

Battery Materials Recycling Market Set for 8.1% CAGR Growth Through 2032, Says New Report

Battery Materials Recycling Market to Hit \$56.9 Billion by 2032, Driven by EV Demand & Sustainability Push

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According to a new report published by Allied Market Research, the global [battery materials recycling market](#) size was valued at \$26.3 billion in 2022 and

is projected to reach \$56.9 billion by 2032, growing at a CAGR of 8.1% from 2023 to 2032. Battery materials recycling refers to the process of collecting, disassembling, and recovering valuable materials from used batteries to be reused in new manufacturing. With the growing use of electric vehicles (EVs), renewable energy systems, and portable electronics, recycling has become an essential part of the clean energy value chain, helping to conserve resources and reduce environmental impact.

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Battery materials recycling market to reach \$56.9B by 2032 at 8.1% CAGR, driven by EV adoption, sustainability goals, and circular economy initiatives.”
Allied Market Research

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This practice—also known as [secondary battery recovery](#)—plays a crucial role in establishing a sustainable and circular economy by minimizing the need for raw

material extraction and lowering carbon emissions associated with traditional mining.

□ Key Findings

Lead segment held the largest share, accounting for one-third of the market in 2022.



Automotive sector led the end-use industry with over one-third of global revenue.

Europe dominated regional revenue share with a CAGR of 7.8% during the forecast period.

Manganese segment is the fastest-growing due to its increasing application in lithium-ion batteries.

□ Regional Insights

North America and Asia-Pacific are rapidly emerging as promising regions in the battery materials recycling industry. In North America, the U.S. is investing heavily in EV [battery recycling](#) to reduce reliance on imported materials, while Asia-Pacific nations like China, Japan, and South Korea are expanding large-scale recycling facilities to meet the growing demand for EV and energy storage batteries.

The increasing collaboration between recycling companies and battery manufacturers across these regions highlights a global shift toward closed-loop manufacturing systems, ensuring a sustainable supply chain for the next generation of clean energy technologies.

□□ Market Dynamics: Drivers, Restraints, and Opportunities

The growing global emphasis on sustainability and resource conservation is one of the major drivers of the battery materials recycling market growth. Batteries contain valuable metals such as lithium, cobalt, nickel, manganese, and lead, all of which are limited in supply. Recycling these metals not only reduces dependence on mining but also helps cut down production-related pollution.

Another strong growth driver is the expansion of the electric vehicle market. As EV adoption accelerates, so does the demand for battery recycling to reclaim critical materials from used lithium-ion batteries. Additionally, industries are increasingly embracing green manufacturing practices to align with international environmental standards and corporate sustainability goals.

However, the recycling process involves complex procedures, including shredding, separation, and smelting, which require significant technological precision and regulatory compliance to avoid emissions of toxic gases. Despite these challenges, advances in mechanical and hydrometallurgical recycling technologies are making the process more efficient and eco-friendly.

□ How Battery Materials Recycling Works

Battery materials recycling typically starts with collecting and shredding used batteries into smaller components, followed by mechanical separation techniques such as sieving and

magnetic sorting. These methods help segregate metals, plastics, and electrolytes for further processing.

In pyrometallurgical recycling, high-temperature smelting is used to extract metals like nickel, cobalt, and lead. Meanwhile, hydrometallurgical processes employ chemical leaching to recover materials in a more energy-efficient and environmentally safer manner.

The recovered metals are reused in manufacturing new battery cells, stainless steel, alloys, and catalysts, while plastic components are repurposed into new consumer goods or even used as fuel sources.

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□ Market Segmentation Analysis

By Material Type: The market is categorized into lithium, cobalt, iron, manganese, nickel, lead, and others. Among these, the lead segment accounted for one-third of the market share in 2022, driven by the extensive recycling of lead-acid batteries used in automotive and industrial applications.

Interestingly, the manganese segment emerged as the fastest-growing category, owing to its rising use in next-generation lithium-ion batteries. Manganese-based batteries offer high energy density and longer lifespan, making them ideal for EVs and grid-scale storage systems.

By End-Use Industry: The automotive sector dominated the market in 2022, capturing over one-third of the global share, primarily due to the surge in electric mobility and government mandates promoting sustainable vehicle production.

Meanwhile, the textile industry emerged as the fastest-growing end-use segment, as manufacturers increasingly integrate recycled battery materials into wearable technology, smart fabrics, and energy storage textiles. This innovative trend reflects the expanding application scope of recycled materials beyond traditional sectors.

By Region: Europe led the global market in 2022 and is projected to maintain its dominance through 2032, with a CAGR of 7.8%. The region's leadership stems from stringent environmental regulations, advanced recycling infrastructure, and strong government support for circular economy initiatives.

□ Key Market Players

Leading companies operating in the battery materials recycling market include:

Cirba Solutions

Eco-Bat Technologies

GEM Co., Ltd.

Gopher Resource

GRAVITA INDIA LIMITED

Li-Cycle Holdings Corp.

RecycLiCo Battery Materials Inc.

Redux GmbH

Redwood Materials Inc.

Umicore N.V.

These industry players are focusing on strategic collaborations, technological innovation, and facility expansion to enhance recovery rates and meet the surging global demand for sustainable raw materials.

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□ Conclusion

The battery materials recycling market stands at the forefront of the global sustainability movement. As the demand for electric vehicles, portable electronics, and renewable energy storage continues to surge, recycling offers a viable solution to resource scarcity and environmental challenges.

With ongoing technological advancements, strategic partnerships, and growing environmental awareness, the industry is set to play a pivotal role in shaping a circular and eco-efficient global economy. □□□

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