

Bioplastics Market Report by Product (Biodegradable, Non-Biodegradable), Application (Flexible Packaging, Rigid Packaging, Agriculture and Horticulture, Consumer Goods, Textile, Automotive and Transportation, and Others), Distribution Channel (Online, Offline), and Region 2024-2032

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Report description:

The global bioplastics market size reached US\$ 12.6 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 31.9 Billion by 2032, exhibiting a growth rate (CAGR) of 10.6% during 2024-2032. The growing awareness of environmental sustainability among the masses, the implementation of stricter regulations concerning waste management and emissions, and the rising preference for eco-friendly products are among the key factors driving the market growth.

Bioplastics are a type of plastic material derived from renewable sources, such as cornstarch, sugarcane, or even algae, rather than traditional petroleum-based plastics. The primary advantage of bioplastics is their reduced environmental impact. Unlike conventional plastics, which can take hundreds of years to decompose, some bioplastics are designed to be biodegradable and can break down more quickly. In addition, the manufacturing process for bioplastics also tends to emit fewer greenhouse gases. This makes them a more sustainable choice in applications ranging from packaging to automotive parts. Despite these benefits, bioplastics currently make up a small percentage of the global plastics market. Moreover, bioplastics offer a promising alternative to petroleum-based plastics, especially in the context of increasing environmental concerns.

One of the most significant market drivers for the bioplastics industry is the growing awareness of environmental sustainability and the subsequent regulatory support. As governments around the world enact stricter regulations concerning waste management and emissions, companies are incentivized to adopt more sustainable materials. Along with this, consumer behavior has a significant impact on market trends, and the growing preference for eco-friendly products is a notable factor driving the bioplastics market. With increasing awareness about climate change and plastic pollution, consumers are actively seeking out

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products that have a smaller environmental footprint. Labels indicating biodegradability, compostability, or renewable sourcing often influence purchasing decisions. In addition, bioplastics are increasingly being used in a diverse range of applications beyond just packaging. Sectors such as healthcare, agriculture, textiles, and 3D printing are starting to incorporate bioplastics. In addition, major corporations are setting ambitious sustainability goals that include reducing their carbon footprint and transitioning to renewable materials throughout their supply chains. As these companies work to meet their objectives, they turn to bioplastics as a way to achieve their material sustainability goals.

Bioplastics Market Trends/Drivers:

Continuous Technological Advancements

Technological innovation is another strong driver for the bioplastics market. Advances in polymer science, material engineering, and manufacturing processes have led to bioplastics that are increasingly comparable to their petroleum-based counterparts in terms of performance and cost. For instance, innovations in biopolymer formulations have improved the tensile strength, heat resistance, and other mechanical properties of bioplastics. Additionally, the increased research and development in this space is leading to novel applications for bioplastics, extending beyond packaging to sectors, such as automotive, construction, and consumer electronics. Companies are investing in cutting-edge technologies to develop bioplastics that are not only high-performing but also cost-competitive. This trend is expected to continue, paving the way for more widespread adoption of bioplastics across industries.

Volatility in Fossil Fuel Prices

The volatility in fossil fuel prices is a market driver that indirectly supports the bioplastics industry. In confluence with this, traditional plastics are derived from petrochemicals, making them vulnerable to fluctuations in oil and gas prices. These fluctuations can create cost instability for companies relying on petroleum-based plastics. Bioplastics, derived from renewable resources, such as corn or sugarcane, offer a more stable pricing model, as they are somewhat insulated from the volatile fossil fuel market. This pricing stability makes bioplastics an attractive option for manufacturers looking to maintain more consistent material costs. As concerns over fossil fuel availability and pricing continue, the appeal of bioplastics as a more stable alternative is likely to grow.

Circular Economy and Waste Management Concerns

The rise of the circular economy model is another key market driver for bioplastics. A circular economy emphasizes keeping products and materials in use for as long as possible and aims to eliminate waste. In this context, bioplastics, especially those that are biodegradable, fit well as they can be composted or recycled more efficiently than many traditional plastics. This characteristic aligns with an increasing focus on waste management and reduction strategies across industries and municipalities. As more organizations look to adopt circular economy principles, the demand for bioplastics is expected to grow. Bioplastics can be integrated into existing recycling or composting streams, facilitating a more effective and sustainable waste management system.

