

CirculenRecover



Plastics make modern society possible and often are a more sustainable material than alternatives. LyondellBasell recognizes the challenges of plastic waste and is launching products that help customers achieve circularity in their use of plastic packaging by increasing usage of recycled content and diverting more plastic from landfill or incineration. **We are committed to producing and marketing at least two million metric tons of recycled and renewable based polymers annually by 2030.** We are advancing technologies and innovations that will help eliminate plastic waste and maximize the value of plastics by keeping these resources in use for as long as possible.

Polyethylene and polypropylene products containing post consumer resin (PCR) for the following applications:

Injection molding

- Caps and closures
- Crates, pails, and food containers

Blow molding

- Liquid food bottles
- Bottles for consumer goods

Flexibles

- General purpose film
- Dry food packaging



Circulen Family of sustainable solutions

Through its *Circulen* polymer portfolio, LyondellBasell enables brand owners to address multiple packaging sustainability and circularity challenges. From mechanical and advanced recycling solutions that divert plastic from landfills to renewable-based solutions that offer greenhouse gas (GHG) emission benefits, the *Circulen* polymer portfolio offers the industry's broadest range of sustainable packaging solutions.



*Circulen*Recover

Used in a wide variety of industrial, household and consumer product applications, *CirculenRecover* products are made from plastic waste through a mechanical recycling process. This type of recycling upgrades plastic waste into usable materials through mechanical processes including sorting, washing, grinding, melting and forming new pellets. The resulting polymers can also be blended or compounded with traditional fossil-based products, providing customers with high-quality polymers with an optimal balance of performance characteristics and recycled content.



*Circulen*Revive

Products are made using an advanced recycling process to convert plastic waste back to its molecular level. The resulting pyrolysis oil is then used as a feedstock in our conventional production processes to produce new polymers. A broad range of plastics can be recycled using this process including hard-to-recycle items such as mixed materials, composites, multilayer and flexible plastics. The advanced recycled feedstock is mixed with conventional feedstocks in our process, and allocated to *CirculenRevive* products using a mass balance approach certified according to the International Sustainability and Carbon Certification (ISCC) PLUS standard. These polymers can be used in highly regulated applications such as food contact and healthcare.



