

## **Bio-polylactic Acid (PLA) - 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-polylactic Acid (PLA) Market Analysis

The Bio-polylactic Acid (PLA) Market was valued at 0.87 Million metric tons in 2025 and estimated to grow from 1.04 Million metric tons in 2026 to reach 2.5 Million metric tons by 2031, at a CAGR of 19.24% during the forecast period (2026-2031). Strong legislative pressure on single-use plastics, rapid cost deflation from Asian capacity additions, and breakthrough enzymatic recycling technologies have moved the Bio-polylactic Acid market from a niche to a mainstream materials solution. Demand growth is no longer confined to rigid and flexible packaging, as high-heat automotive interiors, medical devices, and 3D-printed electronics adopt advanced grades that match or exceed petro-polymer performance benchmarks. Sugarcane and sugar beet feedstocks lead raw-material substitution on the back of lower carbon intensity and more stable pricing compared with corn, while geographically the Asia-Pacific production base secures the cost leadership that underpins global competitiveness. Competitive dynamics remain fluid: incumbent producers scale world-class plants close to feedstock sources, and new entrants leverage proprietary depolymerization enzymes to win sustainability-driven contracts in Europe, North America, and Japan.

Global Bio-polylactic Acid (PLA) Market Trends and Insights

Government Bans on Single-Use Plastics Drive Regulatory Momentum

A cascade of regulations accelerates the Bio-polylactic Acid market demand by making certified compostability a legal requirement for numerous products. California's AB 1201, effective in 2026, restricts compostable labels to materials that meet

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USDA National Organic Program standards, effectively removing subpar bioplastics from the shelf. New South Wales' enforcement of extensive single-use restrictions from 2025 prompts rapid substitution toward PLA certified to Australian standards. The White House Plastic Strategy, announced in 2024, eliminates federal procurement of single-use plastics by 2027, opening institutional channels equivalent to several hundred thousand tons of incremental demand. South Australia's 2025 ban on non-certified compostable labels further tightens compliance frameworks and shifts purchasing specifications toward high-purity PLA grades.

### Chinese Capacity Expansion Reshapes Global Cost Structure

Asia-Pacific hosts the pivotal cost-down phase of the Bio-polylactic Acid market. NatureWorks secured USD 350 million to build a 75,000-ton sugarcane-based plant in Thailand, illustrating the capital intensity required to achieve globally competitive economics. Emirates Biotech selected Sulzer technology for a UAE mega-facility that will commence operations in 2028, further enlarging the Asian and Middle-East footprint. Indian sugar player Balrampur Chini Mills is investing INR 2,000 crores in a 75,000 ton PLA line, exemplifying diversification beyond China while retaining regional feedstock advantages. As larger plants focus on commodity grades, niche producers defend premium pricing through specialty alloy development and certified low-carbon footprints.

### Industrial Composting Infrastructure Gaps Constrain Market Realization

Only four out of five tested rigid PLA items achieved full disintegration under simulated composting, and some samples emitted microplastic fragments, revealing performance shortfalls when compost envelope conditions are sub-optimal. Municipal waste managers in the United States report that separating compostable from non-compostable items is financially and operationally unworkable, forcing many loads into landfills despite consumer intentions. The U.S. National Organic Program currently finds that no commercial biodegradable mulch film meets its biobased and degradation requirements, blocking PLA entry into a potentially lucrative agricultural segment. Infrastructure scarcity is even more pronounced in Latin America, South Asia, and Africa where less than 5% of municipal solid waste passes through controlled composting. Until curbside systems scale, claims of biodegradability may ring hollow for policymakers and consumers, periodically slowing the Bio-polylactic Acid market adoption curve.

