

WORKING TOWARD A SUSTAINABLE FUTURE

IN THIS EDITION OF MARKET INSIGHTS WE SHARE INFORMATION ON THE COMPANY'S PROGRESS IN SUSTAINABILITY AND SHOWCASE SOME OF THE PROJECTS FROM OUR CUSTOMERS TO CREATE OR USE RECYCLABLE CONTENT.

tomorrow's
performance
today

ExxonMobil steps up advanced recycling to help address plastic waste

To help reduce the impact of plastic waste on the environment, society will need to recycle a greater share of the products that it uses instead of permanently discarding them. ExxonMobil is pursuing three new advanced recycling initiatives in the U.S. and Europe that set in motion opportunities to capture value from plastic waste at scale.

Advanced recycling, also called chemical recycling, refers to technologies and processes that can enable companies like ExxonMobil to molecularly convert difficult-to-recycle plastics into virgin-quality raw material used to make a wide range of valuable new products – and potentially repeat that process over and over again.

Imagine your discarded yogurt containers being transformed into medical equipment for your next doctor's appointment, and then into the dashboard of your next fuel-efficient car. That's a simplistic way to describe a more "circular economy", but it helps illustrate what ExxonMobil is working on.

- In Baytown, Texas, ExxonMobil completed the initial phase of a trial for converting plastic waste into raw materials to make high-value polymers. Pending successful completion of the trial's next phase, we plan to market commercial volumes of "certified circular" polymers later this year.

We also intend to use the trial results to scale-up advanced recycling capabilities at other ExxonMobil chemical facilities around the world, which are integrated with our broader downstream operations and therefore offer important economies of scale that help to keep costs down.

- In France, ExxonMobil is collaborating with Plastic Energy – a leader in advanced recycling – on a project that will convert post-consumer plastic waste into raw materials for the manufacturing of virgin-quality certified circular polymers. The facility will have an initial capacity of 25,000 tonnes of plastic waste per year, with plans to scale up to 33,000 tonnes in the near future. Based on current plans it is expected to be one of the largest advanced recycling projects for plastic waste in Europe. Start-up is expected in early 2023.

- ExxonMobil became a founding member of Cyclyx International, a joint venture with Agilyx, which is developing systems to aggregate and pre-process plastic waste to meet the growing needs of the advanced recycling industry. Cyclyx aims to fill what is currently a "missing link" between waste companies and recyclers, thus enabling efforts to achieve advanced recycling at scale. ExxonMobil holds a 25 percent equity interest in Cyclyx.

These initiatives and others are helping us to assess and further develop opportunities for advanced recycling across our sites at scale.

Solution Focus: Packaging that is recyclable* or includes recycled content



Collation Shrink Films with 50% PCR Content

Barbier Group, a leading polyethylene (PE) film converter and recycler based in France, wanted to develop a collation shrink film containing 50% post-consumer recycled (PCR) PE content. It was also important that Barbier maintained the mechanical properties and thickness of collation shrink films it had previously made with 100% virgin PE. See how they met this challenge using Exceed™ XP performance polymers.



Innovative recyclable non-laminated PE stand-up-pouch

Winpack group collaborated closely with ExxonMobil PE to develop an innovative fully recyclable*, non-laminated polyethylene (PE) stand-up-pouch that would help meet the country's growing demand for sustainable solutions while delivering the performance and protection products need.



Bag-in-box solutions that reduce failure rates while using only half the plastic content

Embaquim Industria E Comercio Ltda, a leading Brazilian liquid packaging producer set out to develop a cost-effective bag-in-box packaging solution to minimize failures when transporting products long distances and under extreme conditions. This recyclable* solution helps to reduce waste, minimize product returns and uses less material thanks to the extreme toughness and flex-crack resistance provided by Exceed™ XP.



Full PE pouches recycled to create new pouches

ExxonMobil's performance polyethylene (PE) polymers including Exceed™ XP, Exceed™, Enable™ and Exact™ allow the fabrication of full PE laminated films that are recyclable*, with excellent packaging integrity, puncture energy and optics. A collaboration between Hosokawa Alpine AG, EREMA Engineering Recycling Maschinen und Anlagen GmbH, Henkel AG & Co KGaA Company and ExxonMobil has developed a solution that uses recycled full PE laminated SUPs to manufacture new full PE laminated SUPs.



Fully recyclable*, high stiffness PE films replacing non-PE substrates in laminated packaging

ExxonMobil's performance PE polymers, in combination with EVO Ultra Stretch machine direction orientation (MDO) technology from Reifenhäuser, boost stiffness and optical properties, allowing non-PE substrates to be replaced in laminated packaging.

*Note: Recyclable in communities that have programs in place to collect and recycle plastic films. Packaging made from a single polymer structure is easier to recycle as compared to multi-material packaging.

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