*Circulen*Renew

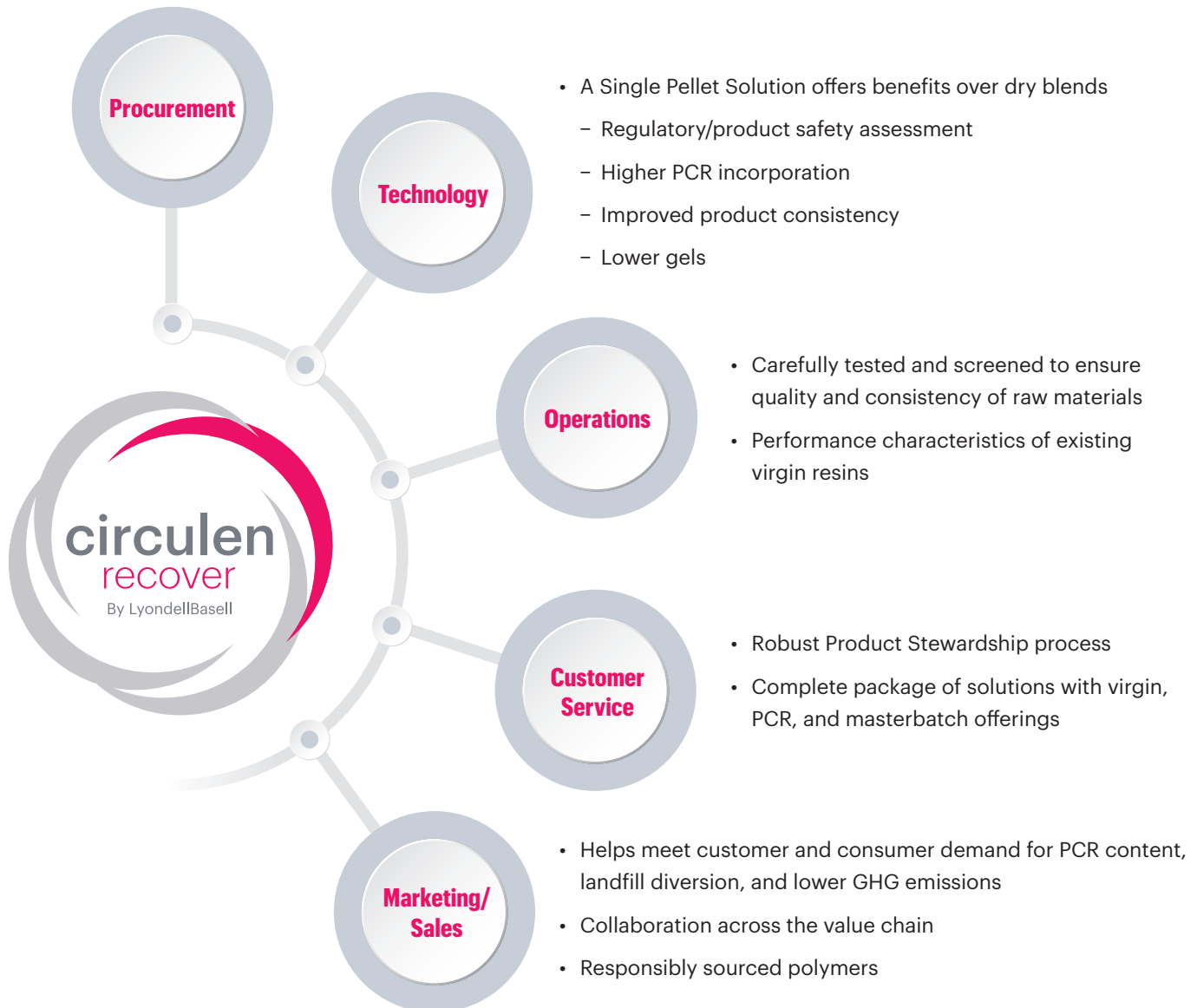
Offering a lower carbon footprint than fossil-based polymers, *CirculenRenew* products are sourced from renewable feedstocks, namely bio-based wastes and residual oils, such as used cooking oils. These feedstocks are used in our conventional production processes along with conventional feedstocks, and are allocated to *CirculenRenew* products using an ISCC PLUS-certified mass balance approach. These polymers can also be used in highly regulated applications such as food contact and healthcare.

Learn more at [LyondellBasell.com/Circulen](https://www.lyondellbasell.com/Circulen)

Unlock the value of *CirculenRecover*

LyondellBasell is investing across the value chain – from collection to offtake to production – to ensure the reliable supply of high-quality feedstock necessary to deliver meaningful circular and low carbon solutions to our customers. Our *CirculenRecover* grades are specifically designed to fulfill the unique needs of multiple stakeholders across your organization while also addressing the most pressing demands of your customers and consumers.

- Long term supply contracts
- Reliable feedstock supply



North America *Circulen*Recover product grades

| Product | Type | Process | Application * Food Contact | % PCR | PE MI (190 °C/2.16 kg) Or PP MFR (230 °C/2.16 kg) | PE Density (g/cc) or PP Flex Modulus (kpsi) / Notched Izod (ft-lb/in) |
|---------|------|----------------------------------|---|----------|---|--|
| L5670R | HDPE | Blown Film / Blown Molding | Food* | 90 | 0.7 | 0.956 |
| LM6007R | HDPE | Blow Molding | Liquid Food* | 25 | 0.7 | 0.960 |
| LR7320R | HDPE | Blow Molding | Small Part Bottle | 75 | 35 (HLMI – 190 °C / 21.6 kg) | 0.959 |
| EP445PR | PP | Injection Molding | Tubs & Containers* Caps & Closures* | 30 | 17 | 165 / No Break |

*Can be considered for food contact application use pending review of product stewardship for the targeted end use application

To learn more about *Circulen*Recover grades available in Europe, please access our [Product Selection Guide](#).

About us

We are LyondellBasell (LYB) – a leader in the global chemical industry creating solutions for everyday sustainable living. Through advanced technology and focused investments, we are enabling a circular and low carbon economy. Across all we do, we aim to unlock value for our customers, investors and society. As one of the world's largest producers of polymers and a leader in polyolefin technologies, we develop, manufacture and market high-quality and innovative products for applications ranging from sustainable transportation and food safety to clean water and quality healthcare. For more information, please visit www.lyb.com or follow [@LyondellBasell](https://www.linkedin.com/company/lyondellbasell) on LinkedIn.

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