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A transforming plastics system in Europe: how can bio-based plastics contribute?

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With a foothold across Europe

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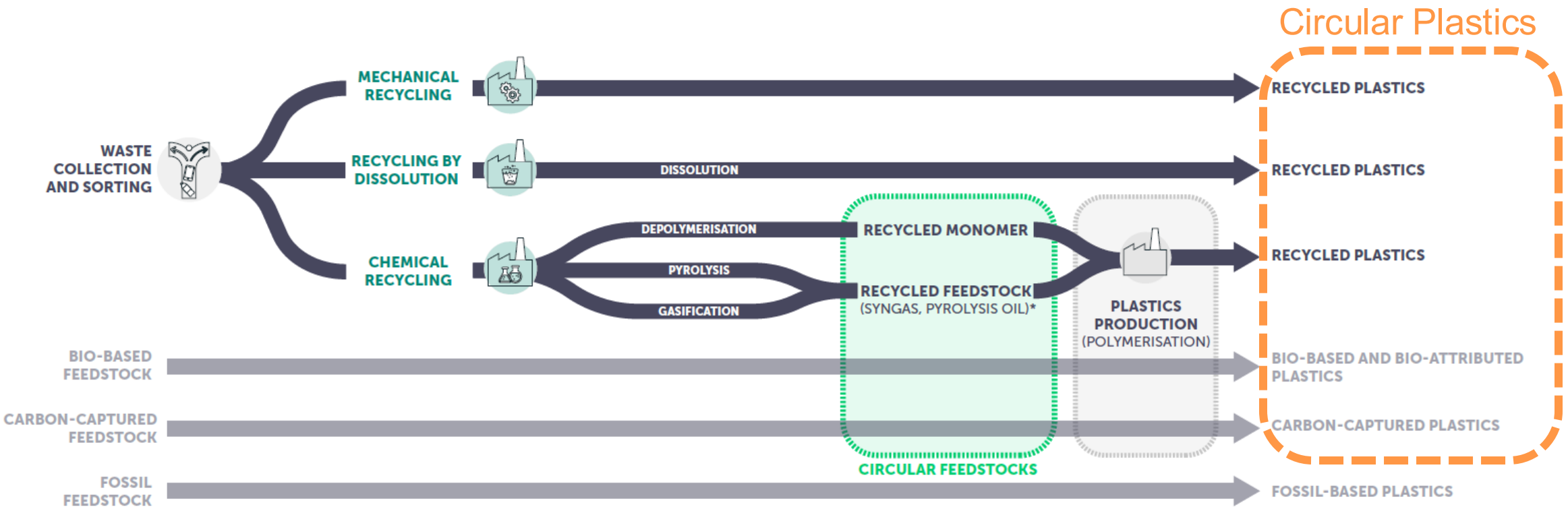
Headquartered in Brussels,
Plastics Europe has regional offices in Austria, Belgium, France, Germany, Netherlands, Poland, Spain and the UK.

An industry association:
Representing over 90% of all polymers production across the EU27 Member States plus Norway, Switzerland, Turkey and the UK.

Status: October 2023

Introduction



- Biobased Feedstock is part of the Circular Feedstocks.
- It can be used to produce
  - biobased plastics (^{14}C trackable/ traceable) or
  - bio-attributed plastics (mass-balance attribution)

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The Circular Economy for plastics – where do we stand?

