

Presentation Outline by JEPLAN CEO Masaki Takao

Abstract

- **Strategic importance of PET:** PET is one of the world's most widely used materials, dominating both packaging and textile applications.
- **Current challenge:** Despite its importance, much of the PET value chain remains linear, with bottles, garments, films and other polyester products still underutilized as resources.
- **Opportunity:** As demand grows for reliable recycled feedstocks and circular material systems, advanced recycling can move beyond waste treatment and become a platform for material security.
- **JEPLAN's technology:** The presentation will introduce JEPLAN's proprietary BHET depolymerization and purification technology for PET chemical recycling.
- **Commercialization experience:** Since its founding in 2007, JEPLAN has spent nearly two decades advancing chemical recycling from laboratory development to industrial implementation, including the operation of a commercial-scale PET recycling plant in Japan.
- **Technical approach:** The technology breaks down used PET products to the molecular level, removes impurities such as dyes, additives and metals, and regenerates high-quality PET resin suitable for demanding applications.
- **Target waste streams:** JEPLAN's experience covers multiple PET waste streams, including post-consumer PET bottles, polyester textiles and PET films. In addition, JEPLAN led a cross-industry initiative in 2025 to chemically recycle non-food-grade PET materials, including industrial PET films and cosmetic bottles, back into beverage PET bottles. This marked the first initiative in Japan to demonstrate the recycling of non-food PET feedstocks into beverage PET bottles through chemical recycling.
- **Application examples:** Case examples will include bottle-to-bottle recycling for food-grade applications and fiber-to-fiber initiatives through garment collection and recycling programs.
- **Partnerships for scaling:** The presentation will highlight the importance of partnerships in scaling PET circularity, including technology development collaborations, offtake partnerships for recycled PET, product lines using recycled PET, and feedstock supply systems supported by collection networks.
- **Achieving economic viability:** Economic viability is achieved when chemically recycled resin delivers quality equivalent to petroleum-based resin at a competitive price, enabling the business to be sustainable not only through its environmental benefits but also through its commercial value. Chemical recycling is not simply a waste management solution; it is a manufacturing process that creates high-quality circular resources.

- Chemical recycling should not be viewed as a form of waste treatment. Rather, it is a manufacturing process that creates high-quality circular resources and delivers value as a sustainable production industry.
- **Japanese market insights:** JEPLAN's experience in Japan offers insights into a market where PET bottle collection and recycling infrastructure are relatively advanced, while textile recycling still requires further system design, sorting, traceability and cross-industry collaboration.
- **Relevance to Europe:** The presentation will address how JEPLAN views opportunities beyond Japan, including the potential relevance of its technology platform to the European market.
- **Core message:** By positioning PET not only as waste to be recycled, but as a strategic material resource, JEPLAN aims to contribute to resilient circular supply chains that connect packaging, textiles, brands, recyclers and technology partners across regions.