

Bioplastic Recycling Market Forecasts to 2032 – Global Analysis By Material Type (Polylactic Acid (PLA), Polybutylene Succinate (PBS), Polyhydroxyalkanoates (PHA), Polybutylene Adipate Terephthalate (PBAT), Starch Blends, Cellulose, Polycaprolactone (PCL), and Other Material Types), Recycling Process, Source, Application, End User and By Geography

<https://marketpublishers.com/r/B0FAEC4CA21FEN.html>

Date: August 2025

Pages: 200

Price: US\$ 4,150.00 (Single User License)

ID: B0FAEC4CA21FEN

Abstracts

According to Statistics MRC, the Global Bioplastic Recycling Market is accounted for \$12.90 billion in 2025 and is expected to reach \$33.13 billion by 2032 growing at a CAGR of 14.42% during the forecast period. Bioplastic recycling refers to the process of recovering and reprocessing biodegradable and bio-based plastics to reduce waste, conserve resources, and minimize environmental impact. Unlike traditional plastics, bioplastics are derived from renewable sources like corn starch or sugarcane and can be recycled through mechanical, chemical, or organic methods. This sustainable approach supports circular economy goals by transforming used bioplastics into new products, thereby decreasing reliance on fossil fuels and lowering greenhouse gas emissions.

Market Dynamics:

Driver:

Rising adoption of circular economy practices

The increasing embrace of circular economy principles in the bioplastic recycling sector is fueled by heightened environmental awareness, evolving regulations, and progress in recycling technologies. Governments and international bodies are advocating for sustainable alternatives to traditional plastics, encouraging the use of bio-based and biodegradable materials that support circular systems. Improved recycling capabilities and life cycle analysis tools are enhancing the recovery and reuse of materials. At the same time, rising consumer preference for green products and corporate commitments to sustainability are driving momentum.

Restraint:

Lack of proper recycling infrastructure

Most recycling systems are designed for conventional plastics and are not equipped to handle bioplastics, which often require specialized sorting and processing techniques. This results in limited recycling capabilities, with many bioplastics ending up in landfills or incineration facilities. Additionally, the absence of clear labeling and insufficient consumer awareness further complicate the collection and segregation process. Developing countries, in particular, face significant challenges due to inadequate investment in waste management technologies. These infrastructure gaps hinder the growth and effectiveness of bioplastic recycling on a global scale.

Opportunity:

Innovation in biodegradable materials

Emerging feedstocks like algae, mushroom roots, and agricultural by-products are broadening the scope beyond conventional inputs such as sugarcane and cornstarch. These innovations not only boost biodegradability but also enhance strength and functionality, making them more suitable for recycling and composting within circular economy frameworks. Increased consumer interest in environmentally friendly products and strategic industry partnerships are fueling further R&D. As businesses focus on scalable and affordable options, biodegradable bioplastics are gaining traction across various sectors.

Threat:

Competition from traditional plastics

Traditional plastics hold a competitive edge in the market due to their mature supply chains, low manufacturing costs, and extensive infrastructure, making them a more financially viable option for producers and consumers. In contrast, bioplastics typically face higher production costs, driven by smaller-scale operations and reliance on renewable raw materials. This cost gap limits their adoption, particularly in industries where affordability is crucial. Moreover, the proven performance and widespread familiarity of petroleum-based plastics pose challenges for bioplastics to gain market share.

Covid-19 Impact:

The COVID-19 pandemic had a multifaceted impact on the bioplastic recycling market. Initially, the market faced a downturn due to global lockdowns, supply chain disruptions, and a decline in green investments as companies prioritized immediate public health and economic concerns. However, the pandemic also led to a significant surge in the use of single-use plastics, including medical personal protective equipment (PPE) and food packaging, intensifying public awareness of plastic pollution. Renewed focus on sustainability and heightened environmental consciousness are now driving a long-term increase in the demand for bioplastics and their recycling.