Circular plastics production on the rise in Europe

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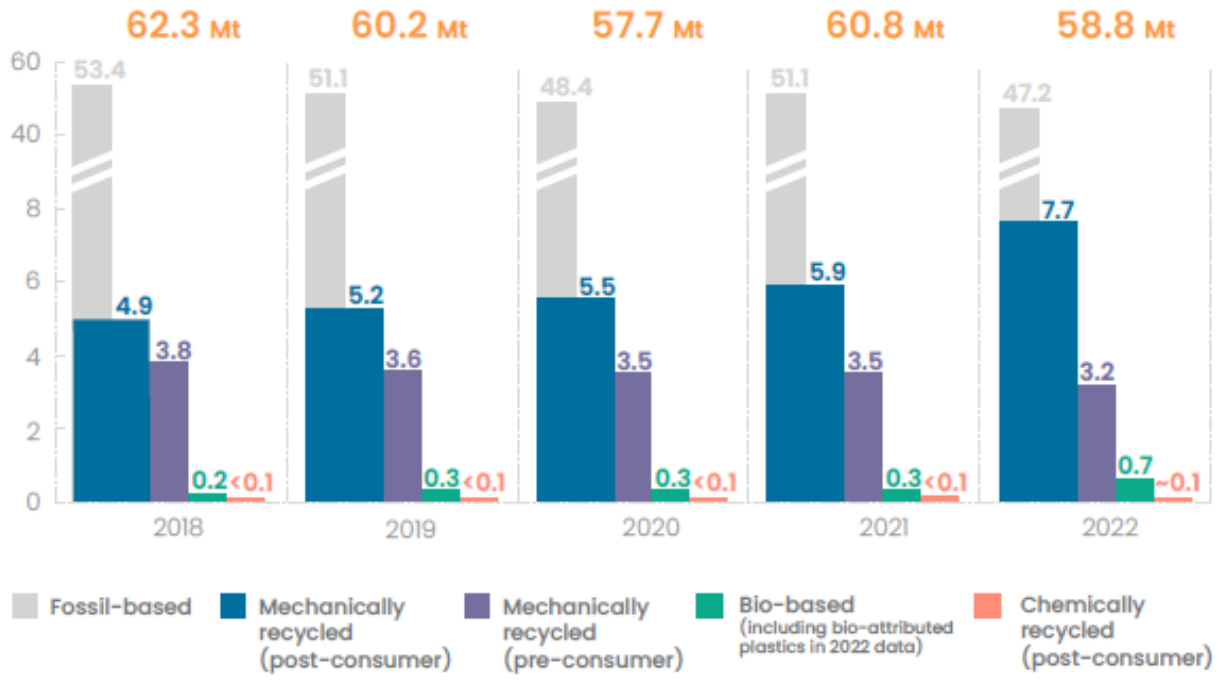
European plastics production



2018-2022 evolution

Total production	-5.6%
Fossil-based	-11.6%
Circular	+30.3%
Mechanically-recycled (post-consumer)	+57.1%
Chemically recycled (post-consumer)	+300%
Mechanically recycled (pre-consumer)	-15.8%
Bio-based (bio-attributed plastics not included)	+100%

