

# **Lithium-Ion Battery Recycling Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034**

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## **Abstracts**

The Global Lithium-Ion Battery Recycling Market was valued at USD 7.2 billion in 2024 and is projected to grow at a CAGR of 20.6% between 2025 and 2034. The surge in lithium-ion battery usage across industries, particularly in electric vehicles (EVs) and renewable energy storage, has amplified concerns regarding improper disposal and environmental hazards. As these batteries contain valuable but potentially toxic materials like lithium, cobalt, nickel, and manganese, their efficient recycling has become a necessity rather than an option. The global push toward sustainability and the circular economy further underscores the importance of establishing robust recycling systems to recover critical materials, minimize ecological impact, and reduce dependency on environmentally damaging mining activities.

Governments and regulatory bodies worldwide are tightening environmental policies, compelling manufacturers to prioritize battery recycling. The demand for lithium-ion battery recycling is accelerating as industries increasingly shift toward electrification, leading to a significant strain on the supply of essential raw materials. The automotive industry, in particular, plays a pivotal role in driving this growth as EV manufacturers seek sustainable alternatives to secure materials for battery production. Without effective recycling solutions, the supply chain faces potential disruptions, given the soaring demand for lithium-ion batteries in transportation, energy storage, and consumer electronics. The rising emphasis on reducing carbon emissions has also spurred investment in advanced recycling technologies that enhance material recovery rates and minimize environmental impact.

The automotive sector is expected to be a major contributor to the market, with projections estimating USD 25.5 billion by 2034. The rapid adoption of EVs has created a pressing need for battery recycling, ensuring the efficient reuse of valuable materials. Regulatory mandates across North America, Europe, and Asia-Pacific are compelling

automakers to implement sustainable battery disposal practices, further fueling market expansion. With stricter policies in place, industry leaders are investing in cutting-edge recycling technologies that maximize recovery rates and reduce processing costs. The market is segmented by battery chemistry, with lithium nickel manganese cobalt oxide holding 51.1% share in 2024. NMC batteries are widely used in EVs and energy storage systems due to their high energy density and long cycle life. Their composition makes them particularly valuable for recycling, as the recovered materials offer a cost-effective and eco-friendly alternative to mining. As demand for high-performance energy storage solutions grows, the recycling of NMC batteries is expected to witness substantial advancements.

The U.S. Lithium-Ion Battery Recycling Market was valued at USD 900 million in 2024, with increasingly stringent environmental regulations driving its expansion. Businesses across the automotive and electronics industries are integrating sustainability into their operations, implementing battery recycling initiatives to minimize waste and recover critical materials. As the demand for EVs and renewable energy storage solutions rises, the U.S. market is poised for significant growth, fueled by regulatory incentives and technological innovations in battery recycling.

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