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The Plastics Transition - how the plastics system could look like if we get it right

David Carroll
External Affairs Director
Plastics Europe

The Plastics Transition Roadmap

The Plastics Transition

Our industry's roadmap for plastics in Europe to be **circular** and have **net-zero emissions** by 2050

Three essential levers built around a core vision

Plastics Europe has a vision for a sustainable plastics system

WE MAKE PLASTICS CIRCULAR BY

- Fostering circular design and business models
- Enhancing mechanical recycling
- Unlocking chemical recycling
- Expanding production from sustainable biomass
- Making plastics from captured carbon

WE HELP DRIVE LIFE CYCLE EMISSIONS TO NET-ZERO BY

- Leveraging the circular transition
- Maximising energy efficiency
- Using low-carbon fuels (hydrogen, biofuels)
- Electrifying production with low-carbon electricity
- Investing in carbon capture & storage

WE FOSTER SUSTAINABLE USE OF PLASTICS BY

- Managing risks in operations
- Providing further transparency to stakeholders
- Collaborating with value chain partners to prevent leakage

Overarching key statistical takeaways

65% or 42 Mt of total plastics used by converters will be made from circular feedstocks by 2050.

43% of the total plastics used by converters **will be recycled plastics**, with **mechanical (24%) and chemical recycling (19%) massively scaling up**.

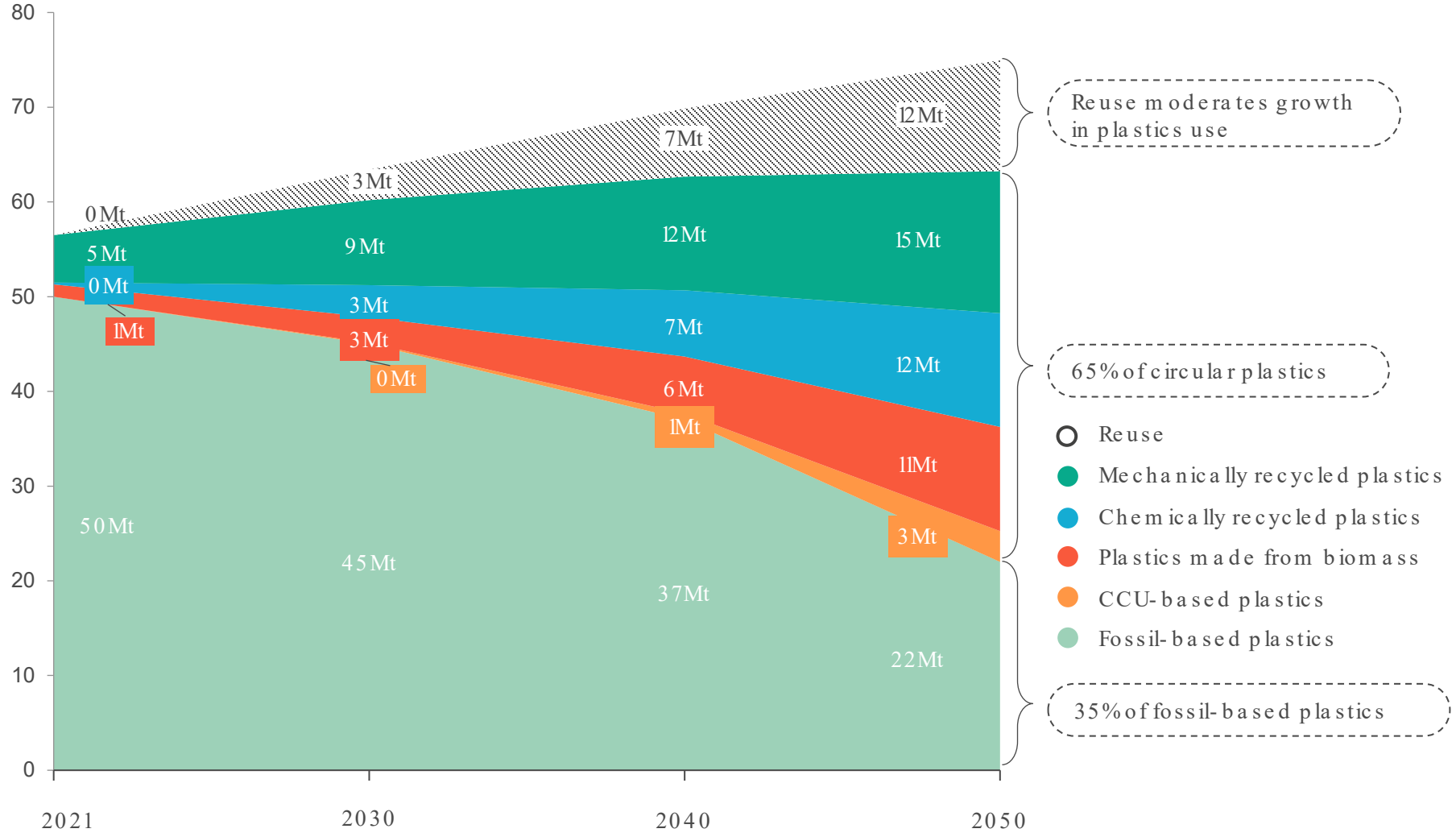
Plastics from biomass will double every decade, reaching 18% of plastics used by converters in 2050.

