

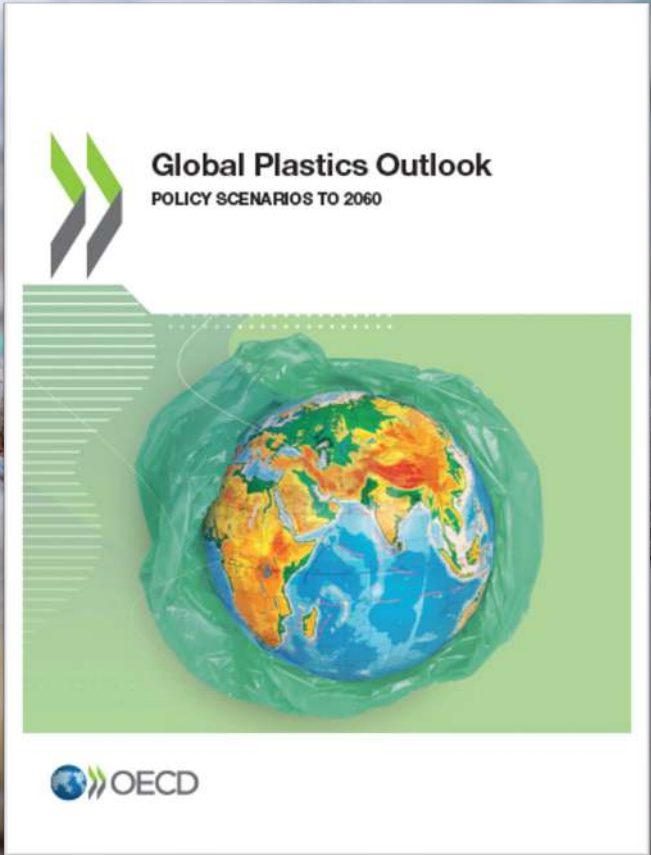
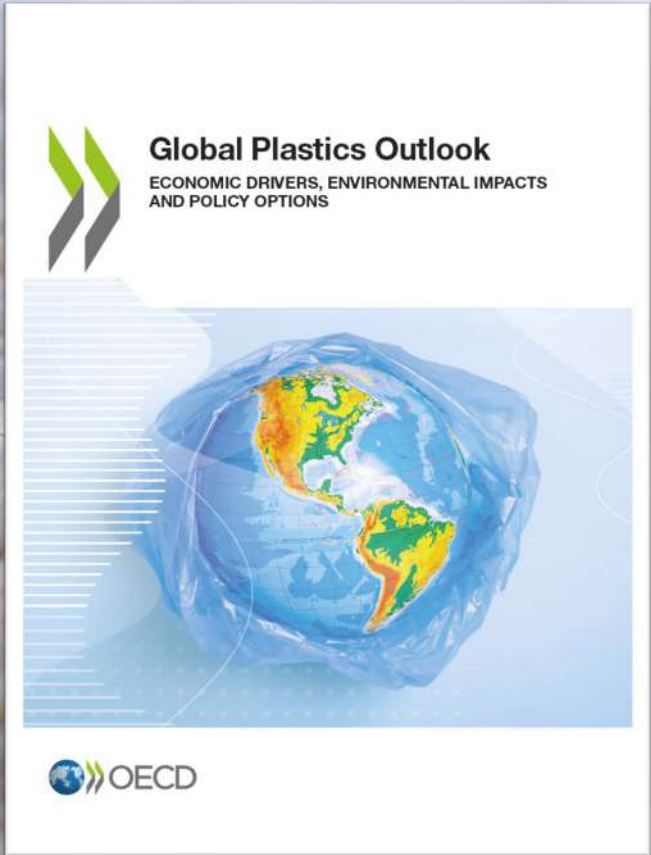


