Go Circular Plastics 2025

What are the challenges associated with plastic circularity? In early March 2025, the *Go Circular Plastics* conference took place in Rotterdam, bringing together business and organisations to discuss the state of plastic circularity in Europe.

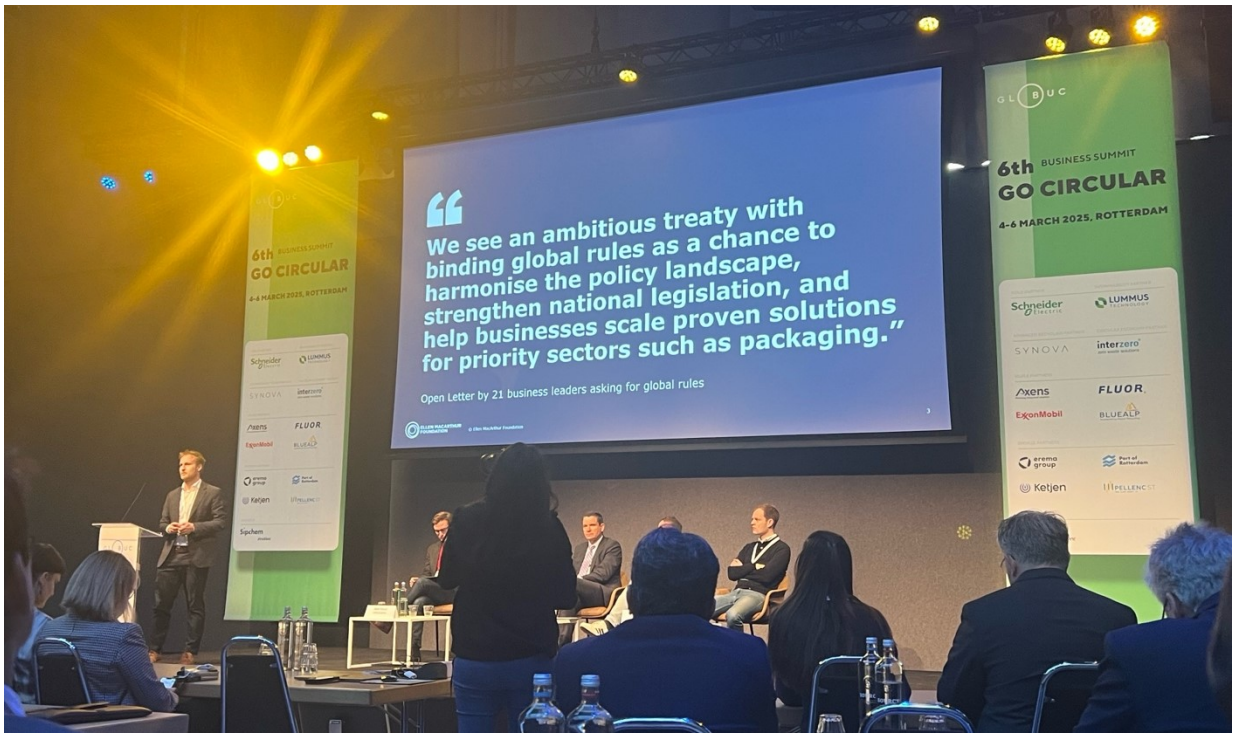
The circular economy is no longer a distant goal – it is happening now and must accelerate due to the climate crisis. Despite efforts, millions of tonnes of plastic are still mismanaged, leaking into the environment or being incinerated. To close the loop and cut emissions, low-carbon solutions that work across the entire spectrum is needed. For example, currently only just 27% of plastics are recycled in the EU. Unlocking the potential of recycled and bio-based plastics over virgin fossil-based plastics represents a significant opportunity.

Regulatory landscape and industry adaptation

The regulatory framework for circular plastics is evolving rapidly in the EU. Mandatory recycling targets for plastic packaging are pushing the industry to adapt its processes and production. Key regulations, such as the *Packaging and packaging waste regulation* (PPWR) and the *Extended Producer Responsibility* (EPR) are driving sustainability and circularity. These regulations aim to reduce fossil based packaging, minimise waste generated and design all packages for recyclability. By 2030, around 30% of plastic packaging (depending on type) must contain recycled content.

For a circular economy to function effectively, clear and consistent guidelines are essential. Companies across the value chain are responding to shifting policies in different ways, but many conference participants emphasized the need for harmonized rules across EU countries.