55% Estimated GHG **emissions reductions** (129 Mt CO2e) **through the shift to circular feedstock and avoided incineration** by 2050.

It will require commitment from all stakeholders to meet the additional investment of at least **€235 billion additional system cost** (CAPEX + OPEX) compared to business as usual.

Circularity – ambitious but achievable

Circular plastics use by European converters and their feedstock
2050, estimates, Mt

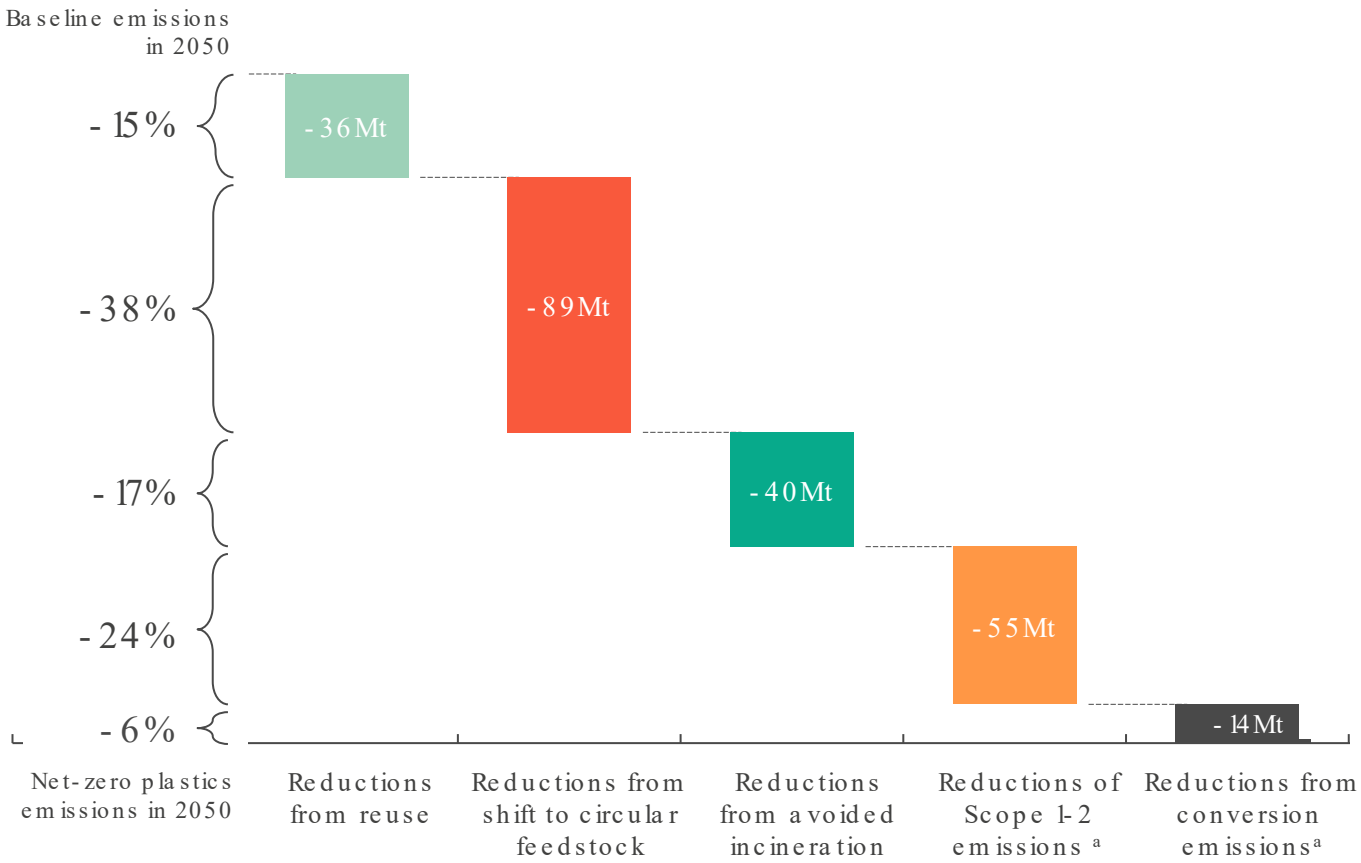


Key takeaways

- Through reuse, **12 Mt of plastics can be reduced by 2050**
- **Mechanical recycling** has the highest **technological maturity** and cost effectiveness, hence we project that it can steadily grow towards 2050
- **Chemical recycling** is expected to have its **breakthrough by 2030**, and grow exponentially from there towards 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

Reaching net zero by 2050 requires investment all along the plastics life cycle

Reductions needed to reach net-zero in 2050
In Mt CO2e, 2050 (Deloitte analysis, 2023)



[a] *Reductions through net zero plastics production levers; maximizing energy efficiency, electrifying production with low-carbon electricity, using low-carbon fuels and investing in carbon capture & storage*

Key takeaways

- **Without abatement measures** scope 1-2 and 3 up- and downstream GHG emissions will increase to 233 Mt
- Through **reuse**, 36 Mt of CO_2e emissions are avoided
- **Moving to 65% of circular feedstock** reduces scope 1-2 and 3 upstream emissions by 89 Mt
- 40 Mt of scope 3 downstream emissions are **avoided by plastic waste not going to incineration**
- 55 Mt of scope 1 and 2 emissions **are reduced through energy efficiency, electrification, shifting to low-carbon electricity and fuels and capturing emissions (CCS)**
- 14 Mt of GHG emissions from conversion are avoided by **energy efficiency and shifting to low-carbon electricity**