The "Circular Economy for Plastics"- A European Analysis report

Bio-based & bio-attributed plastics production 2022,

by regions of the World

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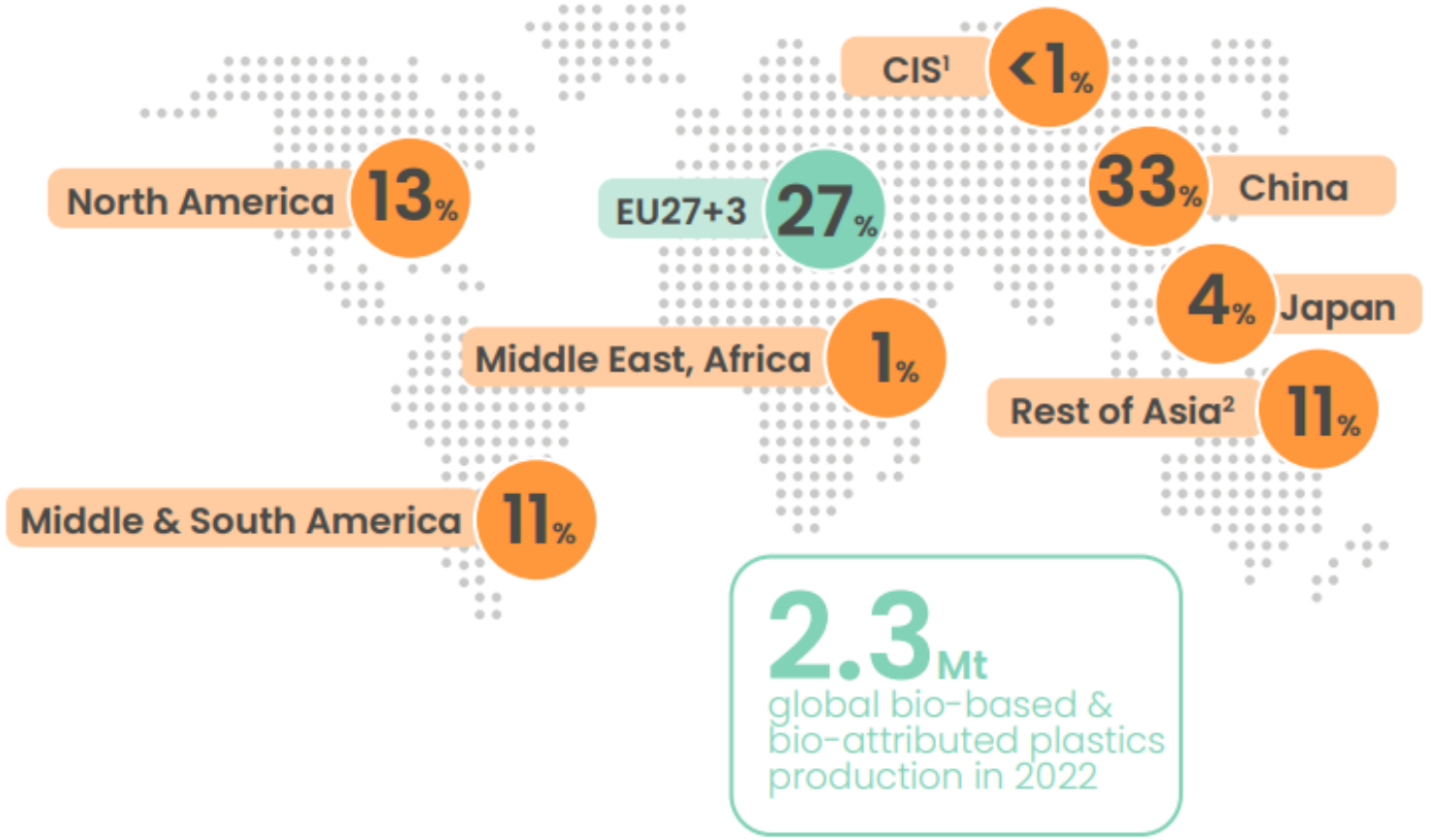
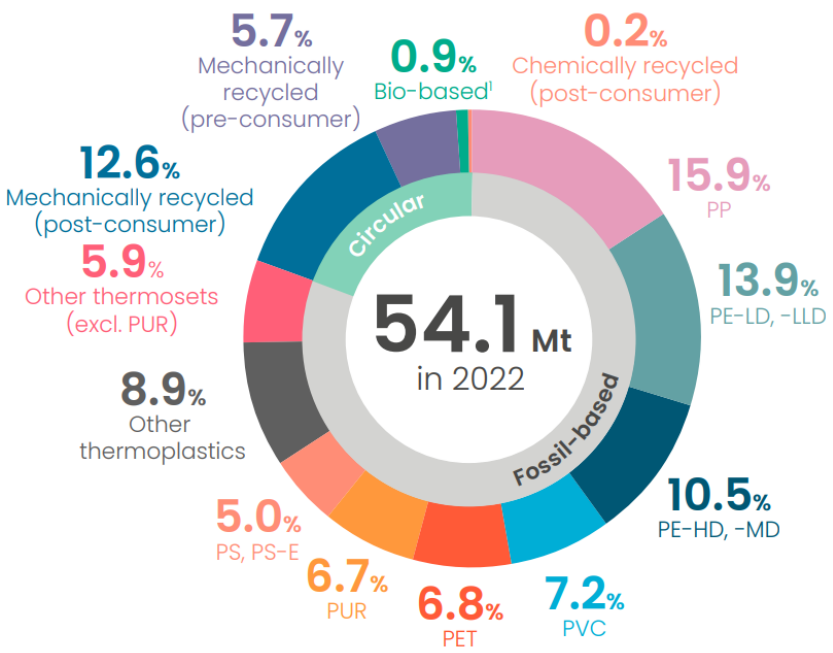
Global production from bio-based feedstocks

