

New study presents roadmap for achieving circular PET packaging and polyester textiles in Europe

London-Paris, 10 July 2023. Today, a new study published by system change company [Systemiq](#), presents a comprehensive roadmap for achieving a high-circularity, low-emissions system for polyethylene terephthalate (PET) packaging and polyester textiles in Europe. PET packaging and polyester textiles are made from the same plastic molecule, which makes up one-quarter of consumer packaging (bottles and trays) and the vast majority of synthetic textiles (clothing, homeware and industrial) used in Europe. Today, this material is mostly made from virgin feedstocks derived from fossil fuels and three-quarters of PET/polyester waste is disposed to landfill or energy recovery after just one use.

The study highlights the transformative potential of ambitious and complementary circular economy approaches, including demand reduction, reuse, mechanical recycling and chemical recycling. By 2040 – compared to a continuation of historical trends – these measures could reduce overall PET/polyester consumption by one-third, waste volumes sent to landfill or incineration by ~70%, and greenhouse gas (GHG) emissions by half, while the supply of recycled content would be sufficient to meet the requirements of the draft Packaging and Packaging Waste Regulation (PPWR). Moreover, they could generate 28,000 net new jobs and an additional €5.5 billion per year in revenues for recycling industries.

Titled '*Circular PET and Polyester: A circular economy blueprint for packaging and textiles in Europe*', the study outlines six priority actions needed to transform the PET/polyester system. These actions could slow consumption growth and establish complementary mechanical and chemical PET/polyester recycling systems that significantly increase recycling rates and the availability of high-quality recycled PET/polyester.

The findings come at a critical time, coinciding with the EU's Single-Use Plastics Directive Implementing Act and the development of the draft PPWR. The study is the second in a series exploring circular economy pathways for PET/polyester in Europe, and builds on the first report with results from a comprehensive modelling exercise and an action plan for stakeholders. It was developed under the guidance of an independent Steering Group comprising experts from the public sector, academia, civil society, and industry. The study was commissioned and funded by Eastman and Interzero.

Ben Dixon, Partner and Head of Materials and Circular Economy at Systemiq, said: "The PET and polyester market in Europe is in a green revolution – with new recycling technologies emerging, stretching targets for recycling and recycled content in bottles and other packaging, and fashion companies buying up recycled polyester from PET bottles. In this context, our study provides the first system-level analysis of how different circular economy solutions for PET and polyester could fit together to flatten demand growth, achieve high levels of reuse and recycling, and lower GHG emissions. The overall message is optimistic: we have the technologies and the policy momentum to build a circular PET/polyester system. Now, we need to scale up investment and action."

Professor Kim Ragaert, Full Professor - Chair of Circular Plastics at Maastricht University, said: "Although recycling of PET bottles has been a relative success story in comparison to other plastics, the broader PET/polyester system, which includes items such as

trays and textiles, is mostly linear in Europe today. For the first time, this report quantifies how circular the PET/polyester system could become, if we embrace all the levers that are at our disposal already today. It also shows that this won't be enough, and that to meet Europe's net zero commitment by 2050, we need not only further innovation but also strategic systemic choices such as restricting fast fashion."

Sandeep Bangaru, VP of Circular Economy Platforms at Eastman Chemical Company, said: "This report demonstrates that a highly circular, lower emission future for PET/polyester in Europe is within reach. Alongside the necessary growth in mechanical recycling volumes, the successful transition hinges on significantly scaled infrastructure for chemical PET recycling by 2040. This complementary approach maximizes circularity by expanding the types of PET/polyester products that can be recycled. It also enhances system resilience by recharging the system with virgin-like recycled PET/polyester from the chemical recycling process."

Joan Marc Simon, Director-Founder at Zero Waste Europe, said: "This study proves, once again, that reduce-reuse-recycle – in this order of priority – is the only way to increase the circularity for PET/polyester. The PPWR and EU Textiles Strategy are opportunities to advance this agenda but, so far, they are far from providing the legal framework to deliver the measures recommended in this study. Ambitious reduction and reuse targets and clear guidance to make mechanical and chemical PET/polyester recycling complementary are just two among the many pieces which need to be clarified and strengthened."

The '*Circular PET and Polyester: A circular economy blueprint for packaging and textiles in Europe*' study is available for download at <https://www.systemiq.earth/pet-polyester/>.

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NOTES TO EDITORS

About this study

The study '*Circular PET and Polyester: A circular economy blueprint for packaging and textiles in Europe*' was prepared by Systemiq with strategic guidance from an independent Steering Group with representation from the public sector, civil society and industry. The report was commissioned and funded by Eastman and Interzero.

About Systemiq

Systemiq, the system-change company, was founded in 2016 to drive the achievement of the Sustainable Development Goals and the Paris Agreement, by transforming markets and business models in five key systems: nature and food, materials and circularity, energy, urban areas, and sustainable finance. A certified B Corp, Systemiq combines strategic advisory with high-impact, on-the-ground work, and partners with business, finance, policy makers and civil society to deliver system change. Systemiq has offices in the UK, France, Germany, the Netherlands, Indonesia, and Brazil. Find out more at www.systemiq.earth.