Bio-degradable Polymers - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

Bio-degradable Polymers Market Analysis

The Bio-degradable Polymers Market size is estimated at 1.11 Million tons in 2025, and is expected to reach 2.86 Million tons by 2030, at a CAGR of 20.85% during the forecast period (2025-2030). Heightened regulatory pressure, widening corporate sustainability goals, and rapid progress in microbial production technologies steer demand toward high-performance, low-carbon materials. Europe remains the largest regional consumer, while Asia-Pacific is advancing fastest due to industrial scale-up and supportive legislation. Product innovation now centers on marine-degradable grades and cost-efficient PHA, and competition is intensifying as petrochemical majors, specialty bioplastic firms, and start-ups invest simultaneously in capacity and research and development.

Global Bio-degradable Polymers Market Trends and Insights

Government Regulations Against Single-Use Plastics

Global rulemaking is reshaping material flows. The European Union's Packaging and Packaging Waste Regulation, finalized in 2024, obliges all packaging sold in the bloc to be recyclable and sets stepwise waste-reduction targets, immediately directing converters toward certified compostable or recyclable grades. The UK's ban on wet wipes containing plastic, introduced in April 2024, further enlarges the hygiene-product opportunity. Hong Kong's 2024 prohibition on single-use items such as straws and EPS containers signals similar momentum in Asia. Together, these measures are shortening payback periods for new polymer plants,

accelerating off-take agreements, and incentivizing downstream brand adoption.

Growing Demand for Sustainable Packaging

Brand owners now treat sustainability as a growth driver rather than a compliance exercise. Premium food and beverage producers are shifting to PLA, PHA, and coated paper structures that lower end-of-life emissions. Laboratory evidence from the University of Portsmouth shows PLA emits nine times fewer microplastics under seawater-sunlight exposure than conventional PP, improving brand reputations among ocean-minded consumers. Design-for-recyclability guidelines and e-commerce expansion add to the pull, creating high-volume demand pockets for films, trays, and rigid containers.

High Production Cost

Equipment amortization, specialty feedstocks, and modest plant scales keep average selling prices above commodity PE and PP. The bankruptcy filing of Danimer Scientific in 2025 underscores profitability headwinds even for technology leaders. While increased capacity and process intensification are driving costs down, many converters still hesitate to commit to mass-market packaging segments.

Other drivers and restraints analyzed in the detailed report include:

Increasing Adoption in the Healthcare Industry / Surge in Agricultural Films Usage / Limited Mechanical Performance /

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

Segment Analysis

Starch-based grades hold 41.05% of the bio-degradable polymers market share due to abundant feedstock and compatibility with existing blown-film and thermoforming lines. PLA maintains a robust position in rigid packaging and medical devices. The bio-degradable polymers market size for PHA is projected to grow at a 23.49% CAGR, aided by its rapid marine degradation profile and improvements in microbial fermentation yields. Polyester families such as PBS and PBAT are gaining share in cling films and hygiene backsheets, while cellulosic derivatives serve coatings and paper cups.

Cost parity remains elusive. Starch blends enjoy agricultural subsidies and simpler compounding, but PHA developers benefit from carbon-capture credits and high-margin medical sales. A foreseeable convergence toward blended systems may deliver balanced cost-performance.

The Biodegradable Polymers Market Report Segments the Industry by Type (Starch-Based Plastics, Polylactic Acid (PLA), Polyhydroxy Alkanoates (PHA), and More), Feedstock (Sugarcane and Sugar Beets, Corn and Other Starch Crops, and More), End-User Industry (Packaging, Consumer Goods, Textile, and More), and Geography (Asia-Pacific, North America, Europe, and More). The Market Forecasts are Provided in Terms of Volume (Tons).

Geography Analysis

Europe's 39.19% leadership stems from policy clarity and consumer eco-awareness. The EU regulation finalized in 2024 forces recyclable or compostable packaging, and landmark projects such as Fortum's CO?-to-polymer plant in Finland illustrate how carbon capture integrates with bio-based production.

Asia-Pacific is the fastest-growing region at 29.44% CAGR. China ramps up PHA and PBAT plants to meet national plastic-ban

deadlines and to supply agriculture films. Japan innovates marine-degradable PBS incorporating disulfide bonds for ocean buoy applications.

North America combines technological innovation with voluntary corporate targets. Dow's agreement with New Energy Blue uses corn stover to make bio-ethylene for PE assets, opening a low-carbon drop-in path. South America and the Middle East remain nascent but show interest in biodegradable mulch to reduce field-burning. Lack of industrial composting facilities curbs immediate uptake yet signals long-term infrastructure opportunities.

List of Companies Covered in this Report:

BASF / Biome Bioplastics / BIOTEC Biologische Naturverpackungen GmbH & Co. KG. / Braskem / CJ CheilJedang Corp / Danimer Scientific / DuPont / Evonik Industries AG / FKuR / GENECIS / Mitsubishi Chemical Group Corporation / NatureWorks LLC / Eni S.p.A. (Novamont) / Plantic / PTT MCC Biochem Co., Ltd. / BEWI / TEIJIN LIMITED / TORAY INDUSTRIES, INC. / TotalEnergies (Total Corbion) / Zhejiang Hisun Biomaterials Co., Ltd. /

Additional Benefits:

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

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