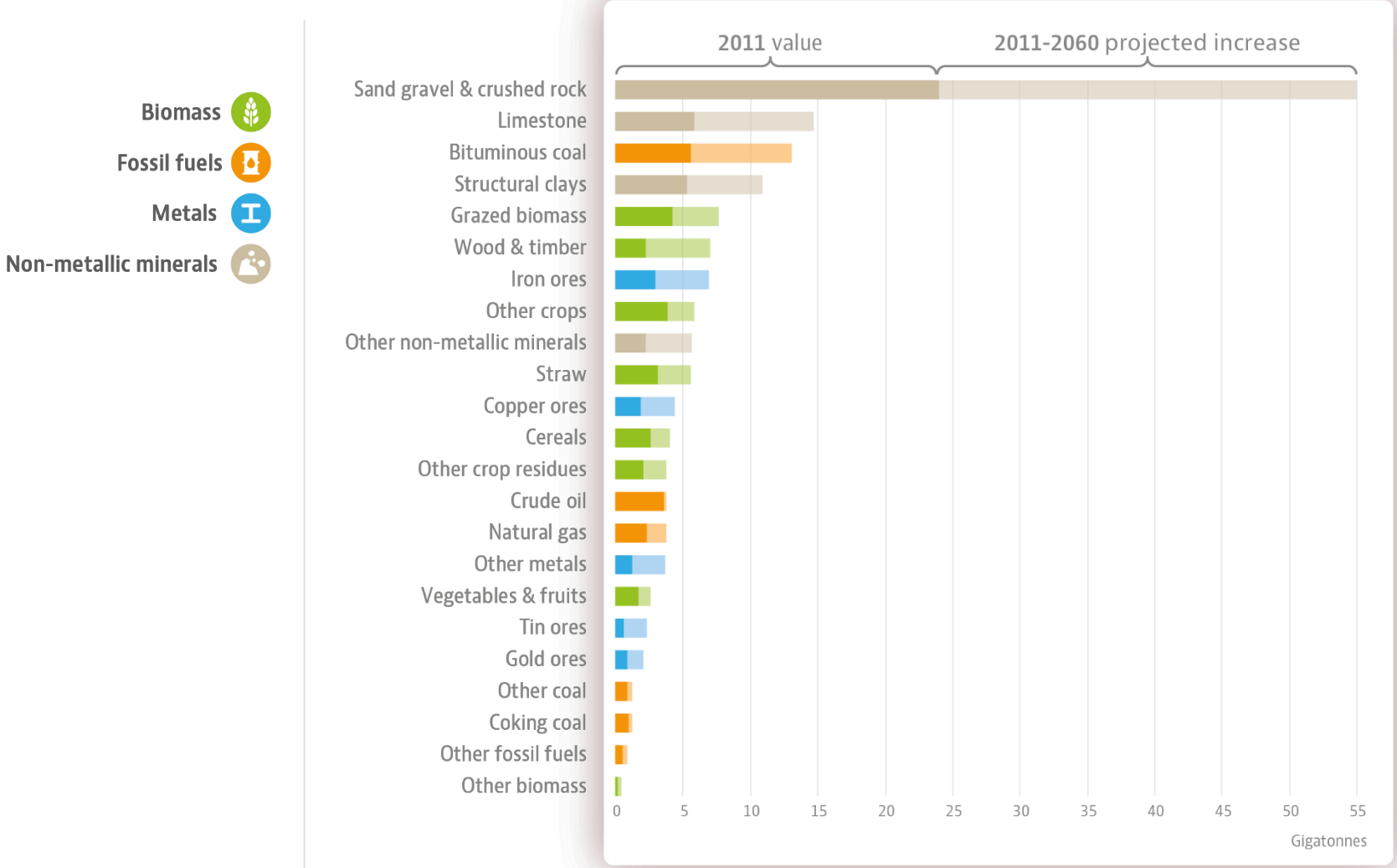
Further areas for co-operation
- Sharing best practices, Aid for Trade, trade facilitation, digital technology, innovation