# MANAGING THE PLASTICS LIFE CYCLE

Rob Dellink, OECD Environment Directorate

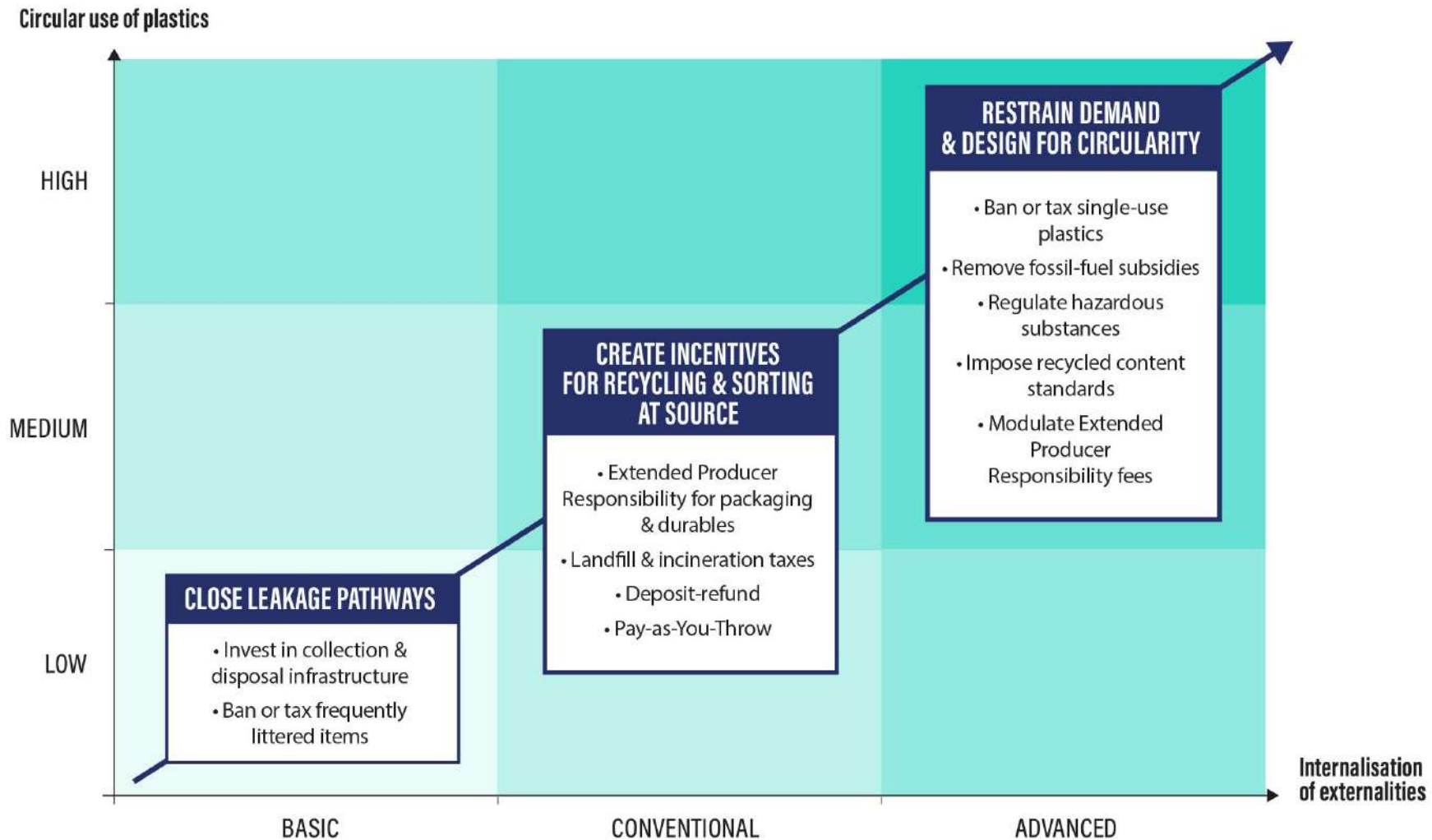
*10 August 2023*

# Projections of plastic flows





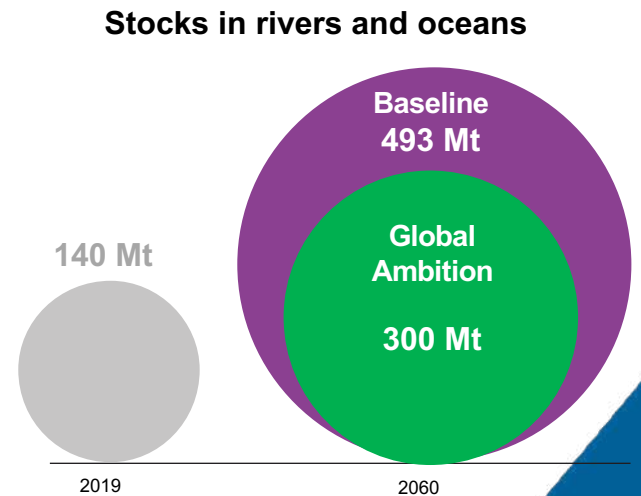
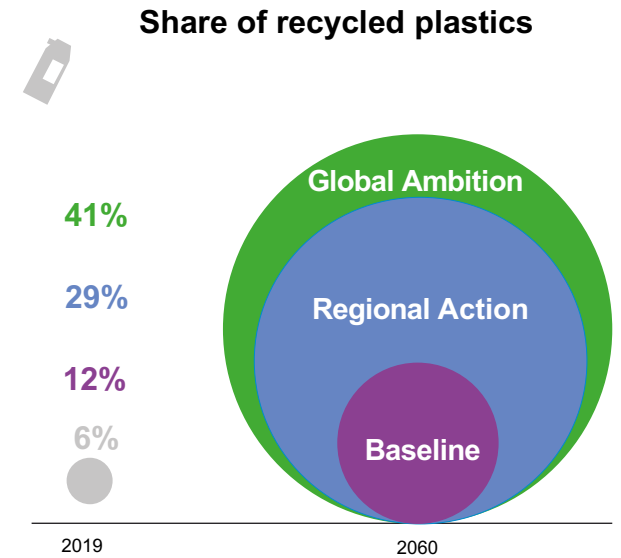
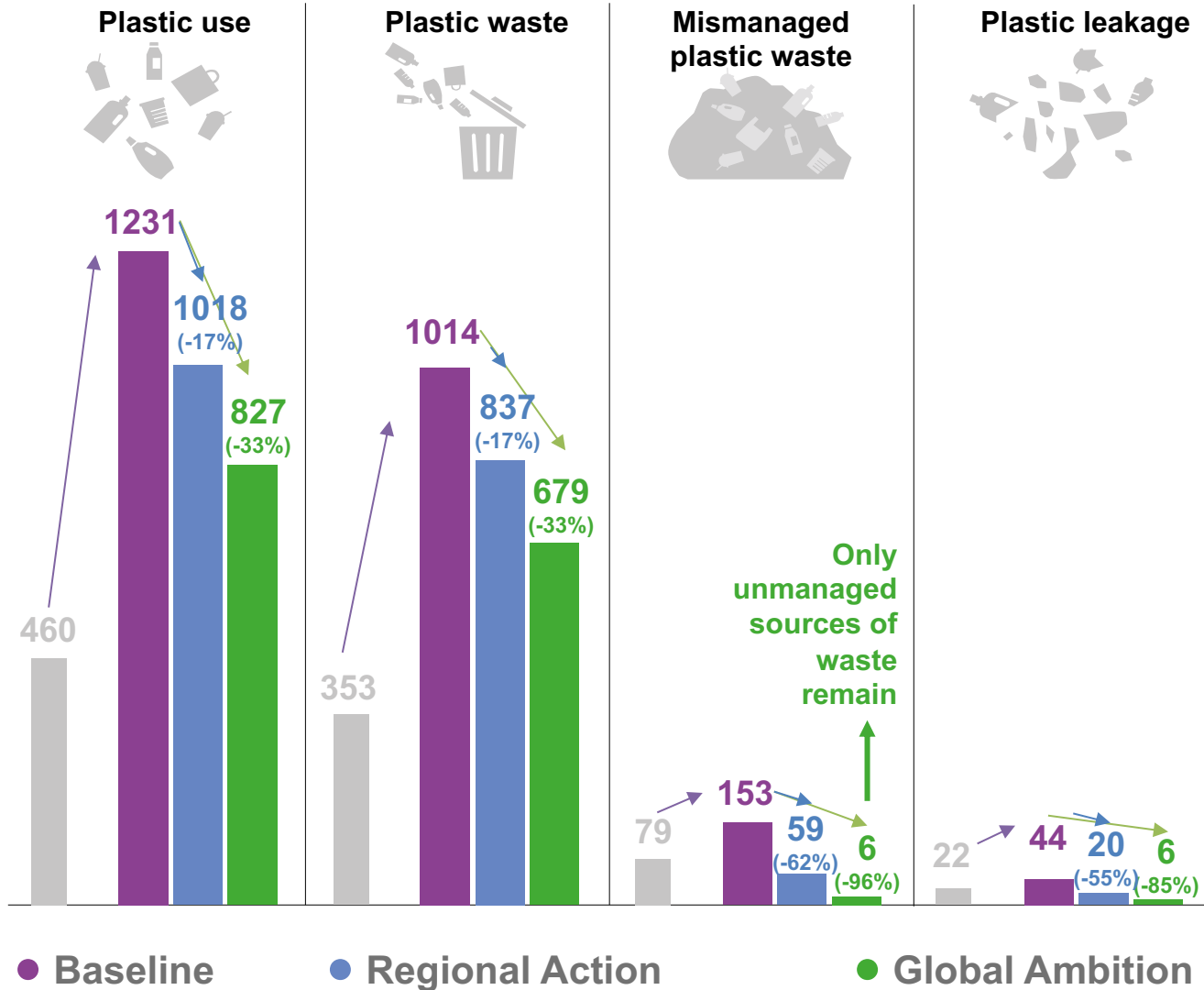
# Policy roadmap for reducing (macro) plastic leakage





