

Lithium-ion Battery Recycling Market to Cross USD 33.03 Billion by 2032 - Report by SNS Insider

Rising demand for sustainable energy and retired lithium-ion batteries from EVs and electronics are key growth drivers.

AUSTIN, TX, UNITED STATES, December 5, 2024 /EINPresswire.com/ -- Market Size & Industry Insights

As Per the SNS Insider, "The Lithium-Ion Battery Recycling Market Size was valued at USD 7.14 Billion in 2023 and is expected to reach USD 33.03 Billion by 2032 and grow at a CAGR of 19.61% over the forecast period 2024-2032."



The Rising Demand for Lithium-Ion Battery Recycling in the Expanding EV and Energy Markets

The growing adoption of electric vehicles (EVs) and renewable energy systems has significantly increased the demand for lithium-ion batteries, highlighting the need for efficient recycling solutions. As the lithium-ion battery market expands, recycling becomes crucial to address environmental concerns and reduce reliance on mining for rare earth metals such as lithium, cobalt, and nickel. To support a circular economy, governments worldwide are implementing stricter regulations and offering incentives for battery recycling initiatives. Advancements in recycling technologies are further improving material recovery rates while lowering energy consumption, driving the growth of both the recycling sector and the lithium-ion battery market.

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SWOT Analysis of Key Players as follows:

- Umicore
- Glencore International AG

- GEM
- Bruno Recycling
- SungEel HiTech
- Taisen Recycling
- Batres
- Retrieve Technologies
- Tes-Amm(Recupyl)
- Duesenfeld
- 4R Energy Cor
- OnTo Technology

Technological Advancements and Strategic Investments Fuel Growth in Lithium-Ion Battery Recycling Market

Companies are heavily investing in research and development to improve recycling methods, such as hydrometallurgical and pyro-metallurgical processes, which offer higher efficiency and better material recovery. In parallel, industry players are expanding their recycling capacities to meet the rising demand for recycled materials essential for battery manufacturing. These advancements not only reduce dependency on raw materials but also play a crucial role in advancing sustainability efforts within the battery supply chain.

Segment Insights: Key Trends in Battery Chemistry and Recycling Processes Driving Market Growth

By Battery Chemistry

Lithium-Nickel Manganese Cobalt (NMC) batteries dominate the market due to their high energy density, making them ideal for electric vehicles (EVs). This chemistry allows for longer driving ranges and faster charging times, which are crucial for EV adoption. Additionally, NMC batteries provide a balanced mix of performance, stability, and cost efficiency, driving their widespread use across the automotive industry, especially in premium and high-performance EVs.

Lithium-Iron Phosphate (LFP) batteries are rapidly gaining popularity due to their enhanced safety, longer life cycle, and cost-effectiveness. They are particularly suited for energy storage systems, offering better thermal stability and lower risk of fire compared to other lithium-ion chemistries. These advantages, along with increasing adoption in electric vehicles (EVs), are making LFP a key player in the evolving lithium-ion battery market

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By Recycling Process

The Hydrometallurgical Process dominates the lithium-ion battery recycling market due to its

high recovery rates and lower environmental impact, making it the preferred choice for efficient material extraction.

The Physical/Mechanical Process is the fastest-growing segment, gaining popularity for its cost-effectiveness and ability to complement other recycling methods. This process is increasingly adopted for its practicality in separating valuable materials while reducing energy consumption, contributing to the overall sustainability of the industry.

Regional Dynamics: North America Leads While Asia Pacific Drives Rapid Growth in Lithium-Ion Battery Recycling

North America dominates the Lithium-Ion Battery Recycling Market, driven by strong government policies, technological innovations, and a well-established electric vehicle (EV) market. The United States, in particular, is leading the charge, with companies like Li-Cycle and Retriev Technologies scaling their recycling operations to meet both domestic and global demand. The region's focus on sustainable energy solutions and circular economy initiatives further accelerates the growth of lithium-ion battery recycling efforts.

Asia Pacific is the fastest-growing region in the lithium-ion battery recycling market, fueled by the rising adoption of electric vehicles (EVs) in China, Japan, and South Korea. Governments in the region are prioritizing battery recycling mandates, which is boosting the demand for recycling solutions. Companies like SungEel HiTech and Taisen Recycling are leading efforts to advance the recycling ecosystem, ensuring a sustainable supply of critical materials to support the growing EV market.

Recent Development

- -February 1, 2024: Cirba Solutions and EcoPro signed an MOU to enhance lithium-ion battery recycling by utilizing recycled materials for precursor cathode active material (PCAM) and cathode active material (CAM), driving a closed-loop circular battery economy and supporting EV battery demand.
- -On March 12, 2024, Li-Cycle secured a USD 75 million investment from Glencore to bolster their partnership and advance the development of their battery recycling network, including the Rochester Hub. This strategic funding enhances Li-Cycle's liquidity as it continues to evaluate its global.

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Future Growth

- -The lithium-ion battery market is set for exponential growth, driven by advancements in EVs, renewable energy storage, and portable electronics.
- -Global transition to clean energy is propelling EV demand, spurring investments in battery

production and innovation.

- -Solid-state lithium-ion batteries are emerging, offering improved safety, energy density, and faster charging.
- -Grid-scale energy storage projects are increasing demand for LFP batteries due to their long life and stability.
- -Governments are promoting localized battery manufacturing and supply chain security, boosting market growth.

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Akash Anand SNS Insider Pvt. Ltd 415-230-0044
info@snsinsider.com
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