

TURNING PLASTIC WASTE INTO A SUSTAINABLE MATERIAL

Plastic recycling: The biggest challenge

Global plastic production has been steadily increasing for decades. Plastics are also in great demand in the packaging sector due to their advantageous properties.

Polypropylene (PP) is a thermoplastic polymer that is widely used in the packaging industry – from food and beverage packaging into industrial and consumer goods packaging. It is often found in composite packaging together with other materials, which complicates the sorting and recycling processes.

One of the biggest challenges in the recycling of PP from post-consumer waste is contamination.

Conventional technologies, such as mechanical recycling, have resulted in limited use applications and often tend to have unpleasant odors, unreliable performance, and limited colors. This leads to a decrease in material quality with each recycling cycle.

Dissolution recycling as a useful addition to mechanical recycling

Dissolution recycling is a physical process that purifies the polymer to create a like-new plastic. It does not generate a chemical reaction and therefore has sustainability benefits.

Initial lifecycle analysis estimates that the process uses significantly less energy to recycle existing waste than the energy required to create fossil-based plastic, making this recycled plastic an eco-conscious and sustainable product.

Revolutionizing plastic waste into a renewable resource

Landbell is collaborating with PureCycle Technologies, Inc, who uses a game-changing, patented technology that can remove contaminants, colors, and odors from polypropylene plastic waste.

They use an innovative and disruptive dissolution recycling technology, which originally was developed and patented by The Procter & Gamble Company.

It transforms polypropylene (PP) plastic into a versatile, replenishable resource through a unique purification process.

The PureFive™ ultra-pure recycled (UPR) resin can be recycled and reused multiple times, changing our relationship with plastic. In the US, PureFive™ UPR is approved for use in food-contact applications under certain conditions.

Enabling the recycling of PP in Europe

In January 2024, Landbell Group and PureCycle Belgium joined forces to enable the advanced recycling of PP waste in Europe. The aim of the collaboration is to ensure the upcycling of PP waste into high-purity, recycled PP that can be used in high-value and demanding applications.

As part of this collaboration Landbell Group will use its expertise in the collection, sorting and processing of plastics in several European countries.

PureCycle is using its innovative dissolution recycling technology and experience from its flagship plant in Ironton, Ohio, USA, to produce the high-purity recycled PP that is already being used in commercial applications.

Landbell will supply the PP waste from its household collections to PureCycle's first European PP recycling plant in Antwerp, Belgium, that initially in its first production line will be designed to have an annual capacity of 59,000 tonnes.

However, the Antwerp plant has the potential to expand to four production lines.

Do you want to close the loop together with Landbell and PureCycle?

The cycle for plastic packaging is complex and involves stakeholders from different areas. The cycle can therefore only be closed together – and only if all parties involved take responsibility, contribute their expertise and exert influence to create sustainable solutions.

Do you also think sustainably and are you looking for real circular solutions for your packaging? Then become part of this innovative solution with your packaging and contribute to a truly circular economy.

Your advantages as a partner:

- Highlight your brand’s sustainability credentials
- Truly closed loop without downcycling, which ensures consistently high recycling quality
- Useful addition to the established mechanical recycling infrastructure

