

Five ways European policymakers
can accelerate the transition to a
true circular economy

Eastman is a global advanced materials and specialty additives company that produces a broad range of products found in items people use every day. Our strategy is to transform tomorrow by revolutionizing the materials that shape it today—innovating sustainable solutions to enhance the quality of life in a material way. It's our moral purpose—the driving force that gets us out of bed every morning to innovate new materials that will change the world. We are entering a decade of change, and the planet will have 10 billion people living on it in the blink of an eye. Sustainability is no longer an add-on to doing business—it is a business imperative. That's why we've made sustainability integral to our strategy, driven by innovation and focused always on people. Eastman has the responsibility and opportunity to lead, joining others to address climate change, mainstream circularity as an economic model, and build a more inclusive and equitable world. **And it's going to take all of us.**

At Eastman, we are committed to carbon neutrality by 2050, and we expect to achieve one-third of our target by 2030. We are committed to mainstream a circular economy that makes the most of the world's limited resources and creates a better quality of life for all. [Our 2020 Sustainability Report](#) focuses on our goals to mainstream circularity and mitigate climate change and carries the theme "A Better Circle"—in other words, we are committing to actionable goals and working with others to make this a better planet for all.

To address the crises that we face, we support a set of behaviors that reduce waste:

- Society must ask less of our planet and **reduce** consumption of its resources, requiring behavioral changes in individual consumption choices and product innovations that advance solutions for society's most pressing needs.
- Products and systems must be designed for **reuse** to keep materials in service as long as possible, requiring new materials to be developed and selected.
- When a product reaches the end of its useful life, the material of which it is made is not considered waste but rather valuable feedstock, requiring new technology to **recycle** this material into a new product with a new life.

Eastman's approach to help solve the plastic waste crisis, mitigate climate change, and care for 10 billion people—the global triple challenge—is to transform tomorrow by revolutionizing the materials that shape it today. That means circularity is also our platform for innovation. A decline in quality results in material that will eventually be discarded or sent to a chemical recycling process. We provide solutions to reduce, reuse, recycle, and reinvent products and materials that typically end up in incinerators, landfills, and waterways.

Our proven advanced recycling technologies are forms of chemical recycling. Polyester renewal technology (PRT) and carbon renewal technology (CRT) unlock the value in hard-to-recycle plastic and textiles that cannot be mechanically recycled today without compromising the quality of the material. Our advanced recycling technologies show 20%–50% improvement in carbon footprint at the production level of the key building blocks that are used to make Eastman Renew-branded products containing certified recycled content. End markets include reusable water bottles, cosmetics packaging, eyewear, and textiles. Our scalable recycling technologies can complement current mechanical recycling and enable brand owners and others in the value chain to achieve their ambitious goals for waste reduction and meet their sustainability commitments while protecting the integrity and quality of their goods and products.

Scaling up to help build a more sustainable world

We continue to build toward the future. Eastman is making a \$250 million investment to build the world's largest plastic-to-plastic molecular recycling facility in Kingsport, Tennessee, (U.S.A.) and is committed to recycle 115 million kg of plastic waste annually through our advanced recycling technologies by 2025. By 2030, we are committed to recycle more than 225 million kg per year. We are actively exploring opportunities to expand our advanced recycling capabilities in Europe through potential partnerships or by making direct investments.

We believe that sustainable solutions to plastic waste are in reach, but we can't solve the global plastic waste problem alone. That's why we're connecting with customers, NGOs, policymakers, the waste management industry, and others to work toward a more sustainable future. Only together can we create innovative ways to preserve the world's limited natural resources by transforming plastic waste into new materials.

To accelerate this process and to help overcome the hurdles, we need help and support from European policymakers to ensure a harmonized legislative landscape to accelerate the transition toward a true circular economy and achieve the ambitious goals of the European Green Deal as well as the Circular Economy Action Plan. At Eastman, we believe the following are critical to enable a truly circular economy in Europe.

1. Acceptance of chemical recycling to effectively deal with the plastic waste crisis

Eastman fully respects the waste hierarchy and, therefore, supports an aggressive push toward reduction and reuse, and we produce the products to enable that shift. In fact, we want to shift as many single-use products to durable products as possible. To make that shift, we believe the right material should be used for the right application. Given their durability and light weight—and favorable LCA compared to other materials—plastic is the right material in many applications. Even when used in a single-use products, plastic should not be a single-use material. Anytime the material winds up in a landfill or is incinerated, a valuable resource that could continue serving human needs as a new product is wasted.

Bans and reduction on the use of plastic alone cannot protect our environment and achieve the critical objective of caring for 10 billion people. **Effectively dealing with the plastic waste crisis requires acceptance and integration of the appropriate advanced recycling technologies that can process the waste plastic that mechanical recycling simply can't handle.** Our goal is to target these nonrecyclable materials and leverage our advanced recycling technologies to keep these materials in use by recycling them into new materials that can be used for a wide variety of applications, not limited to a closed-loop or bottle-to-bottle process. That means we're moving from a linear economy (take, make, consume, waste) to a circular economy (make, use, reuse, remake, recycle).

It is essential that, at the EU level, the **definition of recycling remains as "technology neutral."** We need all recycling technologies (mechanical and chemical) to ensure that not only the amount of plastic waste that is incinerated or ends up in landfills or as litter gets reduced but also that as much waste material as possible is recovered and reprocessed into new materials or products (excluding material to fuel or energy that is not consistent with the move toward reliance on green energy). To avoid hampering of the free movement of goods within the internal market, it is important that all definitions of recycling are harmonized at the EU level.