# Combining policies that target different lifecycle stages can drastically reduce plastics leakage

In 2060,  
million tonnes

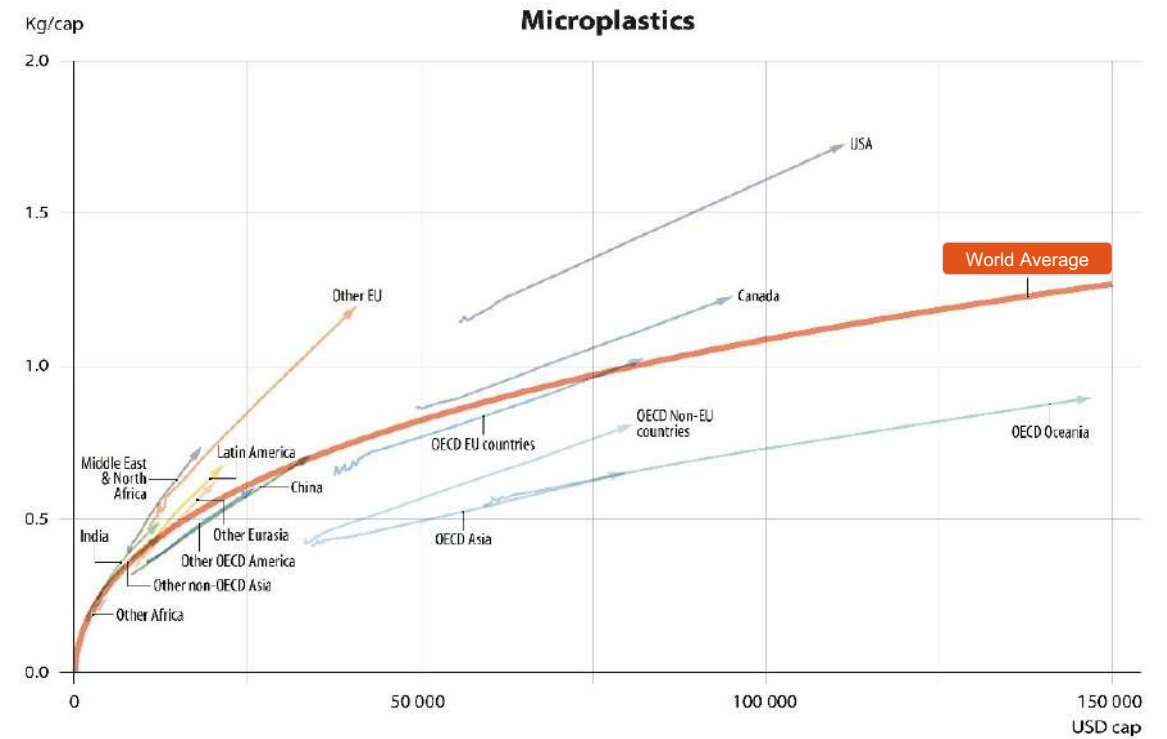
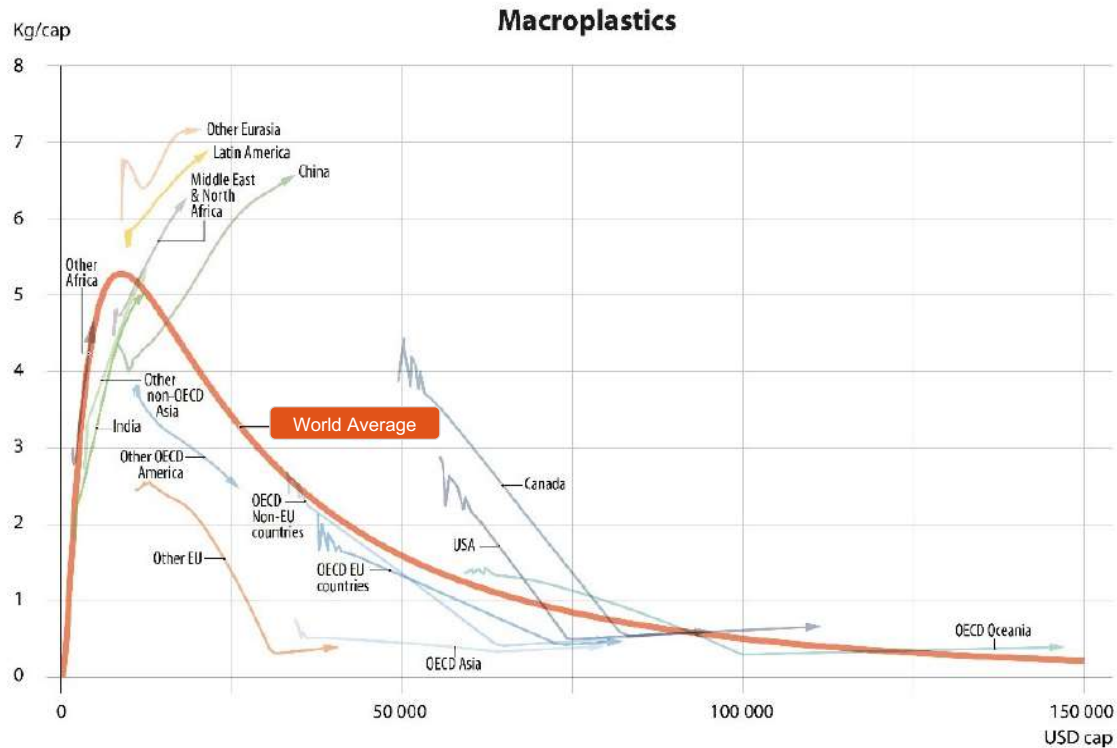





# Macroplastic and microplastic leakage show different trajectories with rising incomes

Macroplastics leakage “Kuznets curve”:  
from 19.4 Mt in 2019 to **38 Mt** in 2060