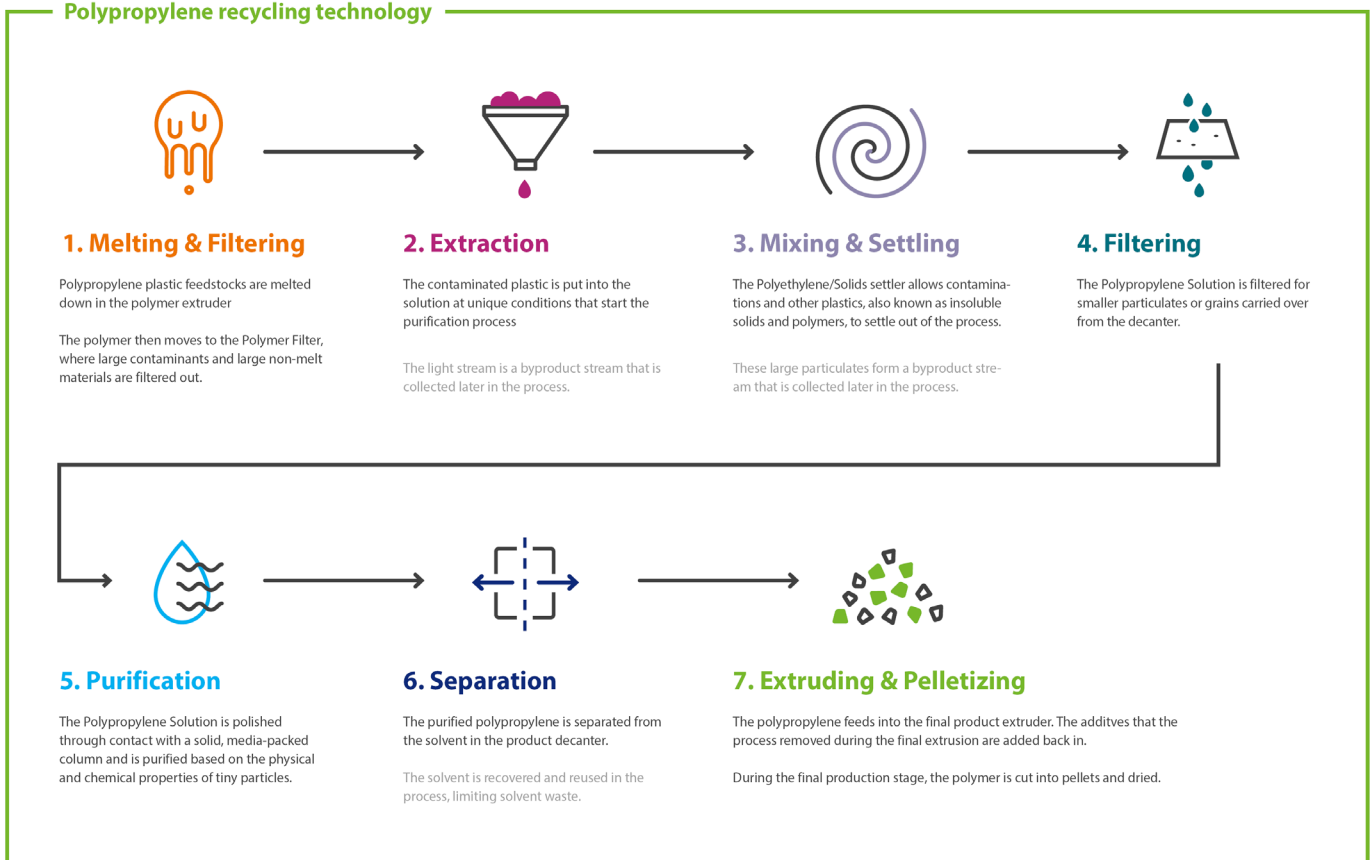


Together we can achieve a lot!

Contact your account manager for more information or contact us at:

closedloop@landbellgroup.com

Polypropylene recycling technology



About us

Landbell Group is a leading global supplier of environmental and chemical compliance services, which helps companies to carry out their extended producer responsibility (EPR) obligations.

With customers in many countries, and colleagues based all over the world, we are a global platform for EPR.

Our unique approach

- An international team and network of compliance experts combine unrivalled operational expertise with consulting competence
- We run more approved EPR schemes than any other organisation globally
- We offer international support for EPR and chemical regulations, as well as software solutions for efficient compliance management processes
- Our global takeback programmes collect products anywhere

Our service areas

- Environmental compliance
- Chemical compliance
- Product takeback
- Consulting
- Software
- Global solutions

www.landbell-group.com