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# Chemical Recycling Market Forecasts to 2032 – Global Analysis By Feedstock (Plastics, Tires, Textiles and Biomass & Waste Oils/Fats), Output (Naphtha & Feedstock Oils, Monomers, Syngas & Hydrogen, Wax & Chemical Intermediates, Aromatics and Solid Residues), Technology, Application, End User and By Geography

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## Abstracts

According to Stratistics MRC, the Global Chemical Recycling Market is accounted for $17.09 billion in 2025 and is expected to reach $33.95 billion by 2032 growing at a CAGR of 10.3% during the forecast period. Chemical recycling is a process that breaks down plastic waste into its original monomers or other valuable chemical feedstocks through chemical reactions such as pyrolysis, gasification, depolymerization, or solvolysis. It enables the treatment of contaminated, mixed, or multi-layered plastics that are otherwise non-recyclable. This approach supports a circular economy by producing virgin-quality materials, thereby reducing dependency on fossil fuels and minimizing environmental impact from plastic waste.

Market Dynamics:

Driver:

Rising plastic waste generation

The exponential increase in global plastic waste generation serves as the primary driver propelling chemical recycling market expansion. With only 9% of total plastic waste being recycled globally while 50% ends up in landfills and 22% in uncontrolled sites, the

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magnitude of the plastic waste crisis creates unprecedented demand for sustainable management solutions. Rising consumer awareness regarding environmental degradation caused by plastic pollution, combined with the alarming presence of microplastics in human bodies, drives market demand. Additionally, governments worldwide are implementing stringent regulations and emission targets to mitigate plastic waste, creating a policy-driven environment that necessitates the adoption of chemical recycling technologies across industries.

Restraint:

High capital and operational costs

Chemical recycling requires specialized facilities, advanced processing equipment, and sophisticated logistics networks, resulting in elevated implementation costs compared to conventional recycling methods. Economic viability remains challenging as recycled materials struggle to achieve cost competitiveness with virgin plastics, particularly when oil prices decline. The intricate nature of chemical recycling processes demands advanced expertise and continuous technological investments, creating additional financial burdens. Furthermore, the complexity of scaling operations to handle large waste volumes requires significant investments in research, development, and infrastructure, limiting market penetration for smaller players.

Opportunity:

Integration with renewable energy & carbon capture

The convergence of chemical recycling with renewable energy sources and carbon capture technologies presents transformative growth opportunities for market expansion. This integration enables closed-loop plastic manufacturing systems that significantly reduce greenhouse gas emissions compared to fossil fuel-based production methods. Additionally, government initiatives investing over $100 million in advanced recycling technologies, coupled with circular economy policies targeting 50% recycling rates by 2030, create favorable conditions for technological advancement. The integration facilitates conversion of mixed and contaminated plastic waste into high-quality feedstocks, supporting sustainable manufacturing processes.

Threat:

Feedstock contamination issues

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Chemical recycling facilities emit cancer-causing chemicals and globally banned toxic substances during the processing of contaminated waste streams, creating significant health and environmental risks. Mixed plastic compositions and degraded materials complicate the recycling process, reducing efficiency and increasing operational costs. Additionally, inadequate waste collection systems result in contaminated feedstock that requires extensive pre-treatment, diminishing economic returns. The presence of hazardous substances in recycled outputs necessitates comprehensive testing and quality control measures, increasing operational complexity and limiting market acceptance.

Covid-19 Impact:

The COVID-19 pandemic severely disrupted chemical recycling operations through widespread facility closures, supply chain disruptions, and reduced demand for recycled materials. Lockdown measures suspended over 80% of recycling value chains across Asia, while declining oil prices made recycled plastics less competitive compared to virgin materials. Additionally, recommendations to merge waste streams and treat municipal waste as non-recyclable further reduced feedstock availability. The informal sector workforce faced devastating impacts, disrupting raw material supply chains and creating lasting negative effects on recycling viability across South Asian markets.

The plastics segment is expected to be the largest during the forecast period

The plastics segment is expected to account for the largest market share during the forecast period due to extensive application across packaging, automotive, electronics, and construction. The packaging sector is driven by increasing demand for sustainable packaging solutions and circular economy initiatives targeting 10 million tons of recycled plastic incorporation by 2025. Additionally, growing adoption of chemically recycled plastics in automotive and electrical sectors, combined with rising consumer preference for sustainable products, reinforces segment dominance. Moreover, technological advancements in depolymerization processes enable recovery of high-quality feedstocks from diverse plastic waste streams, supporting broad market applications.

