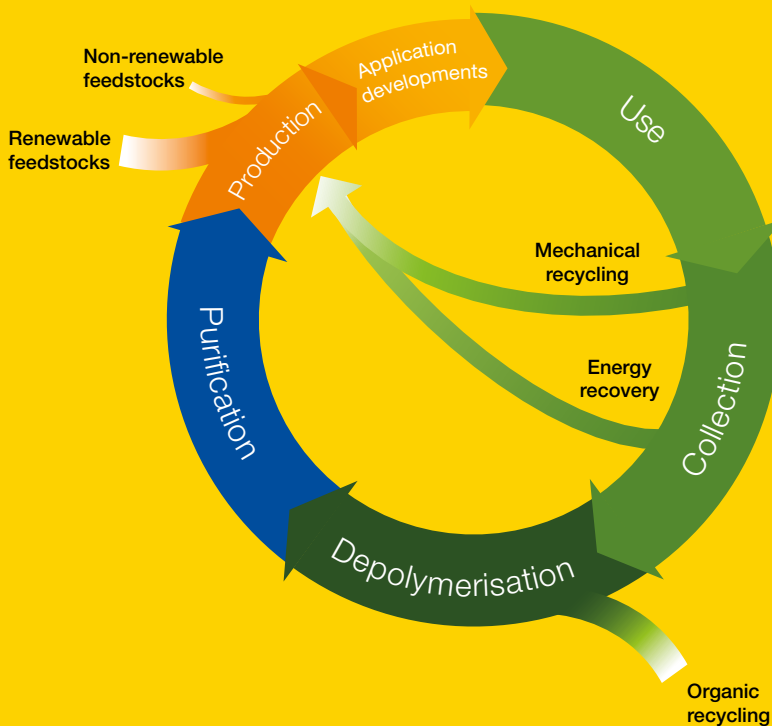


Join the circular plastics revolution

Learn how Sulzer offers you complete solutions for sustainable materials



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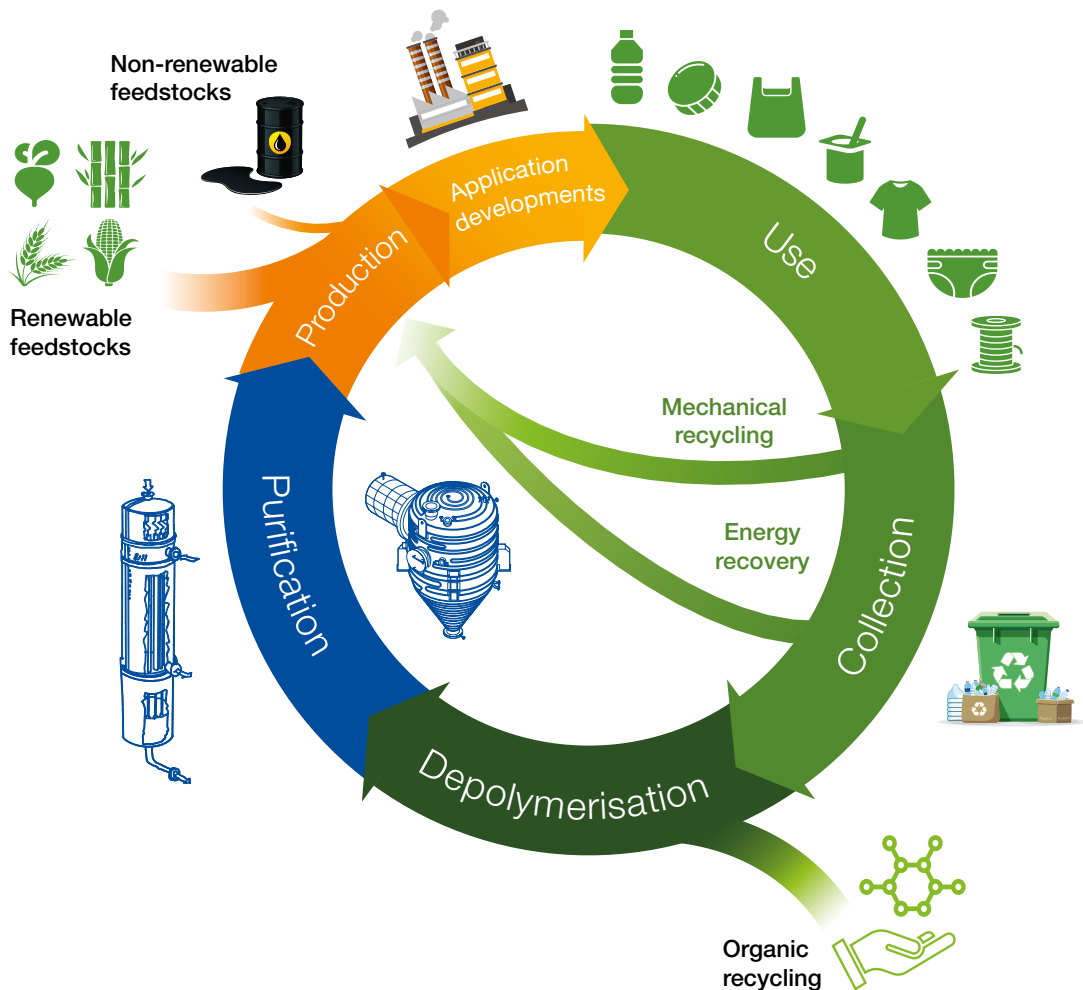
Learn how Sulzer offers you complete solutions for sustainable materials