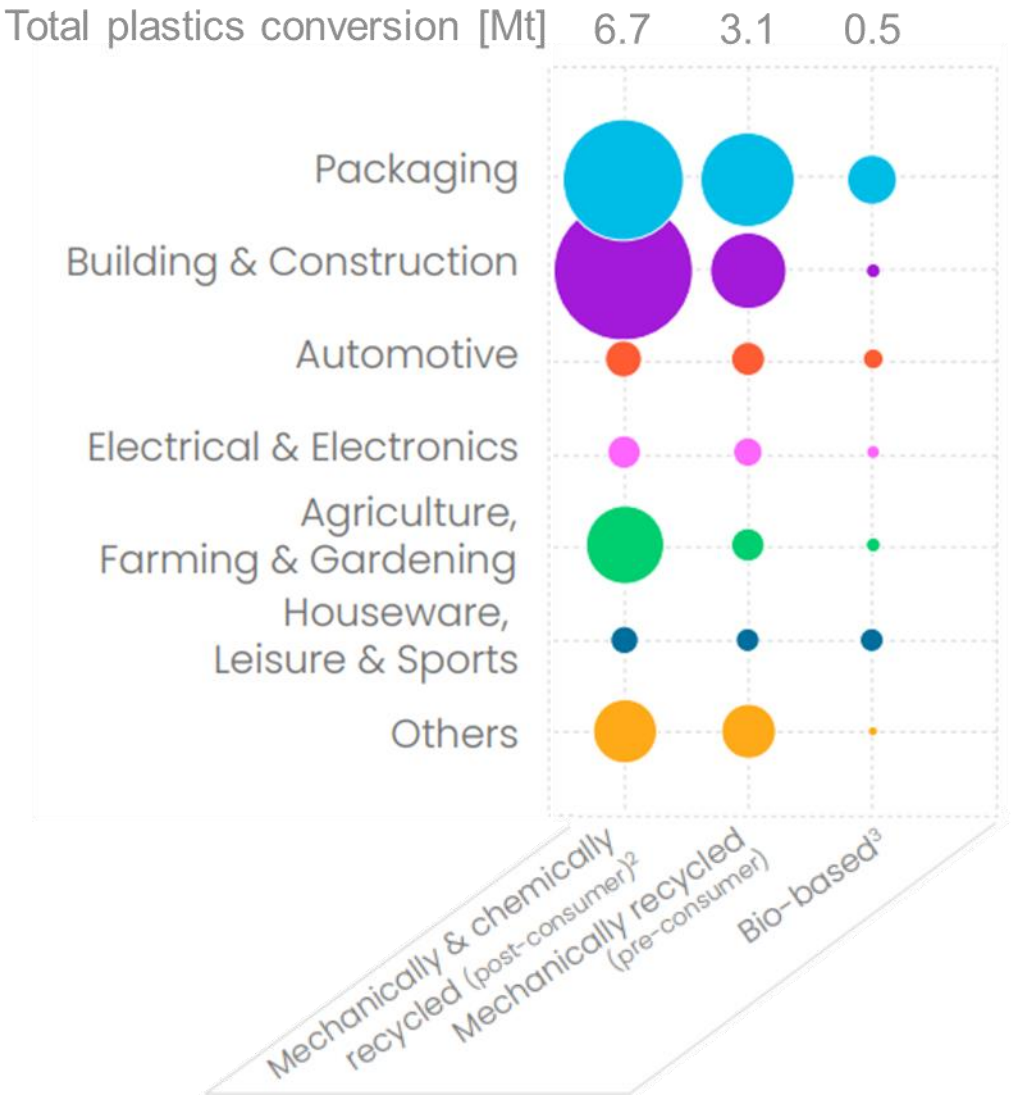


The above data are rounded estimations.

1. Commonwealth of Independent States : Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan and Uzbekistan.
2. Includes Asian countries (except China & Japan), Oceania, Turkey and Ukraine