The monomer recovery & repolymerization segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the monomer recovery & repolymerization segment is predicted to witness the highest growth rate due to its superior capability to process

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mixed and contaminated plastic waste streams. This technology breaks down plastic polymers into monomers or oligomers through depolymerization processes, enabling production of virgin-equivalent materials that meet stringent quality specifications. Additionally, the process supports circular economy principles by converting waste back into raw materials for new plastic production, reducing reliance on fossil fuel resources. Moreover, technological innovations enhance the efficiency and cost-effectiveness of depolymerization methods, making them increasingly attractive for industrial applications.

Region with largest share:

During the forecast period, the Europe region is expected to hold the largest market share, driven by stringent regulatory frameworks, ambitious sustainability targets, and advanced waste management infrastructure. The European Union's Circular Economy Action Plan and European Green Deal create conducive policy environments mandating plastic waste reduction and increased recycling rates. Additionally, countries like Germany, France, and the Netherlands lead technological advancement through substantial government subsidies, grants, and public-private partnerships supporting research and development initiatives. Moreover, strong consumer awareness and demand for sustainable products compel European manufacturers to adopt circular economy practices.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR due to substantial plastic consumption volumes in major economies like China and India creating significant waste management challenges. These countries' commitments to address plastic pollution through circular economy practices and environmental regulations drive demand for sustainable waste management solutions. Additionally, growing environmental awareness among populations and implementation of regulatory policies create favorable conditions for chemical recycling initiatives. Moreover, rapid industrialization and urbanization increase plastic waste generation, necessitating advanced recycling technologies, positioning Asia Pacific as the fastest-growing regional market for sustainable plastic waste management solutions.

Key players in the market

Some of the key players in Chemical Recycling Market include Agilyx, Clariant, Certech, PreZero Deutschland, Mitsubishi Chemical Advanced Materials, OQEMA Group, S?ch?

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Environnement, Clean Harbors, GreenMantra Technologies, Aduro Clean Technologies, Cielo Waste Solutions, Licella, Mura Technology, Loop Industries, and Carbios.

Key Developments:

In July 2025, Agilyx ASA announces that GreenDot Global has signed binding agreements for a €27.5m financing round led by Pioneer Point Partners, a leading, London-based, sustainability infrastructure firm and current shareholder in GreenDot. Under the terms of the transaction, funds advised by Pioneer will invest €16m, Agliyx €7m, and Circular Resources €4.5m. Agilyx's €7m investment is fully funded by the €20m debt financing.

In January 2025, Sumitomo Rubber Industries, Ltd. and Mitsubishi Chemical Corporation will launch a joint project for the recycling of carbon black, one of the main raw materials of tires. According to the collaboration plan, Sumitomo Rubber will supply rubber chippings (recycled materials) generated from tire manufacturing processes and crushed end-of-life tires (“ELTs”) to Mitsubishi Chemical. At Mitsubishi Chemical, these materials will be fed into coke ovens as raw materials for chemical recycling to produce carbon black again from the tar. The resulting sustainable carbon black will be used as raw material for tires to be produced by Sumitomo Rubber.

In May 2024, Clariant is excited to present the company’s latest solutions to support the plastics industry to improve safety and efficiency, increase circularity, and reduce waste at NPE2024, happening now in Orlando, Florida. Clariant is launching AddWorks® PPA, perfluoralkyl substances (PFAS)-free polymer processing aid product line, and AddWorks PKG 158, a highly efficient antioxidant solution with outstanding color protection, especially designed for polyolefins containing recycled material. Licolub® PED 1316 – a wax for easier processing and better surface properties in building and construction. A range of next generation products to improve plastics recycling, reduce environmental impacts, and increase performance are being featured at the event.

Feedstocks Covered:

- Plastics
- Tires
- Textiles

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- Biomass & Waste Oils/Fats

Outputs:

- Naphtha & Feedstock Oils
- Monomers
- Syngas & Hydrogen
- Wax & Chemical Intermediates
- Aromatics
- Solid Residues

Technologies Covered:

- Pyrolysis
- Gasification
- Depolymerization (Solvolysis)
- Dissolution / Purification
- Enzymatic Recycling
- Other Technologies

Applications Covered:

- Plastic-to-Fuel Conversion
- Monomer Recovery & Repolymerization

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- Feedstock Recycling for Petrochemical Industry
- Textile-to-Textile Recycling
- Other Applications

End Users Covered:

- Packaging Industry
- Textile & Apparel Industry
- Automotive Industry
- Construction Industry
- Electronics & Electrical Industry
- Fuel & Energy Sector
- Other End Users

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany

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- UK
- Italy
- France
- Spain
- Rest of Europe

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- China
- India
- Australia
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- South Korea
- Rest of Asia Pacific

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- Argentina
- Brazil
- Chile
- Rest of South America

Middle East & Africa

- Saudi Arabia

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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

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

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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