Microplastics leakage:  
Doubling from 2019, to reach **6 Mt** in 2060

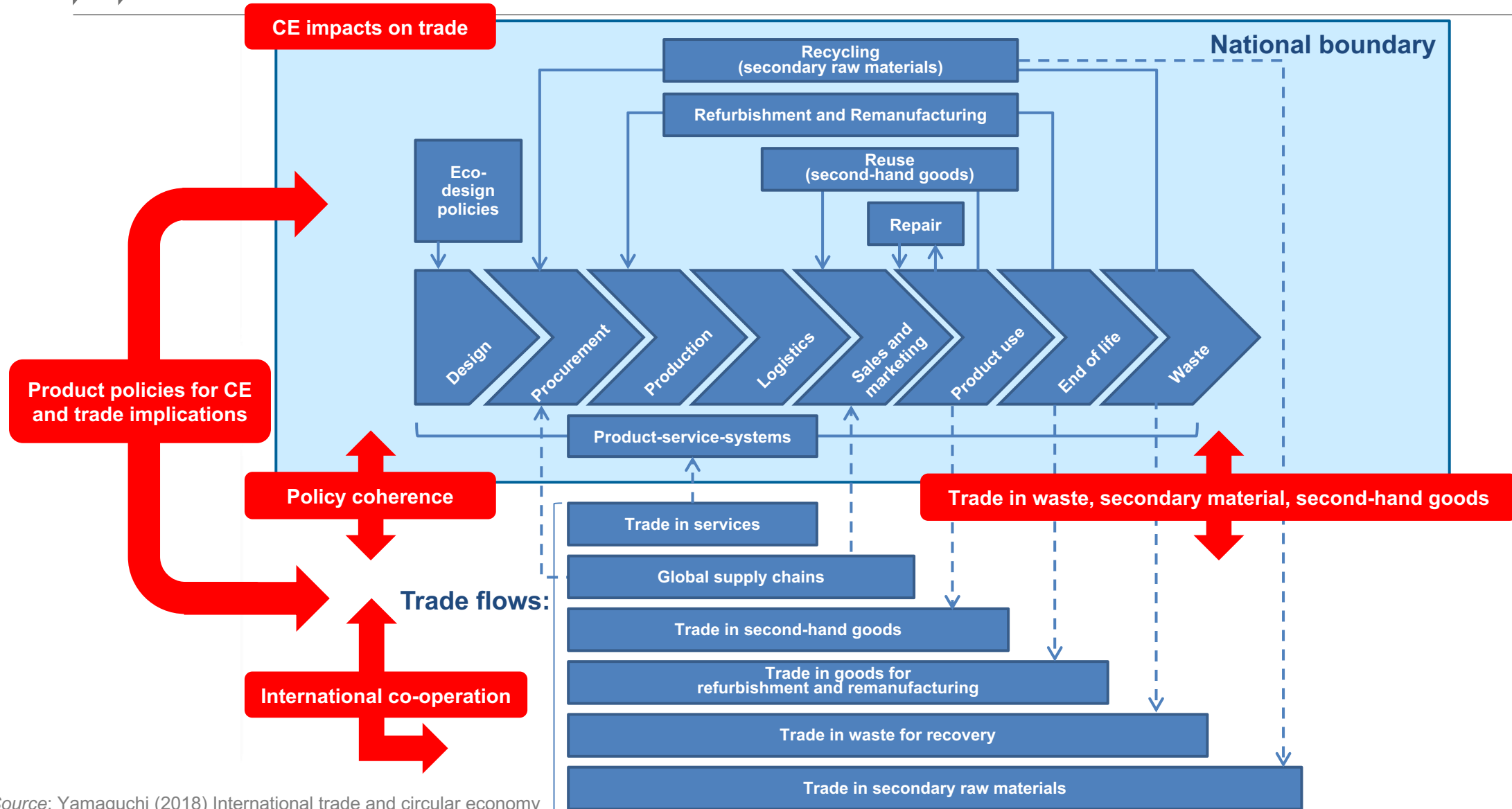


A photograph of a beach heavily littered with plastic waste, including numerous discarded plastic cups and containers. In the background, a person wearing a yellow shirt and red shorts stands on the beach, looking towards the ocean. The sky is blue with scattered white clouds. A dark blue rectangular box with white text is overlaid on the right side of the image.

# Trade in circular plastic value chains



# Interlinkages between trade and circular economy



Source: Yamaguchi (2018) International trade and circular economy



# Overview of product policies related to the circular economy

Product status	Criteria	Sub-criteria	EPR	Labelling schemes	Standards	Eco-design	Public procurement
<i>Regulatory approaches</i>	<b>Material Content</b>	Hazardous Content	✓	✓	✓	✓	✓
		Recycled Content	✓	✓	(✓)	✓	✓
		Cross-cutting		✓	(✓)		
New products	<b>Recyclability</b>		✓	✓	(✓)	✓	✓
			✓	✓	(✓)	✓	✓
	<b>Product Lifespan</b>	Durability	✓	✓	(✓)	✓	✓
		Reparability	✓	✓	(✓)	✓	✓
	Reusability	✓	✓	(✓)		✓	
<i>Regulatory approaches</i>	<b>Sustainable production</b>			(✓)	(✓)		
		<b>Cross-cutting</b>		✓	(✓)	✓	✓
Secondary products	<b>Material quality</b>	Secondary materials			(✓)		
	<b>Product quality</b>	Remanufacturing Second-hand goods			(✓)		

Note: ✓ identifies mandatory schemes or voluntary schemes linked to regulation, (✓) in brackets indicate voluntary schemes.



A photograph of a beach heavily littered with plastic waste, including numerous discarded plastic cups and containers. In the background, a person wearing a yellow shirt and red shorts stands on the beach, looking out towards the ocean under a cloudy sky. The text "Financing needs and solutions" is overlaid in a white box with a blue border in the upper right portion of the image.

# Financing needs and solutions



# Costs of plastic pollution in developing countries

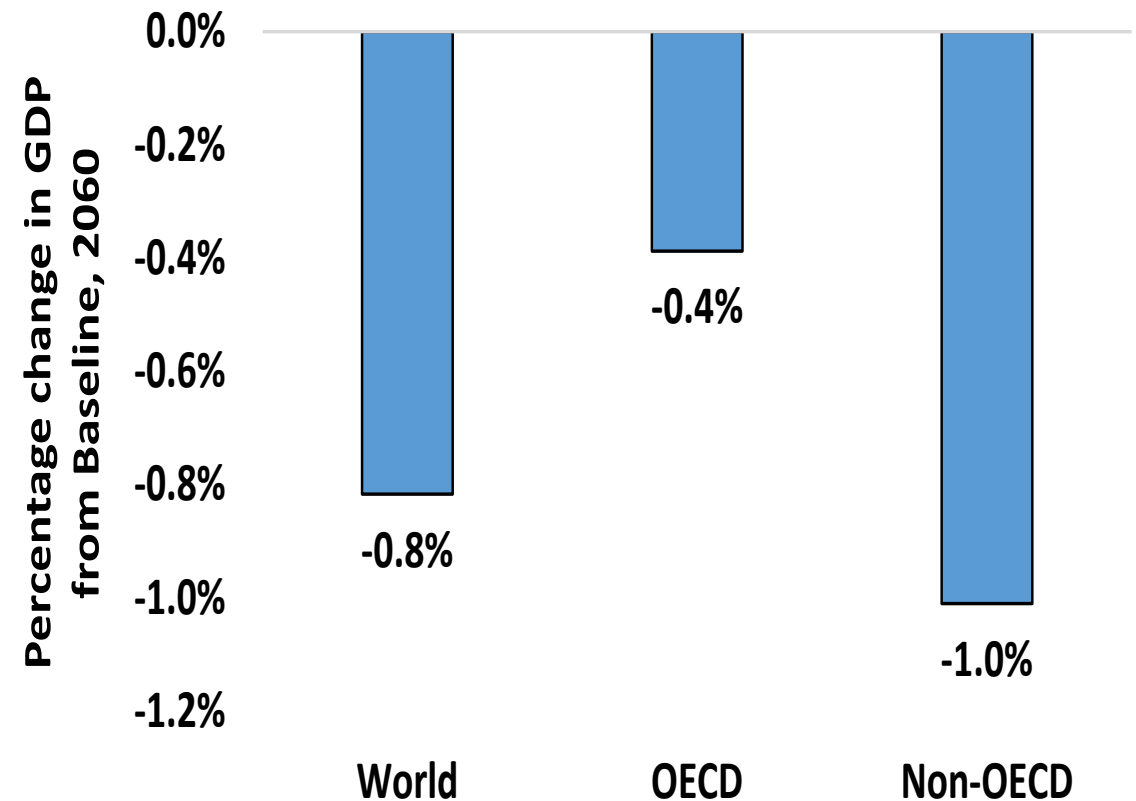
## Economic and non-economic impacts

- Impacts of plastic pollution are multi-faceted: from damage to ecosystem services to impact on livelihoods and human health.
- In developing countries, these impacts can magnify pre-existing vulnerabilities/features: e.g., poverty, governance, more dependence on ocean-based sectors, etc.

