

# Plastic Chemical Recycling Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034

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## Abstracts

The Global Plastic Chemical Recycling Market was valued at USD 248.5 million in 2024 and is estimated to grow at a CAGR of 21.2% to reach USD 1.6 billion by 2034.

The industry is undergoing a major transformation as advanced recycling technologies gain momentum, enabling the conversion of mixed and contaminated plastics into high-value monomers, polymers, and fuels. This transition supports the global circular economy movement and reduces dependence on landfilling. Applications such as petrochemical feedstock and polymer manufacturing dominate the market, while fuel production is anticipated to rise as waste-to-energy initiatives gain traction. Additionally, specialized uses of recycled chemical feedstock are increasing, particularly in high-performance polymer production and additive manufacturing, as purification and dissolution methods become more refined. Europe remains the leading region, driven by strong regulatory frameworks, extended producer responsibility mandates, and the widespread integration of recycled content in multiple industries. The rapid adoption of advanced processes such as depolymerization, pyrolysis, and solvolysis has revolutionized the recycling of complex and contaminated plastic waste streams. Growing investments in research, pilot-to-commercial scaling, and public-private partnerships are accelerating this market's expansion. Governments and global petrochemical giants are also collaborating to integrate chemical recycling directly into existing production and supply chain ecosystems.

In 2024, the pyrolysis segment generated USD 136.7 million. Its ability to transform polyolefins and mixed plastic waste into valuable petrochemical feedstocks and fuels makes it the preferred recycling technology.

The polymer production accounted for a 30% share in 2024, supported by the packaging and textile industries' closed-loop recycling initiatives. The use of depolymerization and solvolysis techniques allows manufacturers to recover premium-grade monomers used to create new, high-quality polymers, driving sustainability in production.

U.S. Plastic Chemical Recycling Market was valued at USD 62.1 million in 2024, propelled by strong government support, heightened awareness of environmental responsibility, and well-established recycling infrastructure. The region is witnessing the rapid construction of advanced recycling facilities, with the growing adoption of pyrolysis and depolymerization systems. Key industries such as packaging, automotive, and electronics are leading in the use of recycled materials to achieve sustainability goals and reduce environmental impact.

Prominent players operating in the Global Plastic Chemical Recycling Market include Mura Technology Limited, Agilyx Corporation, Brightmark LLC, BASF SE, Evonik Industries AG, Nexus Circular LLC, INEOS Group, Plastic Energy Limited, Quantafuel ASA, Mitsubishi Chemical Group Corporation, Dow Inc., Shell plc, Versalis S.p.A. (Eni), Saudi Basic Industries Corporation (SABIC), Exxon Mobil Corporation, PureCycle Technologies, Inc., and BlueAlp Holding BV. Leading companies in the Plastic Chemical Recycling Market are focusing on expanding production capacity, forming strategic partnerships, and advancing proprietary technologies to strengthen their position. Many are scaling pilot projects to commercial operations to improve economic viability and process efficiency. Investments in pyrolysis, depolymerization, and solvolysis are increasing to boost recovery rates and the quality of recycled output.

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