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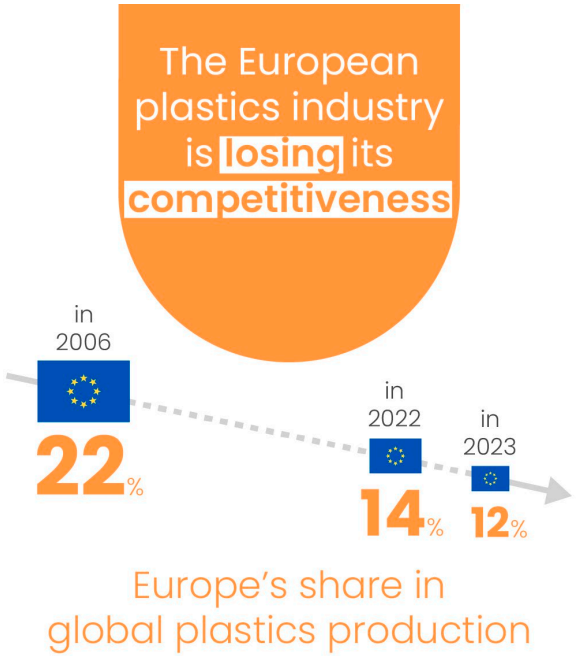
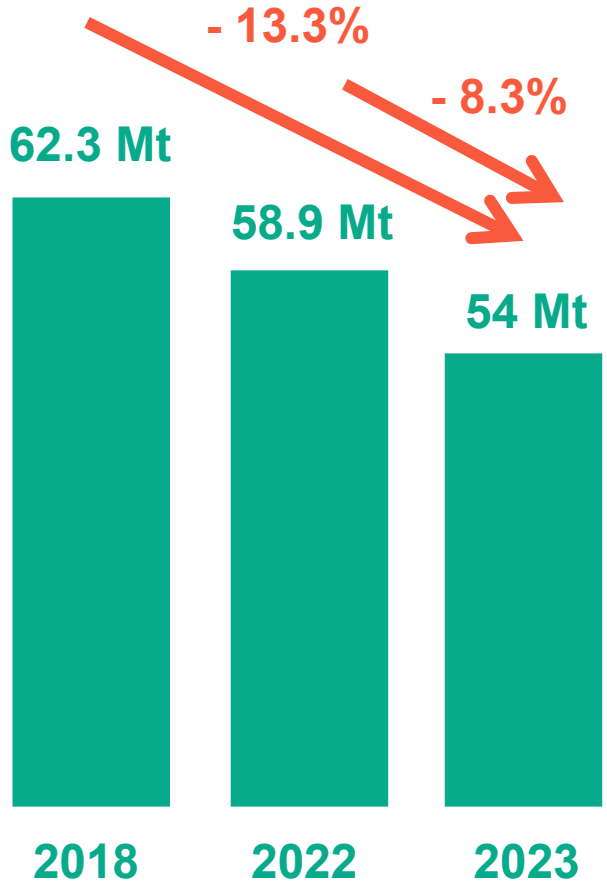
The competitiveness landscape for the plastics industry

Plastics – the *fast* Facts 2024: key findings





European plastics production continues to decline