## Cost of preventing plastic pollution

- Costs for eliminating plastic pollution globally are unequally distributed.
  - Developing countries will bear the largest cost relative to GDP

Figure 2. Cost of reducing plastic pollution

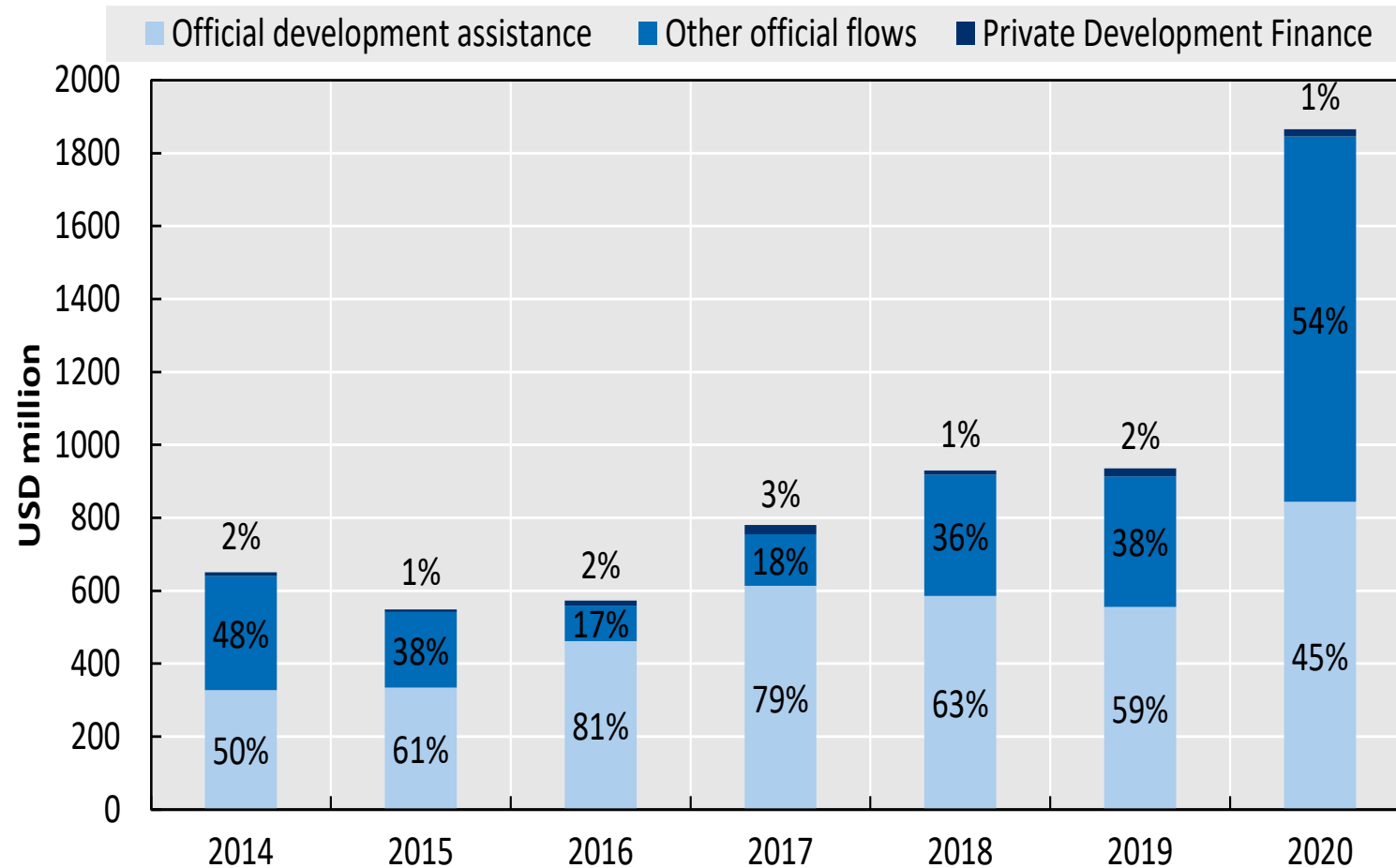


Source: *Global Plastics Outlook (2022)*



# Quantifying development co-operation support (I)

**Figure 3. Development finance to curb plastic pollution**



## Development finance flows

- Development finance flows to curb plastics pollution have been on an increasing trend in recent years – consistent growth since 2015
- Development finance for this goal still represents a fraction of total development finance (< 1%)

## Sources of development finance

- ODA has been the most common source of development finance to curb plastics pollution (54% over 2014-2020)



# Quantifying development co-operation support (II)

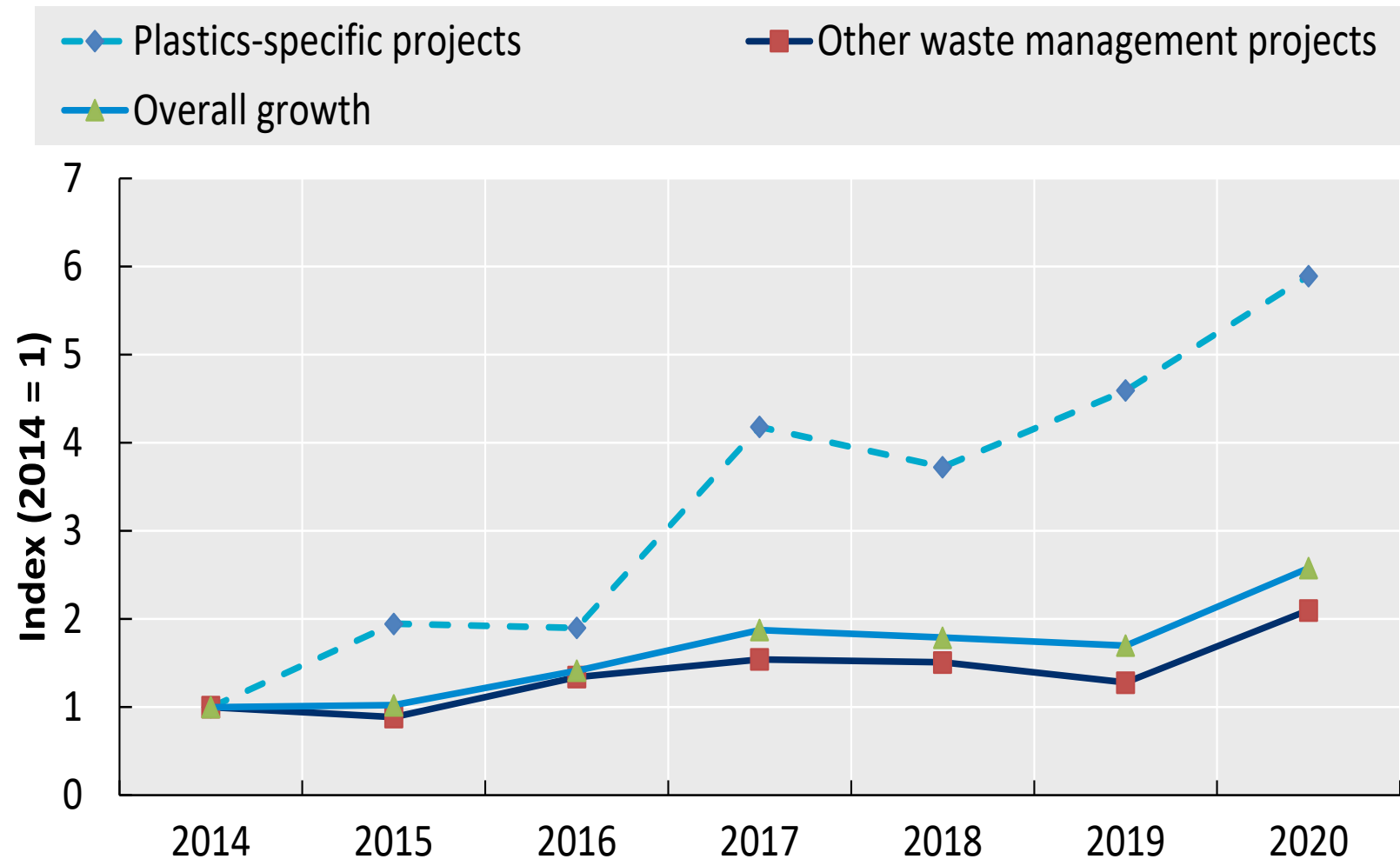
## Main financing instruments

- Most funding to curb plastic pollution comes in the form of debt instruments.
- Grants represented 44% of total in 2014-2020

