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Bio-Based Polyethylene Terephthalate Market ? Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By End User (Food & Beverages, Pharmaceuticals, Electronics, Cosmetics, Homecare, Personal Care, Automotive Industries), By Application (Carry Bags, Bottles, Tubs, Pouches and Others), By Region & Competition, 2021-2031F

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Abstracts

The Global Bio-Based Polyethylene Terephthalate Market is projected to expand from USD 2.73 Billion in 2025 to USD 4.86 Billion by 2031, reflecting a compound annual growth rate of 10.09%. Bio-Based Polyethylene Terephthalate (Bio-PET) is a renewable polymer resin sourced either partially or entirely from biomass feedstocks like sugarcane, preserving the identical physical and chemical characteristics of traditional fossil-based PET. Primary growth catalysts include the rising global appetite for sustainable packaging options and a strategic pivot by major consumer brands to decrease their carbon emissions in alignment with environmental objectives. Additionally, government mandates designed to limit dependence on non-renewable resources are accelerating the integration of bio-based substitutes within the bottling and textile sectors.

However, the industry faces substantial hurdles regarding the economic feasibility and operational utilization of production sites relative to established petrochemical competitors. As reported by European Bioplastics in 2024, the packaging industry maintained its dominance as the largest segment, representing 45 percent or 1.12 million tonnes of the overall global bioplastics market. While packaging maintains a strong market position, the widespread scaling of Bio-PET capacities remains obstructed by elevated manufacturing costs and the logistical complexities associated

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with obtaining a reliable supply of renewable feedstock at competitive rates.

Market Driver

Stringent government regulations targeting single-use plastics serve as a primary force propelling the Global Bio-Based Polyethylene Terephthalate Market. Legislators are increasingly enacting frameworks that limit fossil-based plastic manufacturing while incentivizing renewable alternatives to lower environmental footprints. For example, the Ministry of the Environment in Japan updated its roadmap in January 2025, establishing a clear objective to introduce roughly 2 million tons of bio-based plastic products by 2030. These policies create a guaranteed demand for bio-based resins, compelling producers to scale operations to meet compliance standards. Consequently, European Bioplastics projected in December 2024 that global bioplastics production capacity would rise from 2.47 million tonnes in 2024 to an estimated 5.73 million tonnes by 2029.

In addition to regulatory pressure, corporate pledges toward carbon neutrality and ESG targets are acting as a vital catalyst, fueling the demand for Bio-PET as a direct replacement for virgin PET in textiles and packaging. Leading multinational corporations are rapidly converting supply chains to renewable feedstocks to fulfill net-zero commitments and align with consumer preferences for sustainable goods. Notably, Suntory Group committed as of 2025 to transitioning its entire global PET bottle portfolio to 100 percent sustainable materials, using exclusively recycled or bio-based content by 2030. This industry-led shift not only confirms the commercial potential of Bio-PET but also stimulates essential investment in upstream biomass processing infrastructure to guarantee consistent, large-scale availability.

Market Challenge

The Global Bio-Based Polyethylene Terephthalate Market contends with a critical obstacle involving the economic viability and utilization rates of its manufacturing infrastructure. Producers face elevated operational expenses driven by the difficulty of sourcing consistent renewable feedstock at competitive market prices. This cost disparity prevents bio-based resins from reaching price parity with mature petrochemical alternatives, frequently resulting in production plants operating significantly below their design capacities. When facilities fail to run at optimal levels, manufacturers cannot achieve necessary economies of scale, which leads to eroded profit margins and discourages the capital investment required for capacity expansion.

This operational inefficiency effectively impedes market expansion by sustaining high

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unit costs that restrict broader adoption. Data from European Bioplastics highlights this issue, revealing that in 2024, the bioplastics sector functioned at an average utilization rate of just 58 percent, yielding only 1.44 million tonnes against an installed capacity of 2.47 million tonnes. This significant divergence between potential capacity and actual production emphasizes the magnitude of economic challenges. Such underutilization suggests that despite growing demand for sustainable alternatives, the current cost and supply chain frameworks remain insufficiently robust to support full-scale manufacturing, thereby stalling the rapid global proliferation of Bio-PET.

Market Trends

Technological advancements are shifting the industry focus from partially to fully bio-based PET, surpassing the conventional 30 percent bio-content limit. New methods for synthesizing bio-paraxylene allow for the creation of bio-terephthalic acid, enabling producers to substitute remaining fossil-based ingredients to achieve a 100 percent renewable polymer profile. This evolution is essential for closing the carbon loop while maintaining the recyclability and performance of the end product. Illustrating this commercial progress, Suntory Group announced in October 2024 the launch of the world's first PET bottles made with bio-paraxylene sourced from used cooking oil, releasing an initial batch of roughly 45 million bottles for the Japanese market.

Simultaneously, the application scope of bio-based resins is broadening beyond standard packaging into high-performance automotive interiors and textiles. Manufacturers are developing specialized bio-polyester fibers designed to replicate the tactile qualities of silk and natural wool, specifically targeting the functional apparel and sustainable fashion markets. This trend enables producers to enter higher value-added sectors where consumers place a premium on eco-friendly material origins. Evidence of this expansion appeared in September 2024, when Teijin Frontier announced a strategic upgrade to its manufacturing facility in Thailand, aiming to increase production capacity for its wool-like conjugate filaments to 700 tons annually by fiscal 2025.

Key Market Players

Indorama Ventures Public Company Limited

Toray Industries, Inc.

Teijin Limited

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Toyota Tsusho Corporation

Braskem S.A.

The Coca-Cola Company

BASF SE

Anellotech, Inc.

Gevo, Inc.

Plastipak Holdings, Inc

Report Scope

In this report, the Global Bio-Based Polyethylene Terephthalate Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Bio-Based Polyethylene Terephthalate Market, By End User

Food & Beverages

Pharmaceuticals

Electronics

Cosmetics

Homecare

Personal Care

Automotive Industries

Bio-Based Polyethylene Terephthalate Market, By Application

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- Carry Bags
- Bottles
- Tubs
- Pouches
- Others

Bio-Based Polyethylene Terephthalate Market, By Region

- North America
  - United States
  - Canada
  - Mexico
- Europe
  - France
  - United Kingdom
  - Italy
  - Germany
  - Spain
- Asia Pacific
  - China
  - India
  - Japan

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Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Bio-Based Polyethylene Terephthalate Market.

Available Customizations:

Global Bio-Based Polyethylene Terephthalate Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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