For the first time, recycled plastics production decreases in Europe: -7.8% vs 2022

Circular plastics production: Europe vs World

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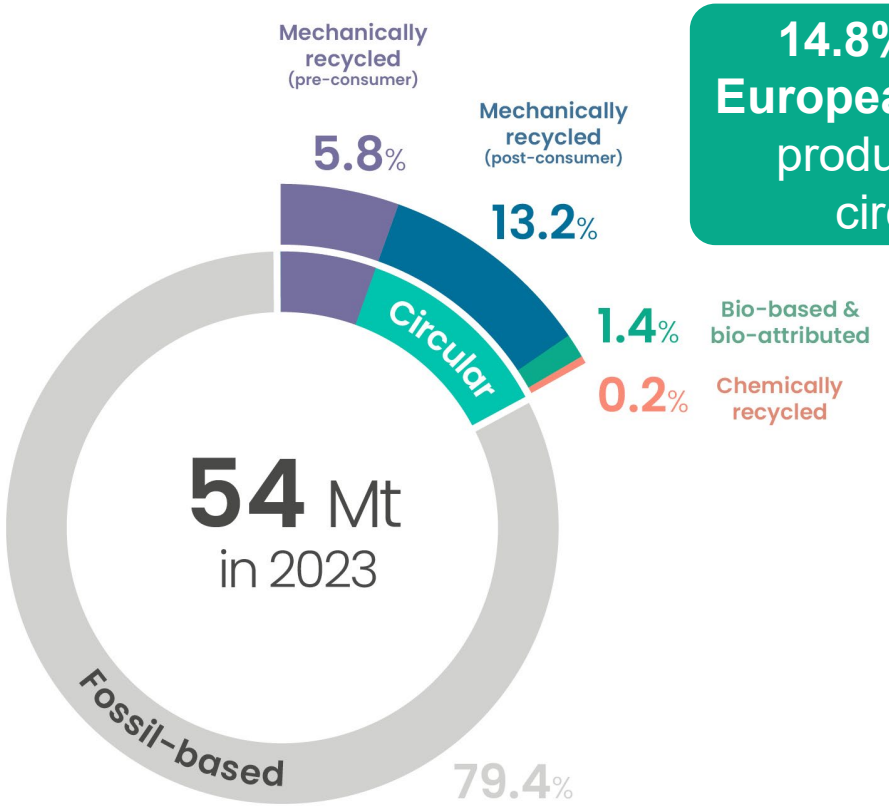
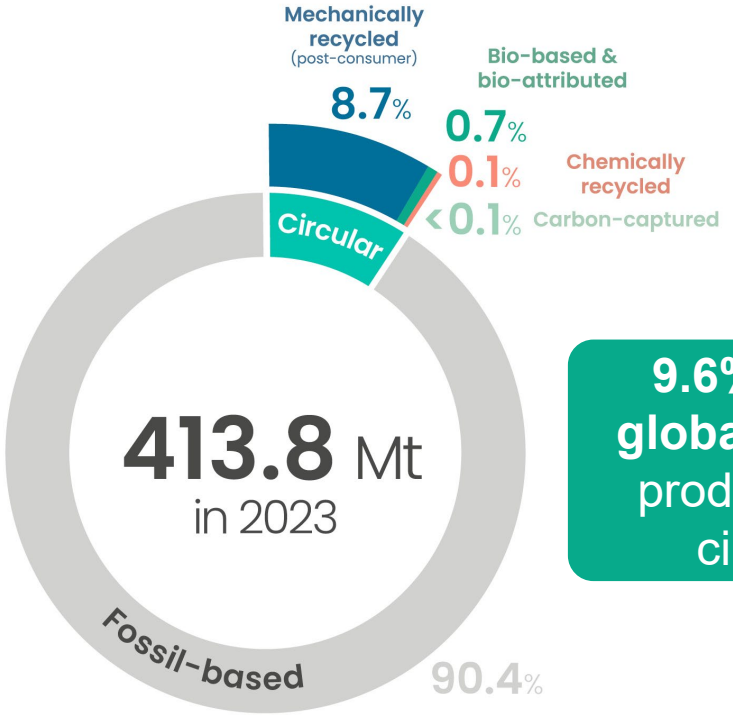
European plastics production