## Zooming in on ODA

- The increase in development finance flows was mainly driven by a growth of ODA
- ODA allocated to projects with a plastics component has shown a 6-fold increase compared to 2014-levels

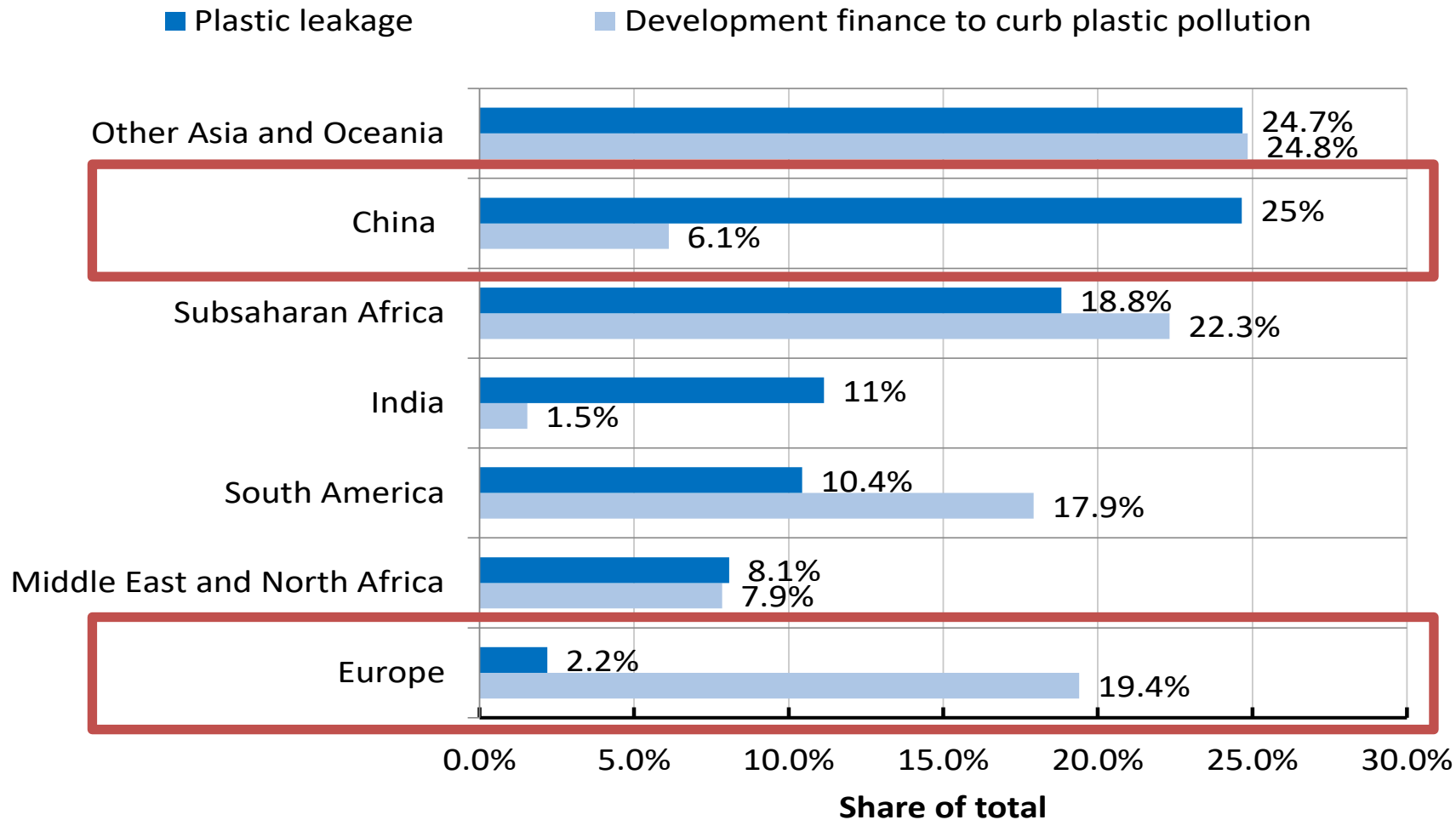
Figure 4. ODA to curb plastic pollution, by main objective





# Quantifying development co-operation support (III)

Figure 5. Plastic leakage and development finance flows, compared



## Targeting of development co-operation flows

- Development finance to curb plastic pollution could be more aligned with where the main sources of leakage are
- E.g. Under-targeting of China and India, and overt-targeting of European ODA-eligible countries



## Concluding thoughts

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Eliminating plastics pollution globally is **necessary, but** also **ambitious** and there will be **transitional costs**.

- Financing for plastics management in developing countries is key to global success

**Trade co-operation can help** to align upstream and downstream measures; need globally aligned approaches

- Scaling up markets for secondary products and boosting circular business models
- Better identification and classification of end-of-life products, ideally with harmonised standards
- Greater transparency and traceability of value chains and digitalisation
- Avoid environmental dumping, including combatting illegal waste trade
- Trade in plastics substitutes could be part of the solution, but only with well functioning treatment systems at destination, and no increased leakage into the environment.

It is vital that **policy alignment is not left to the implementation** phase, but part of the design of the treaty.