European plastics conversion in 2022 by polymer



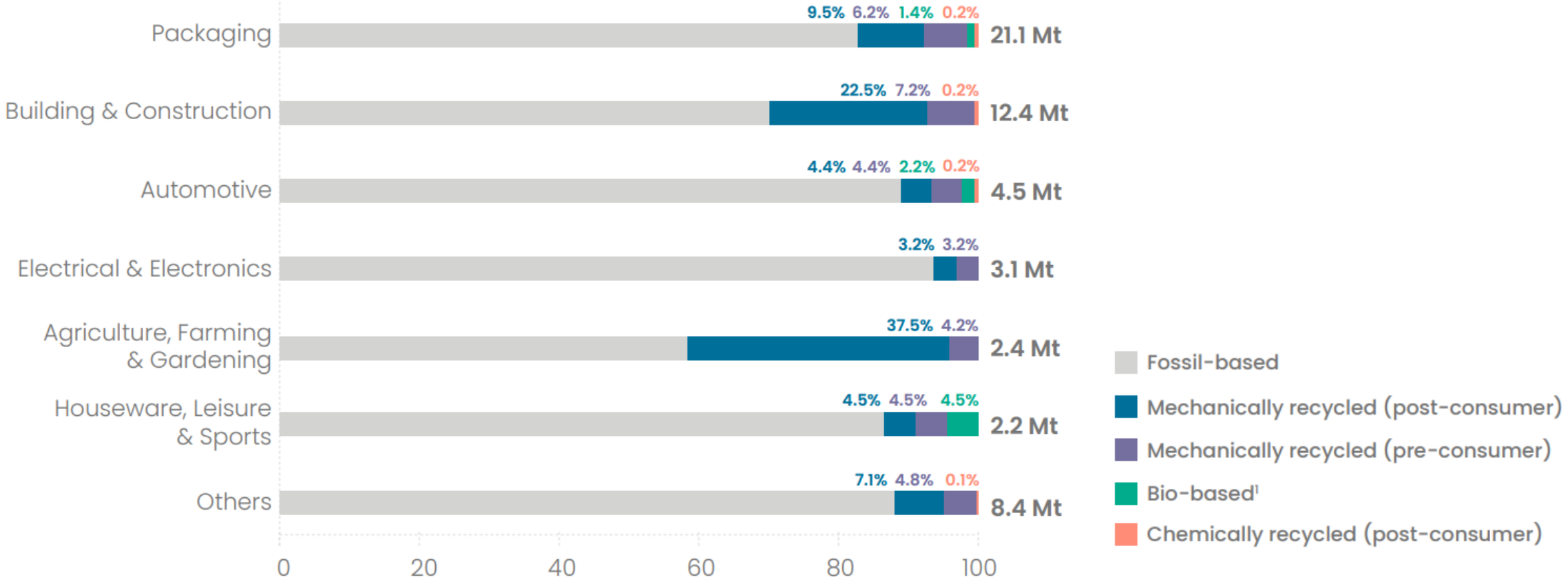


The above data are rounded estimations. Numbers behind this graph are available upon request. More information regarding the methodology used for the development of the graph available in the report appendix.

2. For design reason, mechanically and chemically recycled plastics data (post-consumer) are shown together. Chemically recycled plastics represent a small share of the total post-consumer recycled plastics. For more details about the share of chemically recycled plastics content by application.
3. For data availability reasons, bio-attributed plastics are not included.

The “Circular Economy for Plastics”- A European Analysis report

Circular plastics in conversion 2022, in the EU27+3



The above data are rounded estimations.

1. For data availability reasons, bio-attributed plastics are not included.

European plastics waste treatment

Europe (EU27 + 3) - 2022 and evolution

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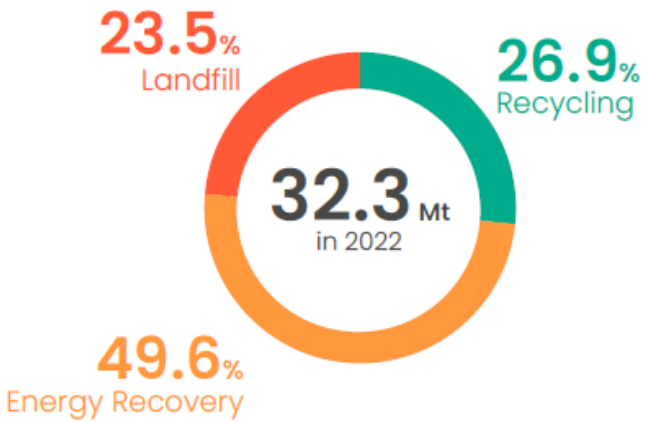
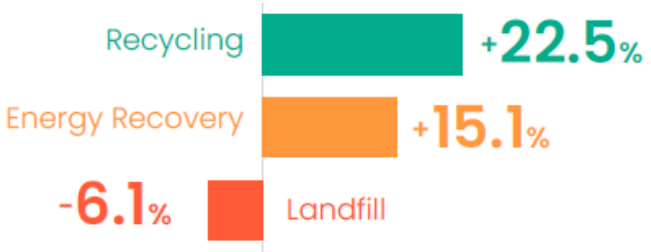
Post-consumer plastics waste treatment