The polylactic acid (PLA) segment is expected to be the largest during the forecast period

The polylactic acid (PLA) segment is expected to account for the largest market share during the forecast period, driven by stricter environmental policies, shifting consumer demand, and progress in material science. Derived from renewable resources like corn and sugarcane, PLA offers a greener substitute to conventional plastics. Enhanced manufacturing techniques such as better thermal stability and more affordable processing are broadening PLA's use in packaging, farming, and healthcare, increasing its recycling potential.

The packaging industry segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the packaging industry segment is predicted to witness the highest growth rate, due to increasing demand for sustainable and eco-friendly packaging solutions. With growing environmental concerns and regulatory pressures to reduce plastic waste, many companies are shifting to bioplastic materials. These materials offer similar functionality to conventional plastics while being biodegradable or

recyclable, prompting investments in recycling infrastructure and innovation. This trend significantly boosts the growth of bioplastic recycling initiatives globally.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share, due to rising environmental awareness, supportive government policies, and rapid industrialization. Increasing adoption of sustainable packaging by major economies like China, India, and Japan, along with growing investments in recycling infrastructure, are accelerating market expansion. Additionally, consumer demand for eco-friendly products and corporate sustainability initiatives are fostering a strong push towards efficient bioplastic waste management solutions.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR, owing to strict regulations like bans on single-use plastics, extended producer responsibility laws, and financial incentives promoting sustainable packaging. Increasing consumer preference for eco-friendly products and rising corporate sustainability efforts are also contributing factors. Additionally, advancements in recycling technologies both chemical and mechanical are improving sorting and processing efficiency, reducing operational costs, and enabling large-scale recycling operations across the region.

Key players in the market

Some of the key players in Bioplastic Recycling Market include BASF SE, Eastman Chemical Company, NatureWorks LLC, Veolia Environnement, Novamont S.p.A., BioBag International, Biome Bioplastics, Toray Industries, Inc., TotalEnergies Corbion, Braskem, Mitsubishi Chemical Group, Plantic Technologies, Danimer Scientific, Green Dot Bioplastics, and FKuR Kunststoff GmbH.

Key Developments:

In June 2025, Eastman announced the launch of Eastman Esmeri™ CC1N10, a high-performance, readily biodegradable cellulose ester micropowder for color cosmetics. Sourced from sustainably managed forests, Esmeri is designed to meet stringent EU regulations for synthetic polymer microparticles that fully biodegrade and do not persist in the environment.

In April 2025, BASF and Hagihara Industries, Inc., have joined forces to develop highly durable polyolefin yarns for artificial turf used in sports arenas, including football stadiums, baseball fields, and tennis courts. After three years of collaborative research and development, the two companies have created an advanced formulation with a series of Tinuvin® grades that significantly enhances the durability of synthetic grass.

In March 2025, TotalEnergies Corbion and Benvic have come together to drive the adoption of sustainable Luminy® PLA-based compounds. This collaboration will expand the use of plant-based solutions in durable applications such as automotive, healthcare and medical, cosmetics packaging, appliances, and electric & electronics.

Material Types Covered:

Polylactic Acid (PLA)

Polybutylene Succinate (PBS)

Polyhydroxyalkanoates (PHA)

Polybutylene Adipate Terephthalate (PBAT)

Starch Blends

Cellulose

Polycaprolactone (PCL)

Other Material Types

Recycling Processes Covered:

Mechanical Recycling

Chemical Recycling

Organic Recycling

Thermal Recycling

Sources Covered:

Plant-Based

Animal-Based

Applications Covered:

Bottles

Fibers

Films & Sheets

Foams

Trays & Containers

Other Applications

End Users Covered:

Packaging

Consumer Goods

Building & Construction

Agriculture & Horticulture

Medical & Healthcare

Textiles & Apparel

Automotive & Transportation

Other End Users

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments

- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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