Sulzer supports your goal to reduce packaging waste, promote reusable solutions, and enhance recycling to drive the transition to a circular economy and meet climate objectives.

As global demand for sustainable materials accelerates, the industry requires comprehensive solutions that span the entire lifecycle – from renewable feedstock conversion to advanced recycling technologies.

That's why Sulzer delivers proven, integrated technologies that enable the **production, purification, and recycling** of sustainable polymers at commercial scale.

For more than two decades, Sulzer has been the leading technology provider for sustainable polymer solutions. Our equipment operates in most world-scale bioplastic plants, and our innovative ring opening, DEVO™, distillation and crystallization technologies are revolutionizing how the industry approaches recycling and purification.



Leading **bio-based polymer** technologies

Sulzer offers proven and guaranteed technologies for producing sustainable polymers, each offering unique properties and end-of-life solutions.

These advanced bioplastics include:

PLA (Polylactic Acid) – Bio-based and biodegradable

- Derived from renewable feedstocks like corn, sugarcane, sugar beet and many others based on the plant location
- Fully biodegradable through industrial composting
- 100% recyclable

PCL (Polycaprolactone) – Fully biodegradable

- Excellent biodegradability and biocompatibility properties
- Versatile across multiple industries such as application, adhesives and coatings



Integrated production technology

Our SULACTM and SULROPTM technologies provide complete, continuous conversion from lactic acid to high-quality PLA pellets.

- **Lactide production** through polycondensation and cyclization
- **Hybrid purification** combining distillation and crystallization for isomer ratio control and exceptional lactide purity
- **Ring-opening polymerization reaction** using our proprietary SMRTM reactors
- **Advanced devolatilization** with DEVOTM technology to remove the unreacted monomers
- **Solid handling** including pelletization and pellet crystallization

Advanced recycling for **high-purity outputs**

Mechanical plastics recycling is well established, but often limited in terms of material quality, contamination tolerance, and application scope. For polymers that are difficult to separate or degrade during conventional recycling, Sulzer provides advanced technologies that deliver high-purity outputs with excellent performance characteristics.

Our systems help transform post-consumer and post-industrial plastic waste into valuable raw materials, supporting a more circular economy without compromising quality.

