

NEWS

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ExxonMobil, Cyclyx, Sealed Air, and Ahold Delhaize USA demo advanced recycling for plastic waste

SPRING, Texas – In 2022, industry leaders ExxonMobil, Cyclyx International, Sealed Air, and Ahold Delhaize USA announced their intention to be the first in the United States to successfully launch a circular food packaging proof of concept leveraging advanced recycling. During a successful demo, plastic waste was collected from grocery stores, diverting it from landfills. Leveraging ExxonMobil's Exxtend™ technology for advanced recycling, plastic waste is broken down into its molecular building blocks and attributed through a mass balance approach to new plastic for food-grade packaging. This collaboration demonstrated that creating a circular economy is achievable with value chain collaboration. Following a viable test, the process is now being evaluated for scale.

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- Circular solution for food packaging waste was first of its kind in the U.S.
 - Flexible plastic waste from the food supply chain was recycled and attributed to ISCC PLUS certified-circular polymers used for new food-grade packaging
 - First announced in April 2022, the project is now being evaluated for scalability
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Creating a circular economy for food contact plastic packaging in applications where there are strict safety and performance requirements is a difficult challenge facing the industry.

"This project helps demonstrate how Exxtend technology can widen the range of plastic materials that can be recycled while delivering certified-circular polymers with the critical performance attributes of virgin plastic," said Dan Moore, vice president, Polyethylene, ExxonMobil. "Advanced recycling is making the impossible possible and is an important enabler to support a circular economy."

Ahold Delhaize USA brand Food Lion supported the initial pilot, collecting plastic waste for recycling at select store locations. With more than 1,100 stores across 10 states, Food Lion is one of the five brands that comprise the Ahold Delhaize USA network – the largest grocery retail group on the East Coast and the fourth largest in the nation.

“Across Ahold Delhaize USA companies, we have ambitious goals around recyclable and reusable packaging,” said Adam Springer, manager, Product Sustainability, Ahold Delhaize USA. “Based on the initial pilot, we’re optimistic about being able to leverage this process at additional scale and look forward to exploring it further as part of this collaboration.”

Cyclyx, a joint venture between Agilyx Corporation and ExxonMobil, was responsible for sorting and pre-processing the waste packaging materials collected from the Food Lion stores, before delivering them to ExxonMobil’s Baytown, Texas facility. “The interface between the Food Lion stores and the Baytown facility was critical and required an innovative approach to feedstock management,” said Joe Vaillancourt, CEO, Cyclyx. “Part of our process is to identify the chemical composition of the waste plastics we receive. This allows us to create custom blends of post-use plastic feedstock that are tailored to the specifications required for advanced recycling.”

At the Baytown facility, Exxtend technology for advanced recycling is used to recycle the valuable end of life plastics and attribute them via mass balance accounting to certified-circular polymers. “The technology provides a reliable source to attribute to high-performance, certified-circular polymers,” Moore said. “The resulting polymers, such as Exceed™ S, Exceed™ XP, Exceed™ and Enable™ performance polyethylene (PE), have the characteristics of virgin resins, which is critical for food-grade packaging.”

Sealed Air, which is leading the packaging industry by designing and creating high-performance packaging materials that can be remade, converts the certified-circular PE resins into food-grade flexible film that is used, in the case of this proof of concept, to package select Nature’s Promise fresh poultry. The packaging then returns to stores used on products purchased by customers, demonstrating an example of the circular economy.

“By collaborating with suppliers and customers, we were able to identify, design, and commercialize an innovative flexible packaging solution which supports circularity,” said Ron Cotterman, vice president, Global Corporate Affairs, Sealed Air.

Leveraging ExxonMobil’s existing manufacturing assets, Exxtend technology can be rapidly scaled to process a wide range of plastic waste. To help meet the growing market demand for certified-circular plastics, ExxonMobil plans to increase its annual advanced recycling capacity to 500,000 metric tons, or approximately 1 billion pounds, by year-end 2026 across multiple sites globally.

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About ExxonMobil Polyethylene

ExxonMobil's polyethylene portfolio offers converters and brand owners an extensive range of performance polymers as well as specialty co-polymers and additional polyethylene grades for numerous applications. Our performance polymer flagship brands deliver superior mechanical performance and unparalleled properties.

With critical properties such as strength, durability and toughness, ease of sealing, and outstanding optics, our leading-edge polyethylene formulations help create, protect, and promote products throughout the packaging, agriculture, industrial, personal care, and hygiene markets. From store shelves, to harvesting, to shipping, to the factory, products made with our performance polymers can help reduce risk of waste, breakage, and spoilage across the value chain.

About Sealed Air

Sealed Air is in business to protect, to solve critical packaging challenges, and to make the world better than we find it. Its automated packaging solutions systems create a safer, more resilient, and less wasteful global food supply chain, enable e-commerce, and protect goods transported worldwide.

Its globally recognized brands include CRYOVAC® brand food packaging, SEALED AIR® brand protective packaging, AUTOBAG® brand automated systems, BUBBLE WRAP® brand packaging, SEE™ Touchless Automation™ solutions, and prismaiq™ smart packaging and digital printing.

Sealed Air's operating model, together with its industry-leading expertise in materials, engineering, and technology, create value through more sustainable, automated, and digitally connected packaging solutions. Sealed Air is leading the packaging industry in creating a more environmentally, socially, and economically sustainable future and has pledged to design or advance 100% of its packaging to be recyclable or reusable and to incorporate an average of 50% recycled or renewable content into solutions by 2025, with a bolder goal to reach net-zero carbon emissions in its global operations by 2040.

About Ahold Delhaize USA

Ahold Delhaize USA, a division of Netherlands-based Ahold Delhaize, is the parent company for Ahold Delhaize's U.S. companies, including its local

brands, Food Lion, GIANT Food, The GIANT Company, Hannaford and Stop & Shop; Retail Business Services, a U.S. support services company providing services to the brands; Peapod Digital Labs, its digital, commercial and e-commerce engine; and ADUSA Supply Chain companies. When considered together, the local brands of Ahold Delhaize USA comprise the largest grocery retail group on the East Coast and the fourth largest grocery retail group in the nation, operating more than 2,000 stores and 22 distribution centers across more than 20 states and serving millions of omnichannel customers each week.

About Cyclyx

Cyclyx International, LLC. ("Cyclyx") is a post-use plastic feedstock management company working with industry participants to develop innovative recycling solutions for all types of post-use plastics. The company's mission is to increase the recycling rate of plastics from 10% to 90% by using Cyclyx's expertise in understanding the chemical composition of post-use plastic in collaboration with industry partners to create a new, innovative supply chain. Cyclyx was founded by Agilyx Corporation ("Agilyx"), a leader in advanced chemical recycling, together with ExxonMobil Chemical Company, one of the largest chemical companies in the world. Cyclyx has been formed to be a consortium-based entity and since its founding there have been a growing number of companies joining its membership.