2022, in the EU27+3

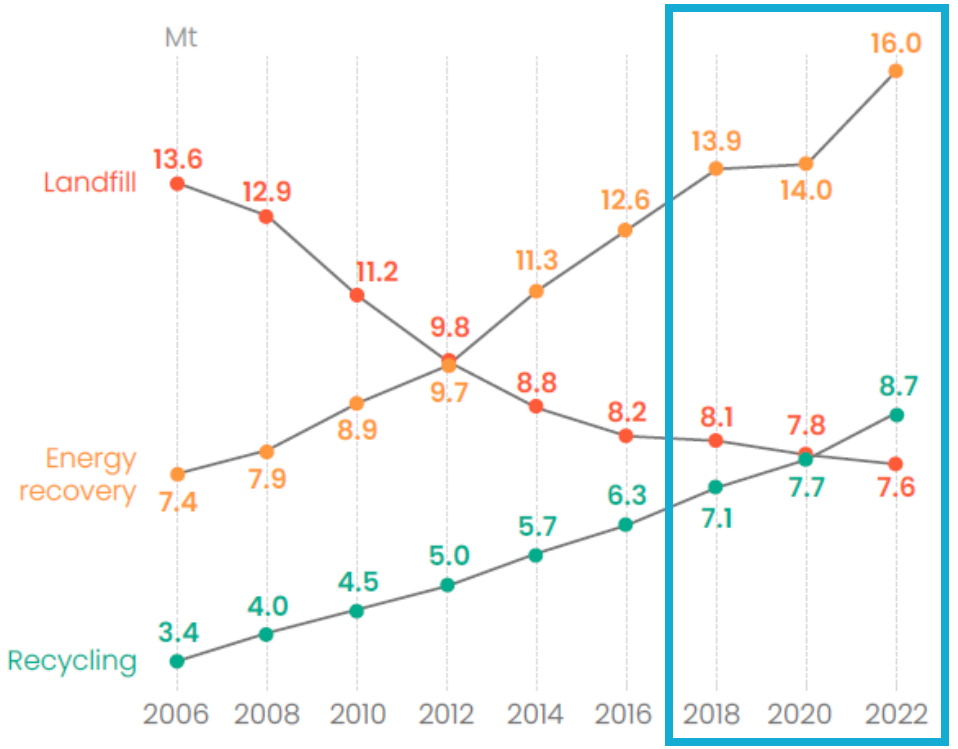


2018-2022 evolution



Evolution of post-consumer plastics waste treatment

2006-2022, in the EU27+3



The above data are rounded estimations.
2022 waste treatment data were calculated according to the new methodology under Directive (EU) 2018/852 (for more information: see pages 72 and 73).

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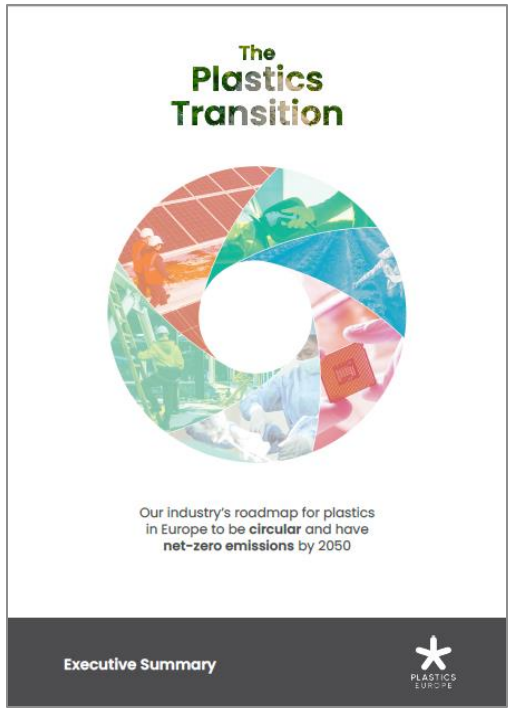
Transitioning the plastics system: a joint journey towards circularity and climate neutrality

Creating a joint vision for our European Plastics Industry

Plastics Europe's Roadmap "The Plastics Transition"



An industry united around a common vision

"We lay out a potential pathway for a more circular and net-zero plastics industry in Europe. "