Other drivers and restraints analyzed in the detailed report include:

E-commerce Packaging Demand Accelerates Compostable Film Adoption  
Closed-Loop Recycling Technology Emerges as Competitive Differentiator  
Concentrated IP Around Enzymatic PLA Depolymerization Raises Costs

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

### Segment Analysis

Sugarcane and sugar beet supplied 62.10% of the Bio-polylactic Acid market share in 2025, rising on a 19.93% CAGR trajectory that signals a deep realignment of raw-material sourcing. Sugarcane fermentation yields lower process CO<sub>2</sub> than corn variants because crop cultivation requires minimal fertilizer and irrigation inputs in tropical geographies. TotalEnergies Corbion's Rayong line leverages local cane syrup, trimming logistics emissions by 15% compared with imported corn starch and ensuring ISCC PLUS certification that unlocks European eco-label access. Producers in Brazil and Thailand plan to integrate bagasse cogeneration to push life-cycle analysis toward net-negative profiles.

Corn retains meaningful volume in North America because existing wet-milling assets and established enzyme supply chains reduce capital barriers for brownfield PLA retrofits. Cassava obtains attention as a non-food alternative plentiful in Vietnam, Indonesia, and Nigeria; its high starch content and moderate agronomic inputs present a path to low-cost lactic acid when local drying capacity is available. Research demonstrates that molasses feedstocks can cut operating costs by 37% at 100,000-ton

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scale plants, giving vertically integrated sugar groups a compelling diversification option.

The Bio-Polylactic Acid Report is Segmented by Raw Material (Corn, Cassava, Sugarcane and Sugar Beet, and Other Raw Materials), Form (Fiber, Films and Sheets, Coatings, and Other Forms), End-User Industry (Packaging, Medical, Electronics, Agriculture, and More), and Geography (Asia-Pacific, North America, Europe, South America, and Middle-East and Africa). The Market Forecasts are Provided in Terms of Volume (Tons).

## Geography Analysis

Asia-Pacific commanded 40.50% Bio-polylactic Acid market share in 2025, and its 22.14% CAGR underscores the region's dual role as the largest consumer and the lowest-cost producer. Thailand's policy of Board of Investment tax breaks for bioplastics cuts project payback periods to six years, encouraging NatureWorks and regional sugar conglomerates to scale new lines. China's domestic packaging brands substitute PLA for EPS clamshells to meet 2025 plastic-pollution targets, lifting local demand even as export volumes grow. India's ethanol-blending push diverts some sugarcane output, but integrated mills capture additional value by fermenting molasses into lactic acid for PLA, stabilizing revenue streams.

North America benefits from clear regulatory impetus, such as the federal procurement phase-out and California's compostability labeling, yet industrial composting infrastructure remains patchy outside coastal metros. Landfill tipping fees in the Midwest remain low, reducing economic incentives for commercial composters to expand, which tempers Bio-polylactic Acid market penetration despite strong brand owner interest. Collaboration between PLA producers and waste haulers to establish dedicated pickup routes in Seattle and Austin demonstrates scalable blueprints for circular loops.

Europe maintains leadership in closed-loop pilots, with the ENZYCLE project proving technical feasibility at 2,000 ton annual capacity depolymerization plants. Stringent EU packaging levy structures push brand owners to adopt bio-based and recyclable content, thereby supporting a price premium over fossil alternatives. South America and the Middle East and Africa present nascent opportunities: Brazil's sugar surplus aligns well with PLA economics, while the UAE mega-facility will serve regional converters seeking low-carbon packaging for halal certified foods. Absence of curbside organics collection, however, restricts consumer-side composting benefits, delaying full-cycle adoption.

## List of Companies Covered in this Report:

Balrampur Chini Mills Limited BASF BEWi COFCO Danimer Scientific Evonik Industries AG Futerro Jiangxi Keyuan Bio-Material Co. Ltd Mitsubishi Chemical Group Corporation Musashino Chemical Laboratory, Ltd. NatureWorks LLC Polysciences Inc. Shanghai Tong Jie Liang Biomaterials Co. Ltd Shenzhen Esun Industrial Co., Ltd. Sulzer Ltd TotalEnergies Zhejiang Hisun Biomaterials Co., Ltd.

## Additional Benefits:

- <ul> The market estimate (ME) sheet in Excel format
- 3 months of analyst support </ul>

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6.4.15 Sulzer Ltd

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