Leon de Bruyn from Lummus technology, which develops innovative solutions to address plastic waste, stated: “We are on the right path, but we are going to slow. Technology is being developed, but regulations need to help change. It’s also important to get the money going. To make change we need to scale up, to scale up we need investments and regulations. We need the rules and clarity ASAP.”

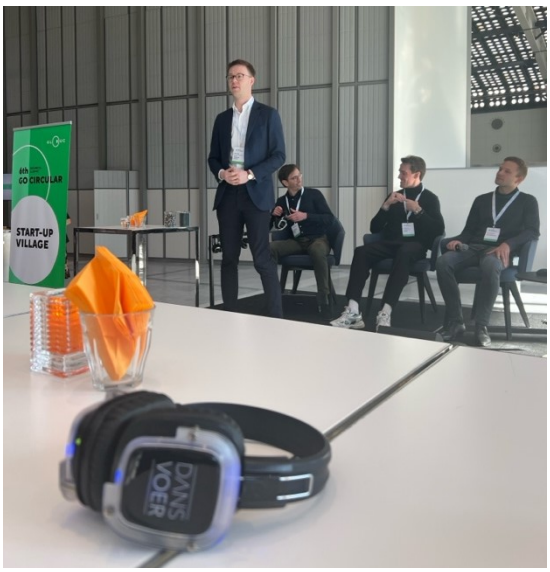


Advanced recycling and hybrid solutions

To truly close the loop of plastic waste effectively, advanced recycling solutions are required to convert plastic waste into high-value production. The future of plastic waste management lies in innovative hybrid recycling systems that optimize recovery while minimizing impact, according to Joerg Krueger, Synova among others.

Different recycling technologies are good at different things, and should be combined to address different waste streams. The choice depends on contamination levels and waste types, reinforcing the need for a diversified approach to circularity. Mechanical recycling is ideal for clean, sorted plastics (requires 99% purity for successful processing). Chemical recycling is good for plastics down to their molecular building blocks. Dissolution technology is good for emerging innovations to purify and reuse materials efficiently.

In line with the challenges and measures taken to solve them, a lot more has to be done regarding circularity and is also done. The conference showcased numerous innovative solutions from both large organizations and startups. There are solutions – a lot of innovation both in circular materials and systems. Many large corporations invest heavily in R&D, while startups are emerging with pioneering materials and recycling technologies. However, scaling innovations remains a challenge due to limited financing and unclear pathways for growth.



For example ExxonMobil, is scaling its advanced recycling technology globally to meet the increasing demand for circular plastics: “Circularity isn’t just a goal, it’s an investment in our future, stated Francois Chambon and Timothee Roux claim. “It is a response to increasing economic, environmental, and legislative pressures on the material and packaging industries.”

New technologies, are essential to achieving high-quality recycled plastics. Scaling them requires vendor-independing testing processes and integration of systems and digital tools, as well as automation to reduce costs, increase efficiency and ensure traceability. Axens, for example, is at the forefront of developing cutting-edge chemical recycling solutions to complement mechanical recycling.

BIOBTX10 is developing technology for the production of sustainable BTX: “Chemical recycling is going on a journey. It will be an attractive and viable option to mechanical recycling. But has a way to go”, says Tijmen Vries, Director Strategic Development.

Scaling up to meet EU targets

To reach the set EU goals circularity need to be accelerated. By 2030, we need a ten times increase in dissolution and chemical recycling to meet sustainability targets. Many of the speakers of the conference agreed in what would be success factors; waste collection and sorting have to be improved, recycling technologies have to be scaled up, processes to ensure that secondary plastics match primary quality needs to be in place.

Central is also to build and improve ecosystems around the plastic circularity, along with integration with value chains partly through digitalization. Innovation and collaboration are the levers that will drive real change: “We are building a new value chain”, according Laura Cramer, Bluealp. “Developing a continuous process and scaling up recycling plants and innovation is one part of the accelerated change”.

“We are flying the plane while building it and improving our technology for advanced recycling along the way”, according to ExxonMobil. “But circular also means designing systems, not only packaging. You can

have the best packaging in the world, but without the systems and infrastructures it will not be recycled."

Achieving plastic circularity requires Working together across the ecosystem and more holistic solutions. A panel featuring representatives from brand owners, technology providers, recyclers, financiers, industry leaders, and the EU Commission discussed the need for stronger partnerships and industrial policies to drive change. Increasing competitiveness of the circular economy will be underpinned by deep collaboration around innovations and smart industrial policies.

"It's a team sport. Building consensus and collaboration takes a longer time. But we will get there. All wants to do the step, but we need to go together to make it happen. Go circular together embracing the regulations", summarized Justin Wood from Alliance to end plastic waste.