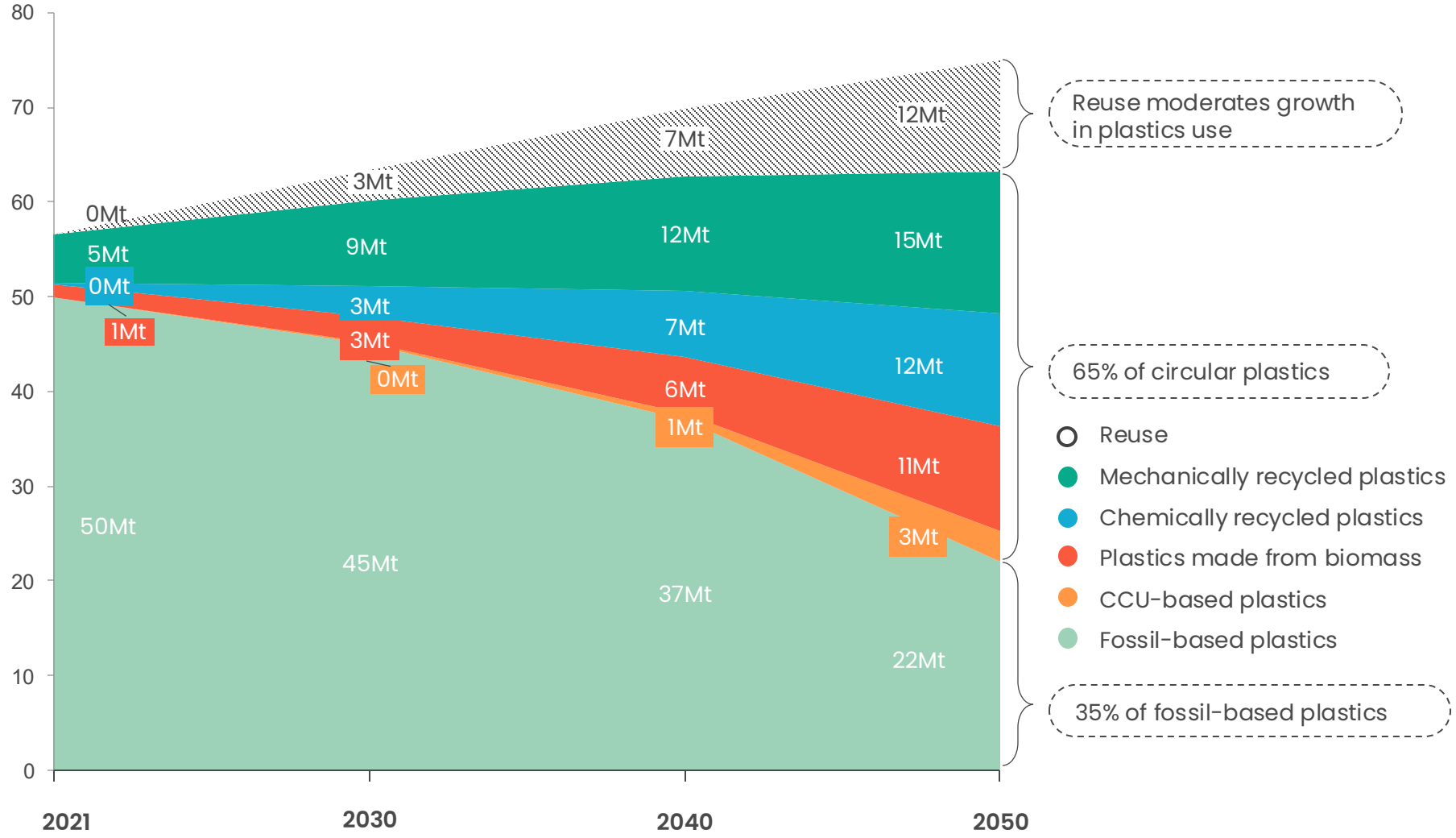
Project trends for 3 key metrics: GHG emissions, Capex & Opex and circularity of plastics

The Plastics Transition

Circularity – ambitious but achievable

Circular plastics use by European converters and their feedstock

2050, estimates, Mt



Key takeaways

- Through reuse, 12 Mt of plastics can be reduced by 2050
- **Plastics made from biomass** will grow steadily until 2040 and will play a **key role** onwards
- While plastics based on CCU and hydrogen are poised to grow towards 2050, the limited maturity of the technologies and the high costs will not enable it to reach significant quantities

Member States, the Union and the World

Member States

- Italy EPR scheme for compostable packaging allows its collection to be organically recycle together with biowaste, reaching a recycling rate of 52% of industrially compostable packaging placed on the market
- In other Member States, such as Germany, Belgium, and the Netherlands, the collection rates of food waste remain low at around 15-25%

Source: European bioplastics.org

The Union

Opportunities:

- Waste Framework Directive
- The Clean Industrial Deal:
* Bioeconomy Strategy (Q4 2025) – open consultation until 23 June
* Circular Economy Act (Q4 2026)

The World

"Japan Bioeconomy Strategy" aiming to achieve the world's most advanced bioeconomy society in Japan by 2030. Among the market segments:

- Bioplastics (alternative general-purpose plastics)
- Organic (Biological) treatment of wastes