Bioplastics Industry Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the global bioplastics market report, along with forecasts at the global, regional and country levels from 2024-2032. Our report has categorized the market based on product, application and distribution channel.

Breakup by Product:

Biodegradable

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Polylactic Acid
Starch Blends
Polybutylene Adipate Terephthalate (PBAT)
Polybutylene Succinate (PBS)
Others
Non-Biodegradable
Polyethylene
Polyethylene Terephthalate
Polyamide
Polytrimethylene Terephthalate
Others

Biodegradable holds the largest market share

The report has provided a detailed breakup and analysis of the market based on the product. This includes biodegradable (polylactic acid, starch blends, polybutylene adipate terephthalate (PBAT), polybutylene succinate (PBS), and others), and non-biodegradable (polyethylene, polyethylene terephthalate, polyamide, polytrimethylene terephthalate, and others). According to the report, biodegradable accounted for the largest market share.

The demand for biodegradable bioplastics is increasing, driven by several key market forces that emphasize sustainability and waste management. Regulatory changes play a significant role; governments worldwide are instituting bans or limitations on single-use, non-biodegradable plastics, creating a policy-driven demand for alternatives. This regulatory landscape encourages businesses to transition to biodegradable bioplastics, which can be composted and returned to the environment in a less harmful manner. Additionally, consumer sentiment is another pivotal driver. As awareness of environmental issues grows, consumers are actively seeking products labeled as biodegradable, often willing to pay a premium for such attributes. This consumer preference gives companies a competitive advantage in the marketplace when they adopt biodegradable materials. Corporate sustainability goals also contribute to market growth; companies are increasingly committed to reducing their environmental impact and are incorporating biodegradable bioplastics into their sustainability strategies. Moreover, advancements in technology are making biodegradable bioplastics more cost-effective and versatile, increasing their applicability across various sectors, such as packaging, agriculture, and healthcare.

Breakup by Application:

Flexible Packaging
Rigid Packaging
Agriculture and Horticulture
Consumer Goods
Textile
Automotive and Transportation
Others

Flexible packaging account for the majority of the market share

A detailed breakup and analysis of the market based on the application has also been provided in the report. This includes flexible packaging, rigid packaging, agriculture and horticulture, consumer goods, textile, automotive and transportation, and others. According to the report, flexible packaging accounted for the largest market share.

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The market for bioplastics in flexible packaging applications is experiencing robust growth, propelled by a combination of consumer behavior, sustainability imperatives, and technological advancements. One of the primary drivers is the increasing consumer demand for sustainable packaging solutions. As awareness of plastic pollution and its environmental impact grows, shoppers are increasingly looking for products with eco-friendly packaging, thus pushing brands to seek sustainable alternatives. In addition, regulatory factors also play a critical role, as many governments are introducing legislation to limit or ban certain types of single-use plastics commonly used in packaging. This regulatory push is compelling the packaging industry to adopt bioplastics, which can meet similar performance standards but with a lower environmental footprint. Apart from this, breakthroughs in material science are enabling the production of bioplastics that can match or even exceed the performance of conventional plastics in terms of durability, moisture resistance, and shelf life, making them highly suitable for flexible packaging applications. Corporate commitments to sustainability and reducing carbon emissions are further catalyzing this trend, as companies integrate bioplastics into their supply chains to meet their environmental targets.

Breakup by Distribution Channel:

Online

Offline

The report has provided a detailed breakup and analysis of the market based on the distribution channel. This includes online and offline.

The rise of online distribution channels is a significant market driver for the bioplastics industry. With the increasing trend of e-commerce, there is a surging demand for packaging materials that are both efficient and sustainable. Bioplastics meet this need, as they offer the requisite durability for shipping while being derived from renewable sources. Consumer sentiment is another influential factor; online shoppers are becoming more conscious of environmental issues and often seek eco-friendly packaging options, thereby increasing the demand for bioplastics. The flexibility and scalability of online platforms also make it easier for manufacturers to introduce new bioplastic products and for consumers to find and purchase these options.

On the other hand, the offline distribution channel remains a crucial market driver for the bioplastics industry, especially in sectors like retail and food service. Regulatory factors play a significant role as local and national governments are increasingly banning or restricting the use of single-use plastics in stores and restaurants, thereby opening up opportunities for bioplastics. Consumer preference for sustainable products also extends to brick-and-mortar establishments, where tactile experiences can influence buying decisions. This enables businesses to showcase the quality and sustainability of bioplastics through in-store displays and information. Additionally, supplier relationships in offline channels often involve long-term contracts, providing stability for bioplastics manufacturers. Such established business relationships create a conducive environment for introducing and promoting bioplastics, contributing to their increased adoption in offline settings.