14.8% of the **European** plastics production is circular

World plastics production



9.6% of the **global** plastics production is circular

Why do we still need to transition to a circular and low-carbon EU plastics system even in more challenging economic times?

Moving towards a circular and low-carbon plastics system – why now?

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01

Negative perceptions remaining among key stakeholders

02

Media and public opinion is not waiting for competitiveness to improve – particularly in the context of the Global Treaty

03

Policies still supporting transition rather than incumbent industries?

04

Our pathway towards maintaining a plastics industry in Europe?

5 Key Policy Drivers

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1. Immediate policy levers to unlock investments and accelerate the industry's circularity and net-zero emissions journey

- Initiate a Clean Transition Dialogue with the plastics industry
- Acknowledge essential role of plastics in delivering on the EU Green Deal
- Support development of all recycling technologies
- Clarity on mass balance by 2024
- Simplify and accelerate permit procedures for projects to build installations with low-carbon and circular industrial technologies
- Prioritize environmental impact over material-specific policies & ensure a material agnostic, science-and-data-based approach to policies framing the transition

2. Incentivise low carbon and circular business models and create demand through legislation

- Impose legal requirements to develop recyclable plastics products for all sectors
- Leverage public procurement for circular plastics and decarbonisation technologies
- Support research and development for CCU

3. Work to urgently restore the competitiveness of European industry

The roadmap demonstrates an urgent need to create a level playing field and regain European competitiveness, including by:

- Funding a European circular plastics economy/transition
- Designing regulation to reinvigorate the European plastics industry
- Ensure competitive energy prices and make reliable supplies of low carbon energy and hydrogen accessible and affordable

4. Promote greater and increased collaboration

The roadmap highlights the urgent need for more combined efforts of all parts of the and of policymakers and regulators. Key asks in achieving this goal of collaboration include:

- Leverage the EU Single Market
- Increase citizens' awareness
- Role of the Global Instrument to End Plastic Pollution

