

Global CO₂-based Plastics Market Size Study & Forecast, by Product Type and Application, and Regional Forecasts 2025-2035

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Abstracts

The Global CO₂-based Plastics Market is estimated at approximately USD 3.04 billion in 2024 and is projected to expand at a remarkable CAGR of 10.20% during the forecast period from 2025 to 2035. In a world gripped by the urgency of climate action, industries are pivoting toward carbon capture and utilization (CCU) strategies that not only reduce emissions but create economic value from waste gases. CO₂-based plastics exemplify this shift—transforming carbon dioxide from a liability into a viable input for manufacturing sustainable polymers. These innovative materials, synthesized by incorporating captured CO₂ into polymer backbones, are rapidly emerging as attractive alternatives to conventional petrochemical-based plastics, reshaping industrial landscapes from automotive to electronics.

As sustainability regulations tighten and the public's environmental expectations heighten, manufacturers are scaling up investments in CO₂-derived polycarbonates and polyurethanes that offer not only reduced carbon footprints but also competitive performance metrics. Applications are expanding beyond simple packaging into high-performance segments such as automotive components, consumer electronics casings, and even technical textiles. What once seemed an esoteric lab concept is now gaining mainstream traction, with startups, petrochemical giants, and consumer brands forming synergies to fast-track commercialization. With global institutions supporting carbon pricing and circular economy models, CO₂-based polymers are becoming an essential cog in the green materials ecosystem.

Regionally, North America is at the forefront of this transition, led by aggressive federal and state-level emissions reduction targets and robust R&D ecosystems. The U.S. is a key innovation hub, hosting several breakthrough ventures in carbon utilization

technology. Europe trails closely, reinforced by the EU Green Deal and strict carbon neutrality goals, pushing industries to shift toward carbon-negative material solutions. Meanwhile, the Asia Pacific region is anticipated to be the fastest-growing market over the next decade. Countries such as China, Japan, and South Korea are investing strategically in green manufacturing and low-carbon infrastructure, recognizing CO₂-based plastics as a crucial link between economic expansion and climate resilience.

BASF SE

Covestro AG

SK Innovation Co., Ltd.

LanzaTech Global Inc.

Novomer Inc.

Econic Technologies Ltd.

Saudi Basic Industries Corporation (SABIC)

Mitsubishi Chemical Group Corporation

Evonik Industries AG

TotalEnergies Corbion

Asahi Kasei Corporation

Danimer Scientific

Aether Industries

Empower Materials

Jiangsu Zhongke Jinlong-CAS Chemical Co., Ltd.

Global CO2-based Plastics 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 Product Type:

Polycarbonates

Polyurethanes

By Application:

Packaging

Automotive Components

Electronic Components

Textile Processing

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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