

Lithium-ion batteries (LIBs) are widely used as power storage systems in electronic devices and electric vehicles (EVs). Recycling of spent LIBs is of utmost importance from various perspectives including ...

Find out how lithium-ion batteries are recycled, how these batteries are regulated at end of life, and where to take your used lithium-ion batteries for recycling.

In addition, the authors also discuss the prospects of selected recycling strategies for next-generation LIBs such as solid-state Li-metal batteries. Finally, overall conclusions and future perspectives for the ...

This paper deals with a critical analysis and perspective of key challenges and opportunities in lithium-ion battery recycling.

Pyrometallurgical and hydrometallurgical processes are the most common recycling methods but pose considerable difficulties. The energy-intensive pyrometallurgical recycling process results in the loss ...

**Synopsis** This review emphasizes the environmental and resource challenges of lithium-ion battery waste and highlights sustainable recycling strategies that alleviate resource scarcity and ...

Addressing lithium battery sustainability through circular economy practices enhances recycling efficiency and reduces environmental impacts in energy storage.

With the rise in electric vehicles, renewable energy storage, and consumer electronics, recycling lithium-ion batteries has become a critical solution to address resource scarcity and environmental challenges.

Recycling methods drive net-zero emissions and support the clean energy transition. With the rapid electrification of society, the looming prospect of a substantial accumulation of spent ...

This paper provides a comprehensive review of lithium-ion battery recycling, covering topics such as current recycling technologies, technological advancements, policy gaps, design ...

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