Structural change shifts activity away from material intensive sectors



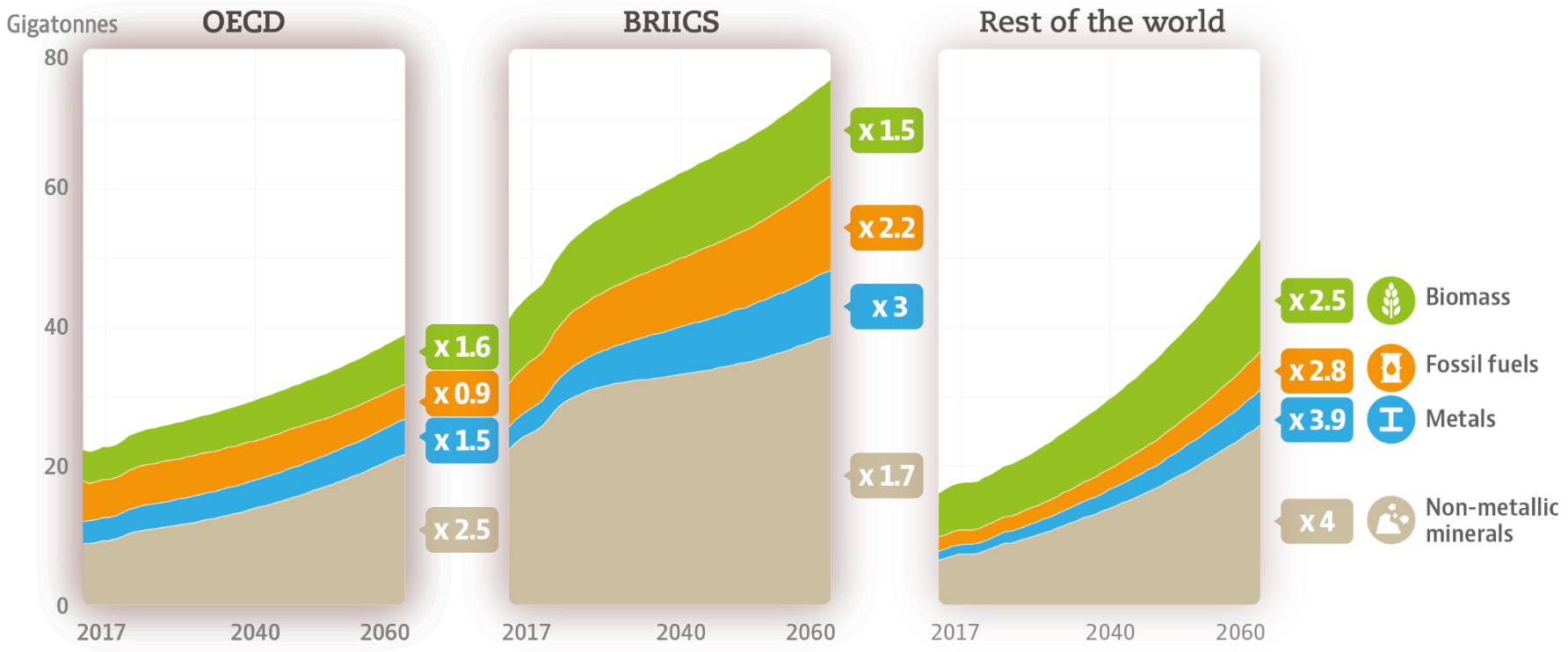
Source: OECD (2019), Global Material Resources Outlook

Growth in material use differs widely across materials



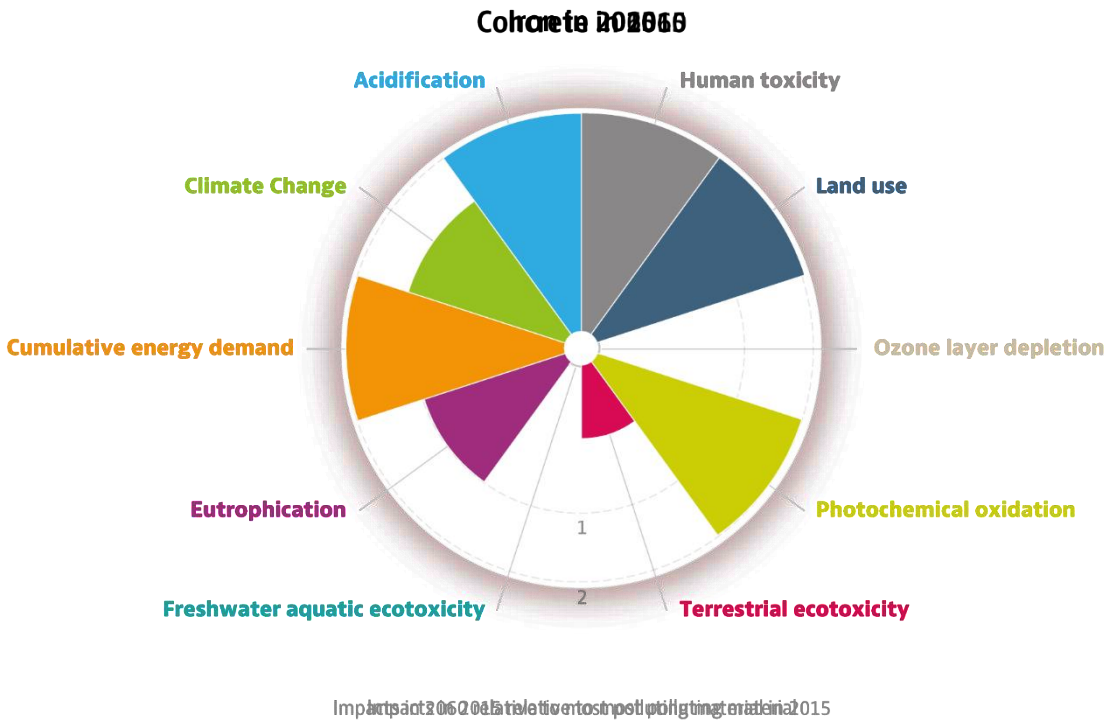
Source: OECD (2019), Global Material Resources Outlook