Key technologies

Solvent-based dissolution recycling

Using Sulzer's proprietary DEVO™ technology, plastics obtained through solvent dissolution are purified through a multi-stage devolatilization process that removes residual solvents and contaminants while preserving polymer quality. This static, low-shear approach minimizes thermal stress and molecular degradation, enabling the recovery of solvent and the pure polymer. The technology is particularly effective for complex, multilayer, or contaminated streams that would otherwise go to landfill or incineration.

Solvent recovery

To support economic and environmental performance, Sulzer also offers solvent purification and recovery systems that reclaim solvents used during recycling for reuse. This reduces both operational costs and environmental impact, enabling closed-loop processing that aligns with sustainability targets.

Monomer purification

Sulzer's distillation and fractional crystallization technologies allow complete removal and recovery of monomers such as lactide, caprolactame, methylmetacrylate caprolactone, styrene and many others, even at very high purity levels. These recovered monomers can then be re-polymerized into new materials, enabling true chemical recycling and the production of food-grade or high-specification outputs from recycled sources.

Together, these technologies enable the recovery of high-quality recycled plastics from challenging waste streams, opening new pathways to circularity for producers, converters, and brand owners alike.

Energy efficient purification

Purification is essential to both bio-based and recycled plastic production. That is why Sulzer delivers energy-efficient separation solutions that support sustainability while improving product yield and quality.

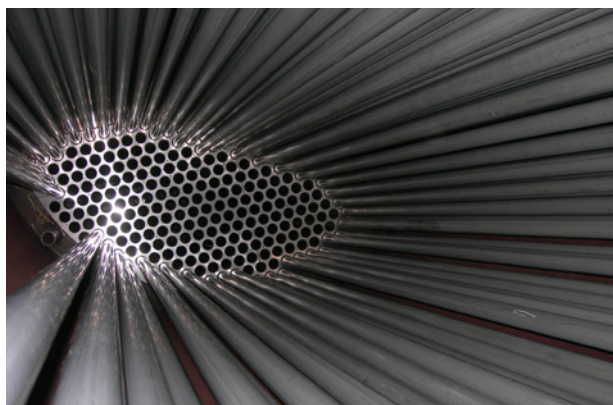
Crystallization

Fractional melt crystallization is used where distillation alone cannot achieve required purity or where products to be purified are heat sensitive or where separation becomes too energy intensive. This low-temperature method is particularly suited to bio-based monomers, which are often heat-sensitive. It offers:

- Improved purity
- Lower energy consumption
- No moving parts for reduced maintenance
- Minimal thermal degradation

Hybrid purification systems

By combining **distillation and crystallization**, Sulzer technology can optimize capital and operating costs while delivering exceptional purification performance. These systems are in use, for example, for both lactide and caprolactone, enabling production of polymers that meet the most demanding specifications.



Devolatilization

The DEVO™ system supports both polymer production and recycling. By removing residual volatiles without high shear or excessive heat, DEVO™ preserves polymer quality while keeping energy consumption low.

Leading the transition to circular plastics

Sulzer's proven technologies enable companies to participate in the circular plastics transformation with confidence, backed by decades of experience and continuous innovation.

Whether you are developing bio-based materials, implementing advanced recycling, or optimizing existing processes for sustainability, our comprehensive technology portfolio and global support network ensure your success in the circular plastics economy.

Ready to advance your circular plastics strategy?

Contact us today at polymer@sulzer.com to discover how Sulzer can support your journey toward sustainable polymer solutions.

The Chemtech division is the global market leader in innovative mass transfer, static mixing and polymer solutions for petrochemicals, refining and LNG.

Chemtech is also leading the way in ecological solutions such as biopolymers as well as textile and plastic recycling, contributing to a circular economy. Our product offering ranges from technology licensing to process components all the way to complete separation process plants. Customer support ranges from engineering and field services to tray and packing installation, tower maintenance, welding and plant turnaround projects – ensuring minimal downtime.

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