

Global Biopolymers in Electrical and Electronics Market Size Study & Forecast, by Type and Application, and Regional Forecasts 2025-2035

<https://marketpublishers.com/r/G62E8912B27BEN.html>

Date: June 2025

Pages: 285

Price: US\$ 3,750.00 (Single User License)

ID: G62E8912B27BEN

Abstracts

The Global Biopolymers in Electrical and Electronics Market is estimated to be valued at approximately USD 85.67 billion in 2024 and is poised to grow at an impressive CAGR of 16.31% during the forecast period from 2025 to 2035. As the electronics industry undergoes a paradigm shift toward environmental accountability and green innovation, the adoption of biopolymer materials is gaining significant traction. These materials—engineered from renewable sources—are being aggressively integrated into critical electrical applications, owing to their superior electrical insulation, reduced carbon footprint, and biodegradability. With global pressure mounting to minimize dependence on petrochemical-based plastics, biopolymers are swiftly positioning themselves as next-generation alternatives that combine sustainability with high performance.

As demand soars for eco-conscious consumer electronics and next-gen smart devices, manufacturers are increasingly turning to both biodegradable and non-biodegradable biopolymer variants such as PLA, PBAT, PE, and PET. Biodegradable options are gaining preference in short-life-cycle products, especially in packaging or casing of portable electronic items, while non-biodegradable biopolymers exhibit robustness in wires, connectors, and complex assemblies where long-term resilience is imperative. Additionally, electronic component casings made from reinforced biopolymers are being hailed for their recyclability and thermal management capabilities. Nonetheless, the industry faces hurdles such as high production costs and limited heat resistance of some biodegradable variants, challenging the scalability of these materials across heavy-duty or high-voltage electronic components.

Regionally, North America is spearheading the global market, backed by extensive R&D

initiatives, stringent regulatory norms for sustainable electronics, and the rising penetration of electric vehicles that demand sustainable cabling and component materials. The U.S., in particular, has become a critical hub for innovation in bio-based electronics infrastructure. Europe follows closely with its strong adherence to the EU Green Deal and circular economy mandates, fostering substantial investment in biopolymer R&D for electronic applications. Meanwhile, the Asia Pacific region is emerging as the most promising and rapidly expanding market. Countries like China, Japan, and South Korea are actively deploying biopolymer-based materials into their booming electronics manufacturing ecosystems, thanks to robust supply chains, evolving regulatory frameworks, and increasing awareness about environmental conservation.

Major market player included in this report are:

NatureWorks LLC

BASF SE

Toray Industries, Inc.

Novamont S.p.A.

Mitsubishi Chemical Holdings Corporation

Total Corbion PLA

Danimer Scientific

DuPont de Nemours, Inc.

Arkema S.A.

Braskem S.A.

Covestro AG

Evonik Industries AG

Solvay S.A.

FKuR Kunststoff GmbH

Celanese Corporation

Global Biopolymers in Electrical and Electronics Market Report Scope:

Historical Data – 2023, 2024

Base Year for Estimation – 2024

Forecast period – 2025-2035

Report Coverage – Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Regional Scope – North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope – Free report customization (equivalent up to 8 analysts' working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values for the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within the countries involved in the study. The report also provides detailed information about crucial aspects, such as driving factors and challenges, which will define the future growth of the market. Additionally, it incorporates potential opportunities in micro-markets for stakeholders to invest, along with a detailed analysis of the competitive landscape and product offerings of key players. The detailed segments and sub-segments of the market are explained below:

By Type:

Biodegradable

PLA

PBAT

Non-biodegradable

PE

PET

PA

By Application:

Wires & Cables

Electronic Device Casings

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

Rest of Europe

Asia Pacific

China

India

Japan

Australia

South Korea

Rest of Asia Pacific

Latin America

Brazil

Mexico

Middle East & Africa

UAE

Saudi Arabia

South Africa

Rest of Middle East & Africa

Key Takeaways:

Market Estimates & Forecast for 10 years from 2025 to 2035.

Annualized revenues and regional level analysis for each market segment.

Detailed analysis of geographical landscape with Country level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of competitive structure of the market.

Demand side and supply side analysis of the market.

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