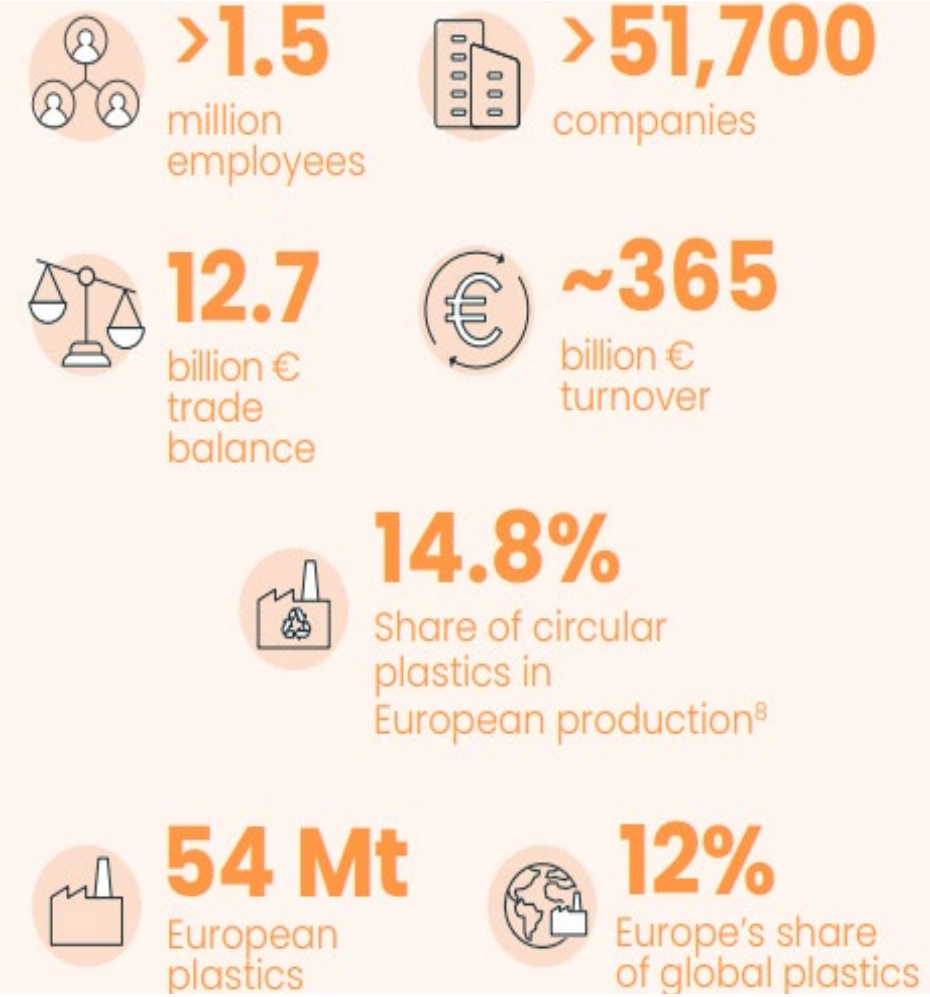
5. Develop a waste management system fit for a net-zero circular economy

Transitioning to a net-zero circular economy requires a waste management system which facilitates and favours the reuse of plastics and recycling of plastics waste, aiming towards a future without incineration of recyclable plastic waste by incentivising better and harmonised sorting, collection, and recycling processes for all plastics waste. Key elements include:

- Phase out landfilling and incineration of recyclable plastic waste
- Financing and investments
- Make shipping of sorted waste and recycle feedstock easier between EU Member States and align EU Waste Shipment legislation with the Basel Convention.
- Harmonise definitions and improve statistics for plastic and organic waste management
- Enhance the quality and quantity of collected biowaste suitable as feedstock for plastics production

What we are asking from policymakers & where do we stand?

From a problem to be solved to a strategic material key to delivering the EU's Clean Industrial Deal



- Our key question - do policymakers want to keep a plastics production industry in Europe?