.. And across countries



Source: OECD (2019), Global Material Resources Outlook

Environmental impacts from extraction and processing will more than double, but vary widely by material



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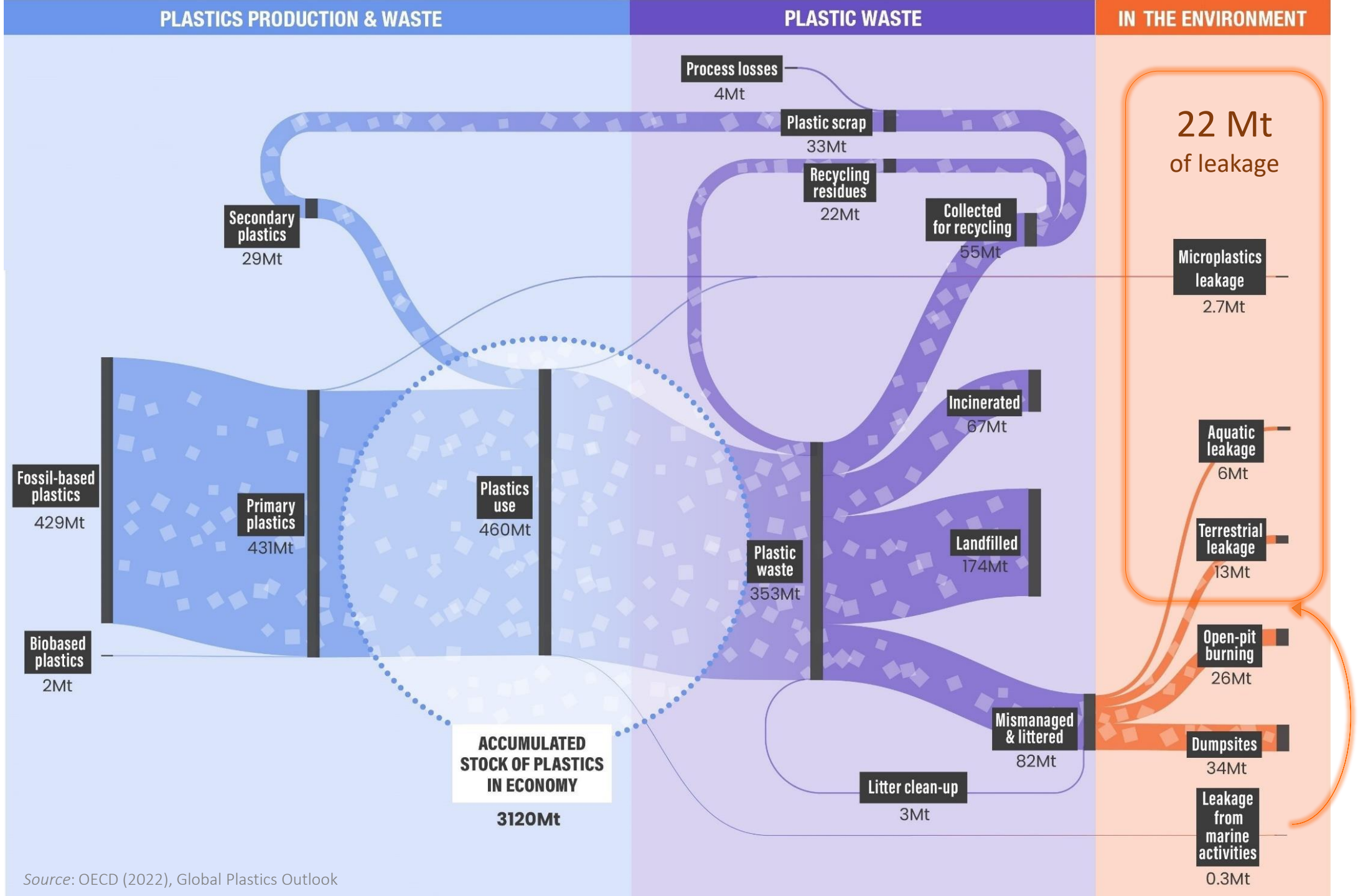

Source: OECD (2022), Global Plastics Outlook