# *Thank you*

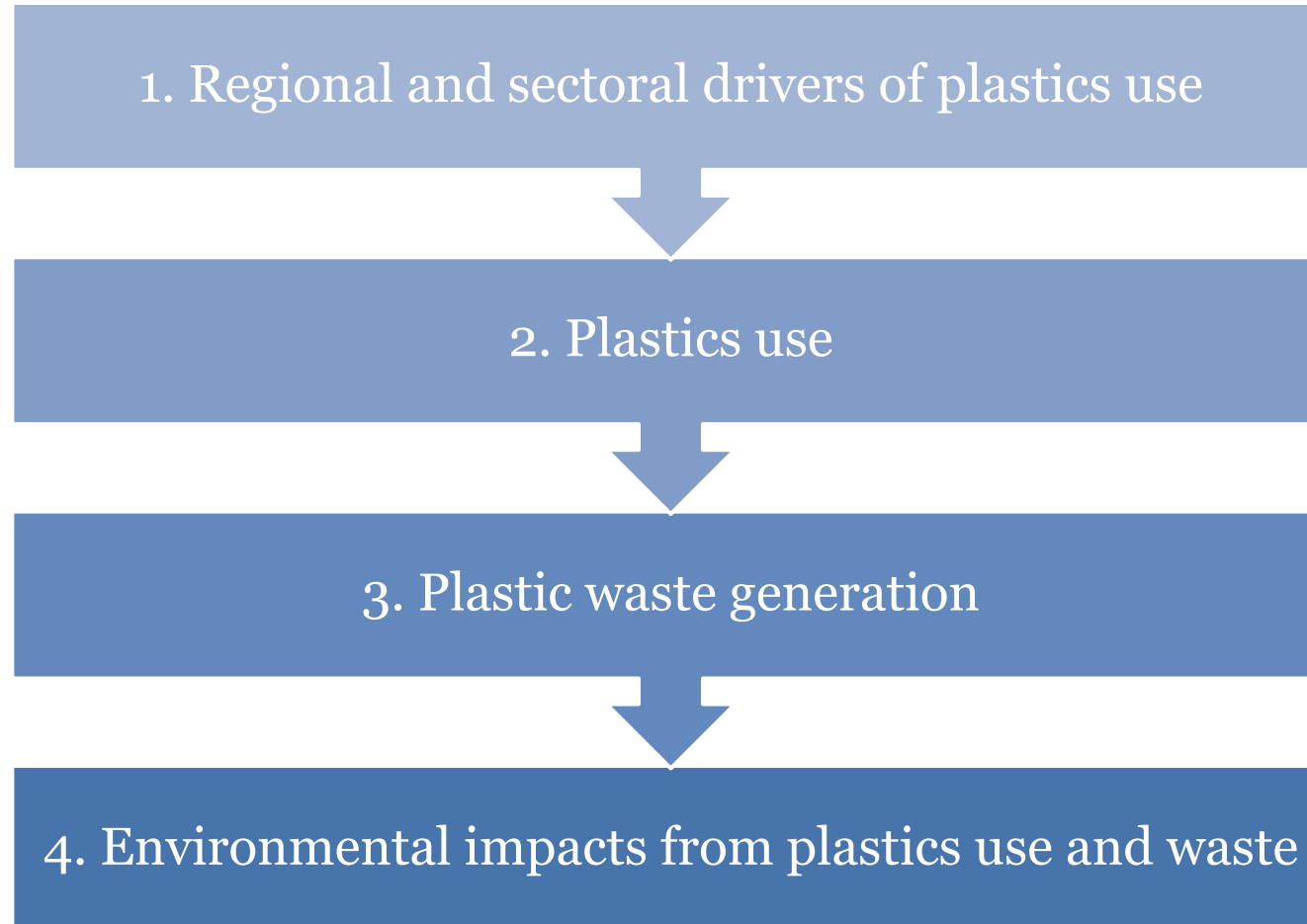
Find out more about our work at:  
[www.oecd.org/environment/plastics](http://www.oecd.org/environment/plastics)

Contact me at:  
[rob.dellink@oecd.org](mailto:rob.dellink@oecd.org)



# Modelling framework

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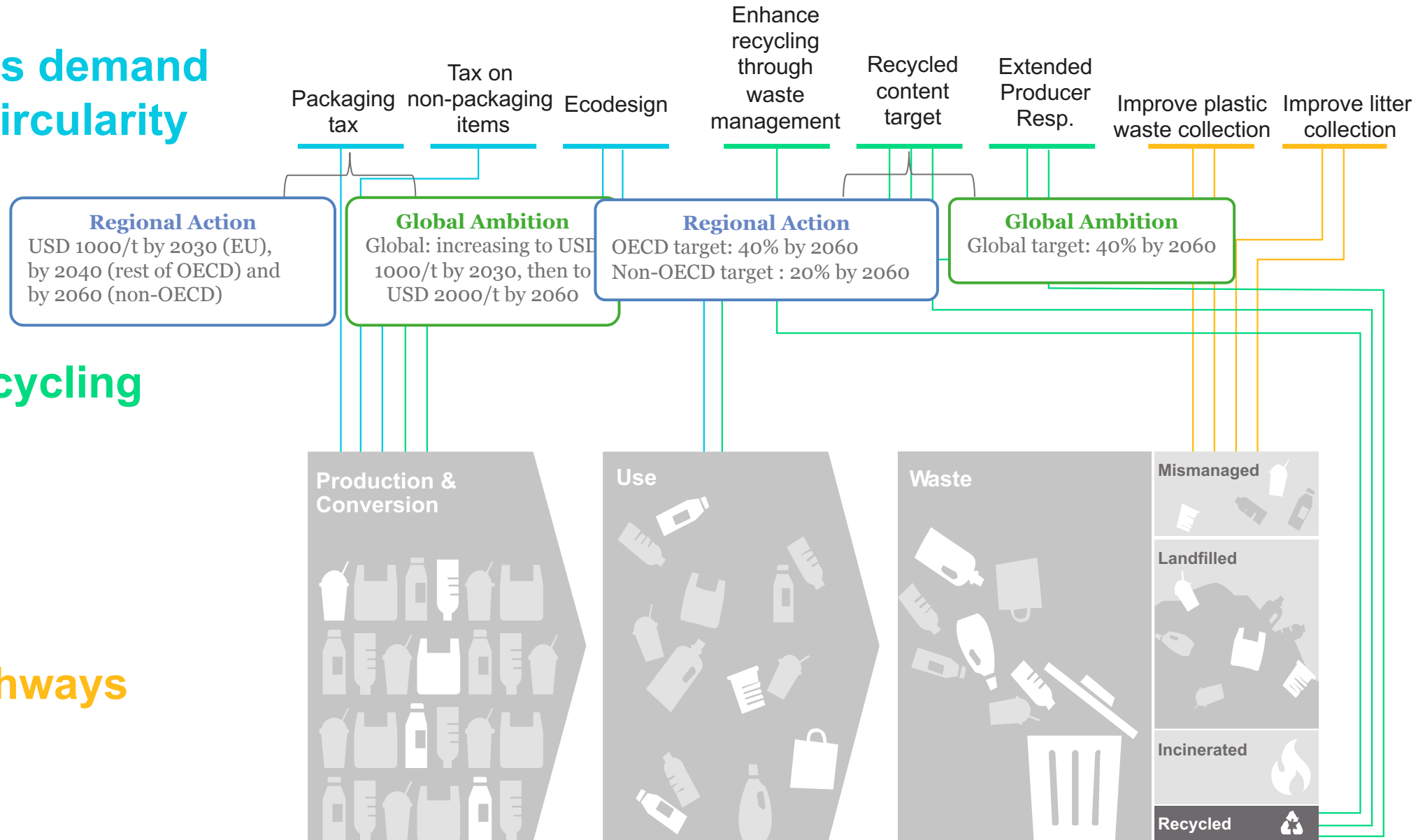