2. Securing a constant flow of high-quality feedstock

To ensure products are recyclable at scale and to create true plastic circularity, improved infrastructure to increase collection, sorting, and processing is needed so that hard-to-recycle waste materials can become feedstock for infinite use instead of ending up in landfills or the environment.

To ensure new and existing recycling technologies can supply enough raw material for the circular economy, it is essential to have continuous, sufficient volumes of feedstock. Therefore, all plastic packaging and textiles should be collected without introducing overly complex at-home sorting processes that put an unnecessary burden on consumers and risk the loss of valuable material. Investments in enhanced sorting technologies will help to sort all the collected packaging and textiles appropriately. Moreover, to ensure that waste in Europe can be recycled in a sustainable and economically viable way and to allow existing and new recycling technologies to scale up, it is essential that member states take a cooperative role when dealing with waste management, eliminating waste shipment barriers in the EU as well as to OECD countries when intended for recycling in an environmentally sound manner.

To create a true single market for plastic, the definition of recyclability should consider the innovation principle and include new recycling technologies as well those that are under development to be scaled up.

3. All plastic waste should be recycled and calculated toward the recycled content targets.

Eastman's advanced recycling technologies have the capability to recycle almost any kind of plastic waste an infinite number of times. Not only does this reduce the amount of plastic waste that is incinerated, landfilled, or winds up in our environment, it replaces and reduces the amount of fossil fuel feedstocks used in the production process.

Incorporating broader streams of plastic waste increases the efficiency and productivity of recycling programs and increases market demand for sustainable solutions, which will build a more robust recycling infrastructure quicker. There is immense value in using postindustrial and pre-consumer waste as recycling feedstocks. More than 300 million tons of plastic are created globally each year; on average, only 12% is recycled. Therefore, it is critical to recycle all plastic waste through advanced technologies rather than see it incinerated or landfilled or, worse, end up in our environment.

4. Chain of custody to calculate recycled content

Mass balance is a chain-of-custody system that is essential to accelerate the transition to a circular economy. It enables innovative recycling of materials with the manufacturing infrastructure we have today without the economic and environmental impact that would accompany the building of new assets.

Mass balance is used to track recycled feedstocks that—after being chemically recycled—produce substances that are indistinguishable from those produced using virgin feedstocks as they flow through manufacturing processes and included in the calculation of recycled content in packaging. It will enable a fast and massive diversion of waste material away from disposal (e.g., landfill and incineration) and into material recycling under management of chain-of-custody systems that avoid fraud.

The mass balance approach allows allocation of recycled content to various products and ensures that the amount of recycled content allocated to the products is balanced with the amount of recycled material fed into the manufacturing process. All virgin and chemically recycled inputs are accounted for at the beginning of the process to ensure that the correct percentage of recycled content is allocated to the products before being distributed to customers.

5. Transparency

Eastman strives to ensure that we manufacture products that are safe for our employees to handle and for our customers to use. We have dedicated teams maintaining a rigorous product safety review process that ensures our products are among the safest and most effective materials on the market. In compliance with global regulatory requirements, Eastman performs hazard assessments for 100% of our products. Our process is thoroughly documented in our [Chemical Management Policy](#). We also actively pursue third-party certifications for sustainable products in markets that value an independent perspective on Eastman's holistic approach to chemical management.

We also believe that transparency is important to ensure a safe, circular economy. Eastman has earned ISCC Plus certification for recycled content using mass balance accounting. International Sustainability and Carbon Certification (ISCC) is an independent agency that has well-established standards for tracking sustainable content and provides certification for sustainable materials. ISCC has issued certificates for more than 3,700 products.

In May 2021, we announced our collaboration with SAP to pilot the GreenToken by SAP technology to enable traceability of certified recycled content across the value chain using blockchain technology. This collaboration will leverage the blockchain-based platform of GreenToken to provide visibility through the value chain of sustainable products, such as the specialty plastics produced with Eastman's advanced recycling technologies. Through data transparency enabled by blockchain, the platform is designed to give brands and consumers traceable information of sustainable attributes of products, including their percentage of certified recycled content.

We support the European Commission's work on transparency and the idea of creating a digital product passport. However, to avoid any additional burden (like duplication of information requirements, different reporting mechanisms, etc.) on companies, interoperability with existing databases or information already present online will be crucial. It is also key that the confidentiality of certain data be protected and secured.

Partnering for a materials revolution

The triple challenge is too big and too important for one organization to solve alone. To help solve the plastic waste crisis, we must create a truly circular economy where resources retain their value infinitely and we bring plastic waste lost to landfills, incinerators, and the environment back into the production cycle. Technologies exist today that give new life to plastic waste, but without the right policies in place, these solutions will not reach their potential for good. Together, we can create and foster a truly circular economy that addresses the plastic waste crisis at its source, and we can shape a sustainable future for the economy that includes plastic that is used, recycled, and reused again and again, supporting and enhancing our overall quality of life while preserving our environment.

The time to act—and advocate—is now. Our goal is to transform tomorrow by revolutionizing the materials that shape it today. To learn more about our actions and advocacy, go to eastman.com/advocacy or contact Fatma Sahin, director, government affairs, EMEA, at Fxxxx.xxxxxx@xxxxxxxx.xxx.

About Eastman

Founded in 1920, Eastman is a global specialty materials company that produces a broad range of products found in items people use every day. With the purpose of enhancing the quality of life in a material way, Eastman works with customers to deliver innovative products and solutions while maintaining a commitment to safety and sustainability. The company's innovation-driven growth model takes advantage of world-class technology platforms, deep customer engagement, and differentiated application development to grow its leading positions in attractive end markets such as transportation, building and construction, and consumables.

For more information, visit Eastman.eco.



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