- Key components of our ask:
  - Ensure plastics are considered in sectoral initiatives e.g. Automotive Strategic Dialogue, Chemicals Industry Package
  - Demand creation for European recycled, bio-based and lower carbon plastics
  - Competitiveness checks on regulation (including secondary legislation)
  - Financial incentives to support investments in innovation and the Green Deal transition
  - Lowering energy costs
  - Ensure better implementation and enforcement of EU (sustainability) regulations on all products and materials placed on the EU market, including imports and allow traceability of imported and exported circular plastics and products/ level playing field with imports

Thank you - find out more and give us your feedback

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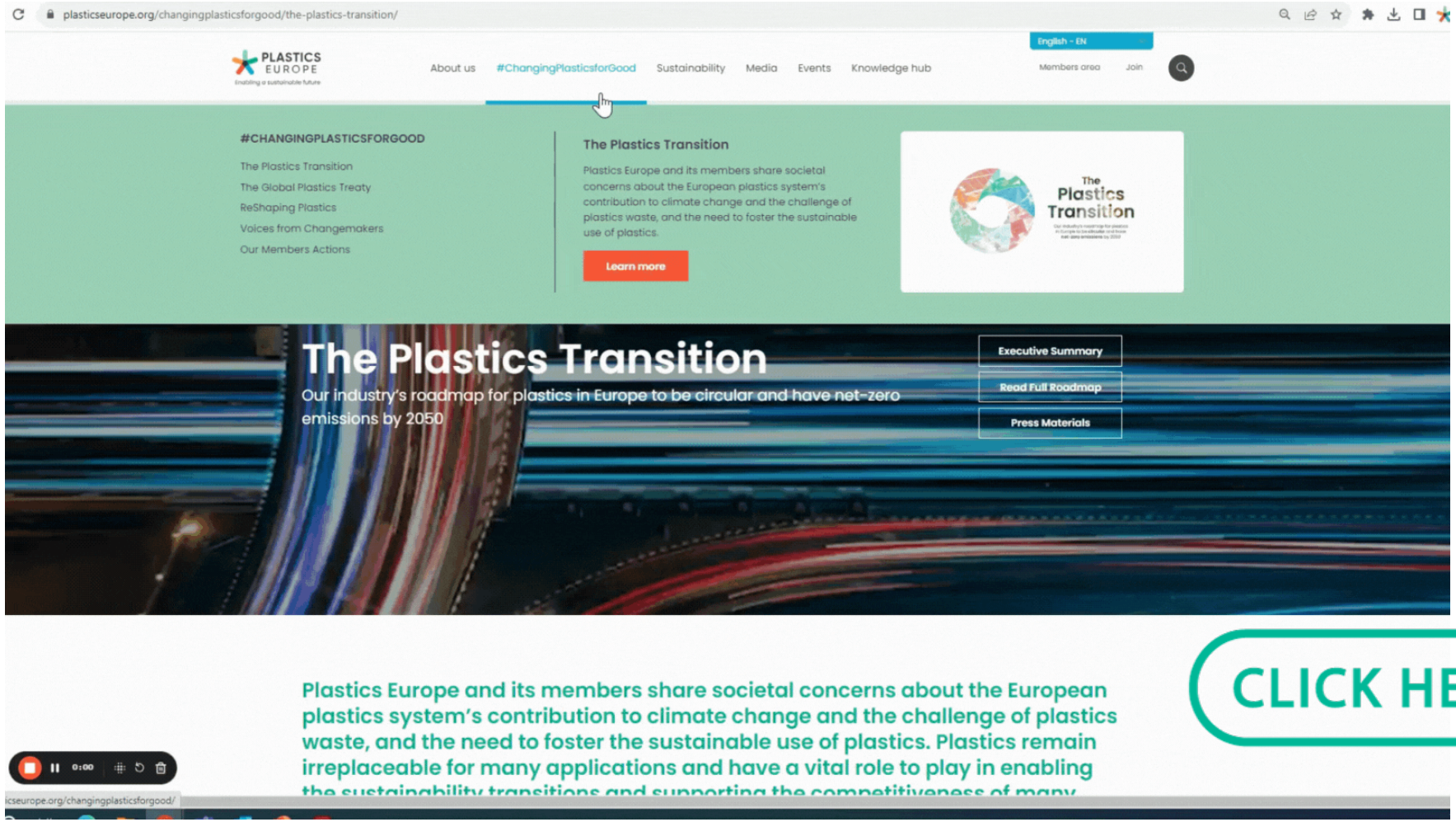

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https://plasticseurope.org/changingplasticsforgood/the-plastics-transition/