# Both policy packages target the entire plastics lifecycle

**Restrain plastics demand and enhance circularity**

**Enhance recycling**

**Close leakage pathways**





## Trade in plastics waste

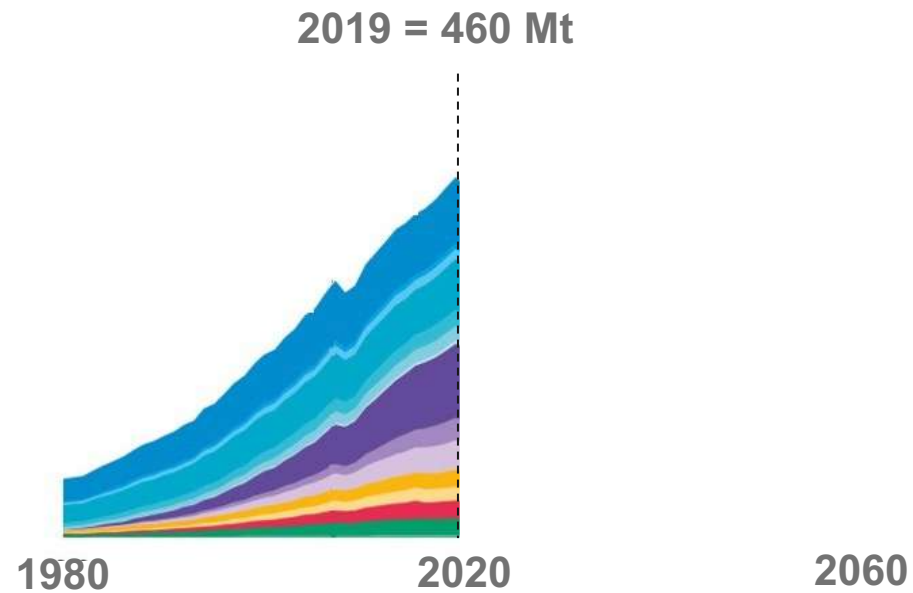
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- Incorporated trade in plastic waste per application and polymer type
- Volumes of plastic waste exports and imports are calculated based on UN Comtrade data:
  - Total exports of plastic waste per country and polymer are estimated using the share of plastics exports (Comtrade) to plastic waste (output of ENV-Linkages).
  - Exports are split into partner countries and polymers using the country and polymer weights in 2019 for projections, and historical data for the years before
  - $\text{Imports}(r,rr) = \text{Exports}(rr,r)$
- The end-of-life fates of plastic waste traded flows differ from the domestically treated waste: 50% of traded plastic waste is recycled, and the remaining is distributed across the other waste streams following the same proportions of end-of-life fates as domestically treated waste excluding littering.

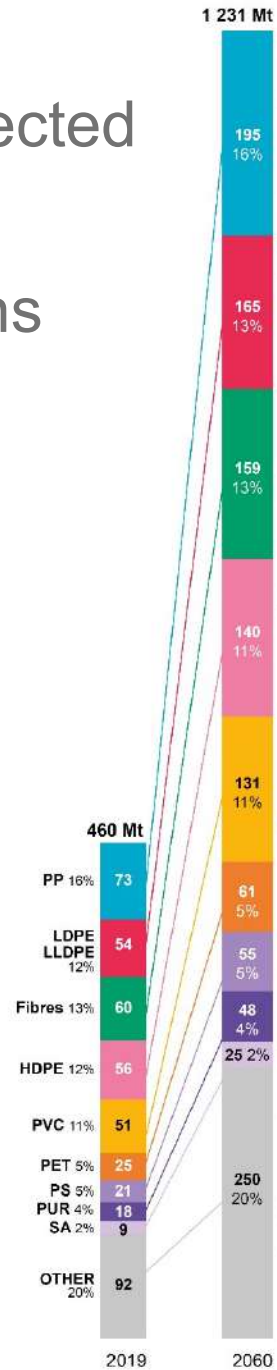


# Global plastics use is on course to almost triple by 2060

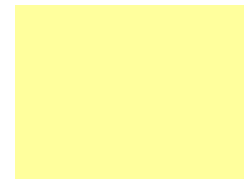
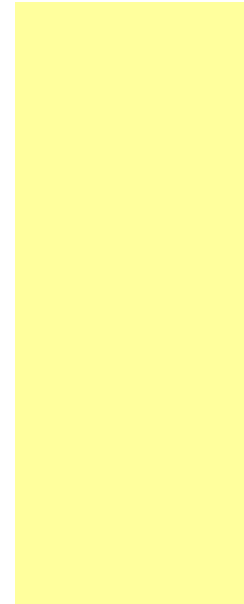
2060 = 1231 Mt



All polymers are projected to increase...  
...in all applications

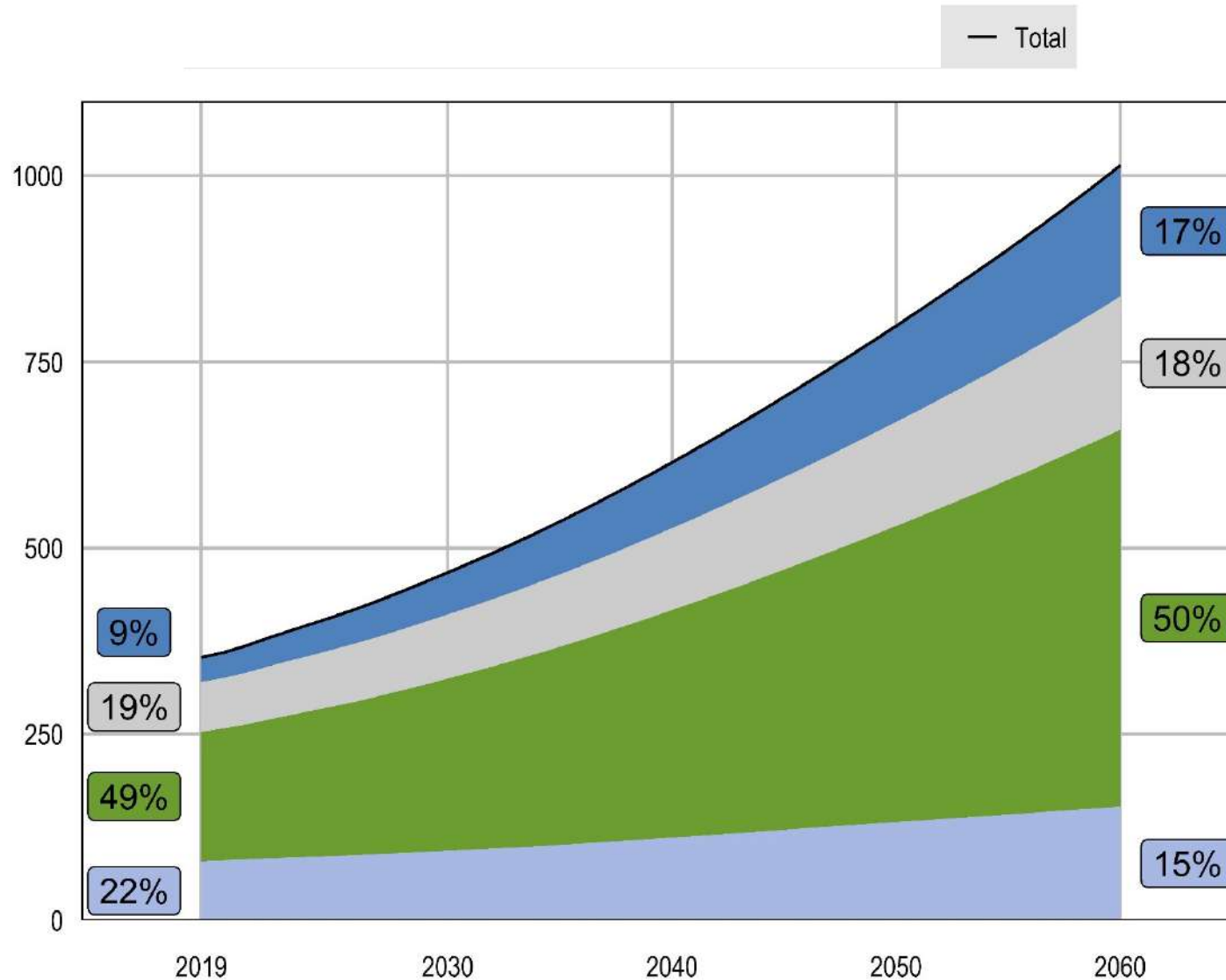


Packaging, construction and vehicles will be 2/3 of all use





# Plastic waste will also triple, half of it will still be landfilled





# Trade in plastic waste affects regional recycling opportunities and plastic leakage into the environment

Two hypotheticals: *No plastic waste trade* and *Return to 2015 plastic waste trade*