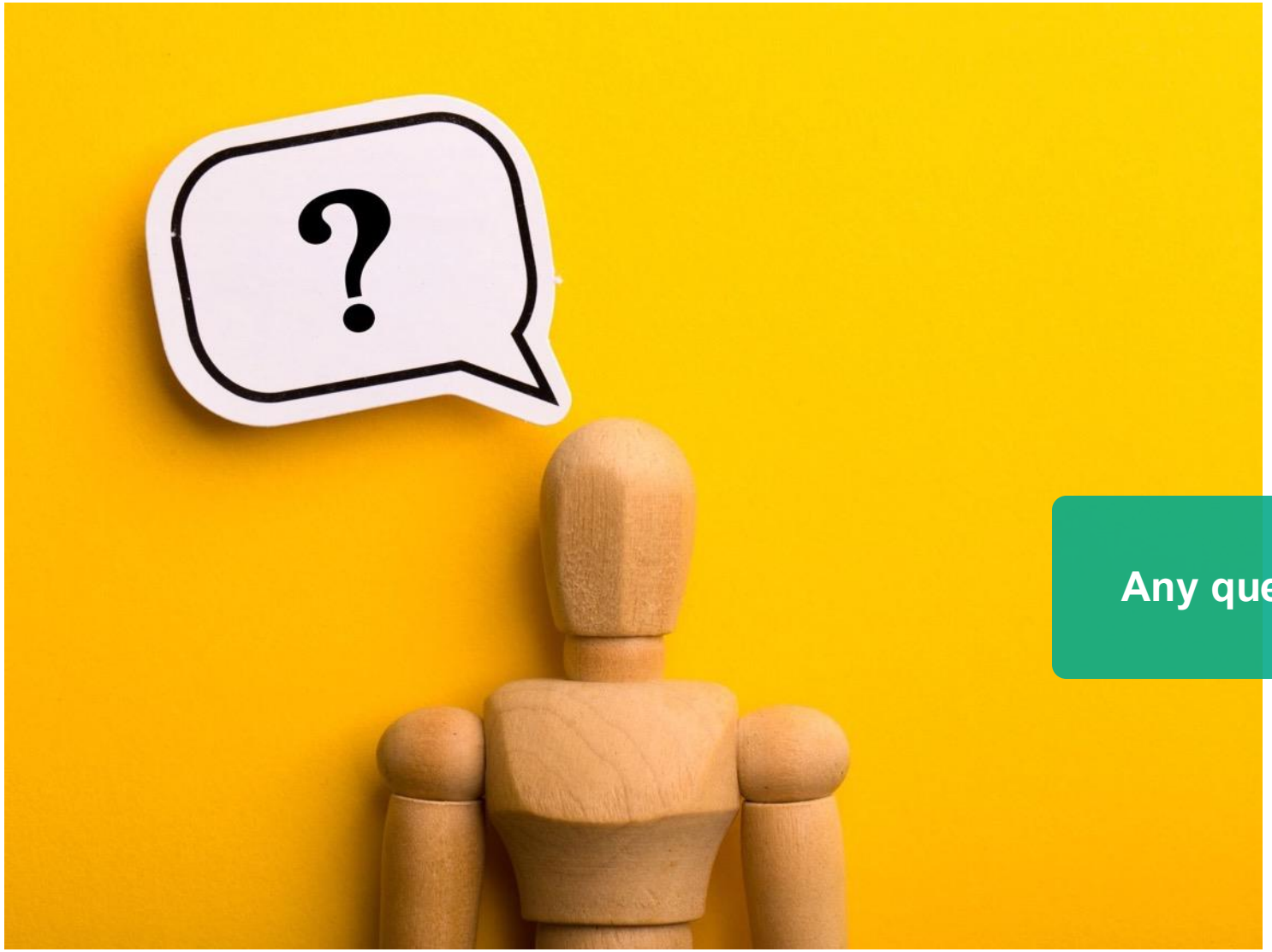
Conclusions – Along with the support of policy makers and the value chain

Transitioning the European Industry to Circularity and Climate Neutrality will need all levers

- There is **no "silver bullet"** solution to significantly reduce waste disposal and GHG emissions.
- Biobased Feedstock will be **one important complementary solution** lowering the GHG emissions of the plastics system.
- European **access to sustainable[1] biomass** is a key factor for the future development of **bio-based and bio-attributed plastics**.
- Following the circular economy principles, Plastics Europe supports the diversifying the source of biogenic carbon by further developing the use of **second and third generation bio-based feedstock**

Plastics Europe call on policymakers to support, alongside the use of recycled plastics from all technologies, the use of bio-based, bio-attributed or Carbon Capture and Utilization -based plastics.

We support the sustainability criteria applied to forest and agricultural biomass used for renewable fuels in the Renewable Energy Directive and its current revision (2021/0218 (COD))



Any questions?

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Thank you

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#ChangingPlasticsForGood