Bio-based Polymers - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2026 - 2031)

Market Report | 2026-02-09 | 120 pages | Mordor Intelligence

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Report description:

Bio-based Polymers Market Analysis

The Bio-based Polymers Market is expected to grow from 1.61 million tons in 2025 to 1.84 million tons in 2026 and is forecast to reach 3.57 million tons by 2031 at 14.2% CAGR over 2026-2031. The sharp expansion comes from mandatory single-use plastic bans, fast-maturing bio-refinery technologies, and mass-balance certification that allows drop-in resins to flow through existing assets. Producers lock in long-term offtake agreements with global brands pursuing net-zero timelines, giving financiers visibility to support new capacity. Regionally, Asia-Pacific captures much of the incremental tonnage because agricultural residues supply low-cost feedstock and local policies encourage renewable materials. Premium segments open in medical, automotive, and electronics as improved heat resistance and biocompatibility formulations move bio-based polymers beyond commodity packaging.

Global Bio-based Polymers Market Trends and Insights

Regulation-led Bans on Single-use Plastics

Australia widened its plastics prohibition in 2024 to ban heavyweight shopping bags and polystyrene food containers, pushing retailers toward certified compostable options. The European Union now enforces extended producer responsibility that prices end-of-life costs into each package, narrowing the cost gap with the bio-based polymers market. Canada implemented a federal plastics prohibition in late 2024, creating a contiguous North American market for renewable packaging. China tightened domestic

restrictions after banning waste plastic imports, forcing local converters to source compliant materials. Early adopters show that once bans enter force, demand shifts quickly because compliance risk outweighs price premiums.

Rising Consumer Demand for Sustainable Materials

Global surveys show that 73% of shoppers weigh sustainability claims in purchase decisions and will pay 15-20% more for verified renewable content. Brand owners translate this signal into procurement rules that favor mass-balance certified feedstocks, protecting margins in the bio-based polymers market. Food service chains swap conventional coatings for compostable films to meet customer expectations on waste reduction. B2B buyers embed carbon intensity scores in supplier scorecards, raising entry barriers for fossil plastics. The demand pull spreads to electronics and apparel as lifestyle brands position renewable materials as a marker of quality.

Higher Cost vs. Petro-plastics

Bio-based grades sell at 20-50% premiums compared with fossil alternatives because smaller plants lack scale efficiencies. Production costs ease when plants share utilities with existing chemical hubs, yet capital intensity delays parity. Price spikes in crude oil narrow the gap temporarily but do not erase structural differences. Specialty uses such as medical devices absorb premiums because biodegradability trims regulatory burdens. Broader parity depends on doubling current capacity so fixed costs spread across more tons.

Other drivers and restraints analyzed in the detailed report include:

Corporate Net-zero and Renewable-carbon Sourcing PledgesScale-up of CO?- and Agri-waste-based BiorefineriesLimited Composting and Recycling Infrastructure

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

Other product types, dominated by polybutylene succinate and polybutylene adipate terephthalate, accounted for 44.12% of bio-based polymers market share in 2025. Producers win adoption in mulch films and flexible pouches because these resins combine compostability with heat-seal strength. Their large base lifts the overall bio-based polymers market size for specialty grades and supports incremental debottlenecking projects. Supply security improves as Asian firms integrate succinic acid and adipic acid back to local feedstock, trimming freight and currency risk.

Polylactic acid leads growth at an 18.22% CAGR to 2031. The segment benefits from recent heat-stable grades that unlock electronics housings and automotive trim. Medical innovators exploit PLA's bioresorption to design screws and plates that dissolve after healing, avoiding secondary surgeries. Capacity expansions in the UAE and Thailand add scale and lower cost floors, which enlarges the bio-based polymers market size for PLA applications. Competitive intensity rises as new entrants license technology that had been confined to one or two players.

The Bio-Based Polymers Report is Segmented by Product Type (Biodegradable Starch Blends, Bio Polyethylene (Bio-PE), Bio-Polyethylene Terephthalate (Bio-PET), and More), End-User Industry (Agriculture, Medical and Healthcare, Packaging, Automotive and Transportation, Textiles, and Others), and Geography (Asia-Pacific, North America, Europe, and Rest of World). The Market Forecasts are Provided in Terms of Volume (Tons).

Geography Analysis

Asia-Pacific captured 44.02% of the bio-based polymers market size in 2025 and is expanding at a 16.63% CAGR to 2031. China anchors regional leadership through tax rebates, green loans, and integrated corn-to-polymer complexes run by COFCO and peers. Thailand grants eight-year tax holidays on bio-chemical investments, luring joint ventures that colocate sugar mills with polymer units. India leverages surplus bagasse to backfill domestic polymer demand while exporting credits to multinationals.

Europe supports demand with a mature policy mix that combines the Single-Use Plastics Directive and mandatory extended producer responsibility. Germany and France internalize collection fees that make fossil plastics relatively more expensive, steering converters toward certified compostables. Industrial composting coverage surpasses 3,500 sites, enabling true circularity claims. Regional offtake agreements let suppliers lock multi-year prices, stabilizing the bio-based polymers market against feedstock swings.

North America accelerates through state-level laws such as California's SB 54 that requires a 65% cut in single-use plastic packaging by 2032. Canada's federal ban synchronizes product specifications across provinces, creating a continental platform for investment. Corporate buyers formalize renewable-carbon quotas in supplier contracts, delivering predictable tonnage. Elsewhere, emerging Latin American sugar economies and selected African nations replicate policy templates that fast-track adoption where agricultural residues are plentiful.

List of Companies Covered in this Report:

BASF Biome Bioplastics BIOTEC Biologische Naturverpackungen GmbH & Co. KG. Braskem Cardia Bioplastics CJ CHEIL JEDANG CORP. Corbion Covestro AG Danimer Scientific Eastman Chemical Company Emirates Biotech FKuR Futerro Mitsubishi Chemical Group Corporation NatureWorks LLC Novamont S.p.A. Rodenburg Biopolymers Sulzer Ltd. Ukhi India Pvt. Ltd. Yield10 Bioscience, Inc.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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