Dear valued customer,

I am especially excited about this edition of the Eastman Filter Products Newsletter, as it is 100% focused on better business through better sustainability: better for our industry, our products and our planet.

At Eastman, we are helping build a circular economy through recycling innovations. We are at commercial scale and thus showing the world what is possible now. Our molecular recycling technologies process hard-to-recycle plastic waste and bring products to the market with certified recycled content and no trade-offs in performance. This also reduces our carbon footprint, helping mitigate climate change.

Eastman molecular recycling is a form of chemical recycling that creates value from waste. In this newsletter, you can learn more about Eastman's carbon renewal technology (CRT), which operates at commercial scale and delivers material with certified recycled content at a lower carbon footprint with the same performance as virgin material.

Creating new products with recycled content enables companies across industry sectors to achieve their sustainability commitments without compromising on product performance. Eastman EcoTow™ CRT is one of those products.

Collaboration is essential for a circular economy. We look forward to working with you toward a better world where materials are used, reused, recycled and re-created over and over again.

Respectfully,

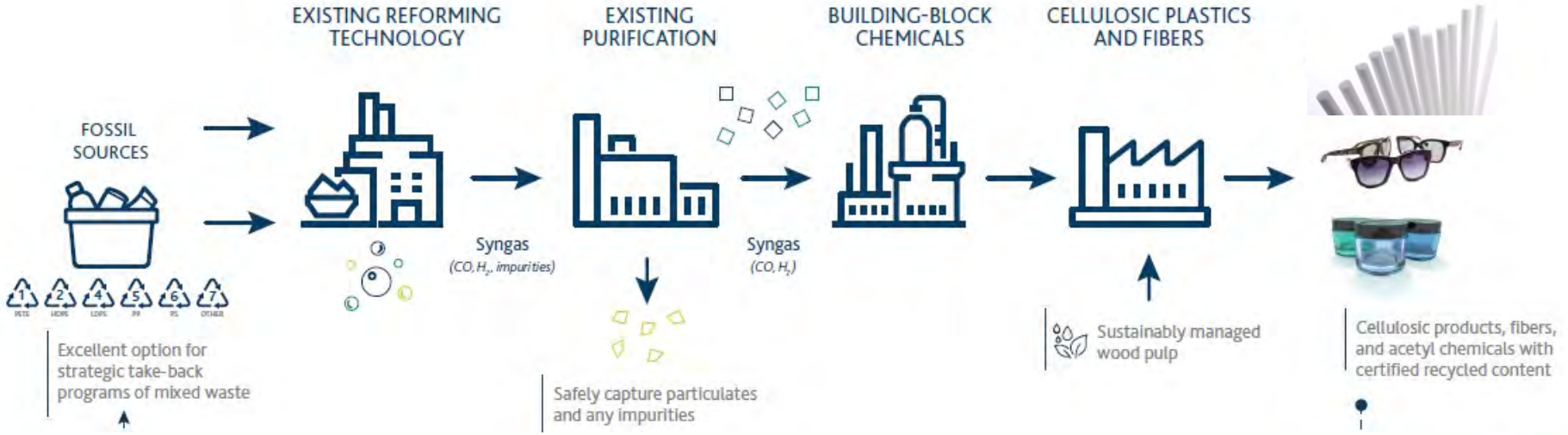
Markus Streckhardt
Sales Director, Eastman Fibers

What is carbon renewal technology (CRT)?

In 2019, Eastman began commercial operation of CRT, which launched our molecular recycling platform for plastic waste. CRT breaks mixed plastic waste down to its molecular subcomponents, and Eastman recycles these molecules into new plastic and fiber products.

CRT enables a variety of hard-to-recycle, mixed plastic waste to be chemically recycled into synthesis gas (syngas) through reforming technology. Syngas, a mixture of carbon monoxide and hydrogen, is an important building block further processed by Eastman to create a variety of resins, fibers and acetyl chemical products, including cellulose acetate tow. CRT enables recycling of materials not suitable for conventional (mechanical) recycling — waste materials that would otherwise go to landfill or incineration. Examples include post-consumer polyester carpet fiber and cross-linked polyethylene scrap. Since 2019, Eastman has recycled millions of pounds of carpet that would otherwise pile up in landfills.

CRT enables a next-generation option to recycle these materials and produce new specialty plastic and fiber products with certified recycled* content and no compromise in quality. Because acetic acid, an indispensable component which transforms cellulose into cellulose acetate, sourced from recycled plastic waste is indistinguishable from the acetic acid traditionally derived from fossil-based feedstocks, the outputs are indistinguishable as well. We use a well-proven system of accounting called mass balance that enables certification of the amount of plastic waste used in our processes, enabling verifiable claims of certified recycled content in end products.