Breakup by Region:

North America

United States

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

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Indonesia
Others
Europe
Germany
France
United Kingdom
Italy
Spain
Russia
Others
Latin America
Brazil
Mexico
Others
Middle East and Africa

Europe exhibits a clear dominance, accounting for the largest bioplastics market share

The market research report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada); Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others); Latin America (Brazil, Mexico, and others); and the Middle East and Africa. According to the report, Europe exhibited the largest market segment.

The Europe market for bioplastics is witnessing significant growth, driven by a unique blend of regulatory support, consumer awareness, and technological innovation. One of the primary market drivers is the regulatory landscape. The European Union has been at the forefront of environmental legislation, implementing directives such as the Single-Use Plastics Directive that aims to reduce plastic waste. This creates a policy-driven demand for sustainable alternatives like bioplastics. Consumer sentiment in Europe also leans towards eco-consciousness, with a growing number of consumers willing to pay a premium for products that are sustainably packaged, thereby pushing brands towards bioplastics. The region is also a hub for research and development in sustainable materials, with several European institutions leading the way in bioplastics innovation. This encourages local production and application of high-quality bioplastics across various sectors, including packaging, automotive, and healthcare. Corporate sustainability is another influencing factor; many European companies have set ambitious goals to reduce their environmental footprint and see bioplastics as a way to achieve these objectives.

Competitive Landscape:

The key players are investing in ongoing research to develop new bioplastic materials that are more eco-friendly, cost-effective, and suitable for various applications. This includes exploring new feedstocks and refining manufacturing processes. Along with this, companies in the bioplastics industry work on creating a wide range of bioplastic products, including packaging materials, disposable cutlery, and automotive components. In addition, producers seek certifications like "biodegradable" or "compostable" to assure customers of their products' environmental benefits. They aim to align with sustainability goals and regulatory requirements. Apart from this, brands are involved in developing solutions for the proper disposal and recycling of bioplastics, as this is a critical aspect of their sustainability promise. Furthermore, collaboration with other companies, research institutions, and government agencies to share knowledge, access resources, and accelerate the development of bioplastic technologies is contributing to the market.

The market research report has provided a comprehensive analysis of the competitive landscape in the market. Detailed profiles of all major companies have also been provided. Some of the key players in the market include:

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Arkema S.A.
BASF SE
Biome Bioplastics Limited (Biome Technologies plc)
Eastman Chemical Company
FKuR Kunststoff GmbH
Kuraray Co. Ltd.
Mitsubishi Chemical Corporation (Mitsubishi Chemical Holdings Corporation)
Novamont S.p.A.
Solvay S.A.
Teijin Limited
Total Corbion PLA
Trinseo

Recent Developments:

In June 2023, Biome Bioplastics Limited (Biome Technologies plc) announced that a major producer of scientific glass products had awarded its Stanelco RF Technologies subsidiary a contract for the provision of a revolutionary induction furnace system with a revenue value of ?452,000.

In April 2023, Eni's (ENI.MI) unit Versalis announced that it had begun discussions with a party to purchase the portion of the Italian chemical company Novamont that it did not already possess. Versalis, which presently owns 36% of Novamont, plans to buy the remaining shares from Mater-Bi, which is owned by the private equity firms Investitori Associati II and NB Renaissance.

In August 2022, BASF SE partnered with Aqua-Spark* to make a Series-B investment in Sea6 Energy. Bangalore, India-based Sea6 Energy was established in 2010 and has offices there. Producing and processing tropical red seaweed is the company's area of expertise.

Key Questions Answered in This Report

1. What was the size of the global bioplastics market in 2023?
2. What is the expected growth rate of the global bioplastics market during 2024-2032?
3. What are the key factors driving the global bioplastics market?
4. What has been the impact of COVID-19 on the global bioplastics market?
5. What is the breakup of the global bioplastics market based on the product?
6. What is the breakup of the global bioplastics market based on the application?
7. What are the key regions in the global bioplastics market?
8. Who are the key players/companies in the global bioplastics market?

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