*Allocation via mass balance process

Mass balance: how it works

Molecular recycling creates an infinite life for plastics, and it is necessary for a circular economy to work. Mass balance is a key part of making molecular recycling work .

Molecular recycling breaks down waste to the molecular level, and even under a microscope, the materials from carbon renewal technology (CRT) cannot be distinguished from molecules created from fossil feedstocks. Molecules from molecular recycling and heritage processes are blended in the making of new materials. So how are those recycled materials accounted for?

Enter a system called **mass balance**.

Mass balance is an accepted and certified protocol that documents and tracks recycled content through complex manufacturing systems. This system is an established, vetted and standardized system used by many industries, some for decades, including the sugar and coffee industries. By using mass balance, we can record how much recycled plastic has been used in our manufacturing systems and balance it exactly with the certified recycled content in end products through mass balance allocation.

The CRT mass balance system is certified by the International Sustainability & Carbon Certification (ISCC) PLUS standard, which is audited by a third party, SCS Global Services. These certification and tracking systems offer new levels of transparency, so our partners know they are getting the sustainable products they need to meet their sustainability commitments and the evolving demands of their customers.

ISCC
International Sustainability & Carbon Certification

What is EcoTow™ CRT?

Eastman's innovation strategy is driven by sustainability, and EcoTow CRT is a prime example of how we are focused on innovating sustainable solutions with our business partners.

EcoTow CRT is the product name of our sustainable tow - for use in tobacco filtration - made with 60% renewable content, derived from sustainably managed forests, and up to 40% certified recycled content from hard-to-recycle plastic waste, allocated using ISCC PLUS mass balance.

By using waste plastic as a feedstock, EcoTow CRT not only diverts waste from landfills and removes the need for fossil-based materials but also offers a climate benefit. Eastman completed a life cycle assessment (LCA), showing a reduction above 1% in GHG emissions for EcoTow CRT.

Given the integration of CRT with our acetyl stream, Eastman is the only tow supplier that can offer tow with CRT-recycled material content. By sourcing acetic acid from plastic waste feedstocks rather than fossil-based feedstocks, our EcoTow CRT product is the same as our traditional tow on the molecular level, without compromise.

There are no differences in the following:

Quality | Tow processing | Filter rod properties | Filtration properties

The only difference is the certified recycled content by mass balance allocation of the EcoTow CRT in the range of products that our customers commercialize.

The value of more sustainable offerings

We all face a range of choices today. How do we keep up with an evolving market and changing consumer demands? How do we continue to meet performance expectations at that end-user level while also making more sustainable choices for a better planet? And how do we balance these things with good business sense?

Eastman EcoTow CRT strikes those balances for our industry.

1. EcoTow CRT reduces the use of fossil feedstocks by incorporating plastic waste as feedstocks
    - Positively impacts our customers' Scope 3 emissions targets
    - Potentially reduces costs in carbon offset spending and carbon price

2. Enabled by ISCC PLUS mass balance allocation, EcoTow CRT ensures brands that partner with us can make verifiable claims about the recycled content in their products using mass balance. The result is that brands can report, with certainty, the amount of certified recycled content created by the products they sell to consumers. The benefit here is:
    - Possible cost reduction in the Single-Use Plastics Directive Extended Producer Responsibility implementation via advanced fee modulation or eco-modulation. According to the OECD, "Policy interventions can facilitate the integration of advanced fee modulation in EPR regulation. For example, the ongoing update of the EU Waste Framework Directive serves to instigate EU Member States to develop legislation that requires Producer Responsibility Organizations to implement advanced fee modulation."[1]

[1]Laubinger, F., et al. (2021), "Modulated fees for Extended Producer Responsibility schemes (EPR)", *OECD Environment Working Papers*, No. 184, OECD Publishing, Paris, https://doi.org/10.1787/2a42f54b-en.

We end this newsletter by returning to a thought from Markus in his introductory note: collaboration. Technologies, while essential, are not the sole solution to materials circularity. Partnerships and collaboration across the value chain — throughout our industry and with policymakers and governments — will deliver a circular economy. Through molecular recycling, we see a unique opportunity to partner and achieve mutual benefit through more sustainable choices that deliver value for our businesses and better position us for a changing world. Eastman is fully invested in a circular economy, and we are happy to have more in-depth discussions with you about our solutions.

In our next newsletter, we will explore the deep technical support and expertise we are able to deliver.

Reach out to an Eastman representative with any questions.

CONTACT US