Increasing Focus On Sustainability is Driving the Lithium-Ion Battery Recycling Market

According to The Niche Research, Global Lithium-Ion Battery Market is Anticipated to Reach USD 9.2 Bn by 2031.

WILMINGTON, DELAWARE, UNITED STATES, November 29, 2023 /EINPresswire.com/ -- Lithium-ion battery market is growing as these batteries have emerged as a game-changing invention in the domain of sustainable energy and storage technologies, attracting global attention and playing an important role in powering electric cars, offering sustainable energy storage systems, and feeding consumer electronics. Lithium-ion battery technology is the most prevalent among battery technologies, with years of intense research and development behind generating the world's most well-known and commonly used batteries. However, their expanding popularity is being surpassed by serious environmental concerns. With natural resource depletion and inappropriate battery disposal creating substantial issues, the necessity for responsible recycling solutions has become increasingly apparent. Lithium-ion battery recycling is an important practise that not only promotes sustainability but also tackles significant issues about environmental safety and natural resource utilisation.

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Global Lithium-Ion Battery Recycling Market Snapshot

Market Value in 2022 : USD 2.65 Billion
Market Value Forecast 2031: USD 9.2 Billion
Growth Rate: 22.49%
Historical Data: 2015-2021
Base Year: 2022
Forecast Data : 2023-2031

Global Lithium-Ion Battery Recycling Market Growth Factors

The necessity of advanced materials and safeguarding the environment are the two most important reasons driving the global lithium-ion battery recycling market. Around the world, around 5% of all lithium-ion batteries are recycled. Recycling statistics are relatively poor when compared to lithium-ion battery manufacturing. Recycling lithium-ion batteries is successfully allowing businesses to get additional material for reuse. While on the other hand realizing the critical importance of lithium-ion battery recycling, policymakers throughout the world are taking proactive actions to solve the issues connected with battery disposal by enacting legislation and policies. These programmes illustrate successful policy frameworks that not only encourage ethical battery disposal but also develop a recycling culture.

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Global Lithium-Ion Battery Recycling Market Future
In accordance with the increasing demand for lithium-ion batteries across sectors, revenues throughout the whole value chain are expected to rise dramatically, offering considerable economic potential. Mining is not the only way to obtain battery materials; recycling is a feasible additional option. Although the recycling market is predicted to be minor in the near future, it is expected to develop significantly over the next decade as more batteries approach their end-of-life.

Moreover in the upcoming years, the demand for lithium-ion batteries is expanding substantially as electric vehicles (EVs) become more popular. End-of-life electric vehicle batteries will be accessible shortly, and players throughout the supply chain are realising the potential value in recycling them. As a result, the lithium-ion battery recycling market is predicted to grow rapidly over the next two decades.

Key Takeaways from the Lithium-Ion Battery Recycling Market
- Lithium-ion batteries, often known as electric vehicle batteries, are becoming increasingly popular in the industrial and consumer electronics markets. While, because to their rechargeable capabilities, these batteries have lately been a priority in the EV industry and favoured as storage choices for wind and solar projects.
- Hydrometallurgical processing for the lithium-ion batteries had the highest share in the market in 2022. Hydrometallurgy is the process of producing new battery precursors from waste that is of suitable purity. Despite the high need for chemical reagents, hydrometallurgy allows for the long-term usage of several solvents and the re-use of various by-products within the same process, reducing total secondary waste creation. Hydrometallurgy is one of the most promising techniques to meeting future battery laws and needs for increased material recovery rates. Hydrometallurgical techniques are employed in Europe, particularly in Sweden, where the battery manufacturer Northvolt incorporates a hydrometallurgical recycling process into the loop to secure the raw materials supply chain and reduce the environmental effect of battery production Hydrometallurgical processing is also employed by firms like as Eramet (France) and Fortum (Finland), among others.
- The lithium-ion battery recycling market is highly expanding in the Asia Pacific region in the last

few years. According to a recent study, Asia manufactures more than 90% of the global Li-ion batteries, while China alone owns 44% of the world's electric cars. To keep up with that demand, China was an early adopter of Li-ion recycling technology, while other nations, such as Japan and Singapore, have adopted a more aggressive carbon-neutral posture, investing heavily in infrastructure and technology to assist their recycling efforts. Furthermore, it was surveyed that, China has more than three times the existing and projected lithium-ion battery recycling capacity as the United States as of late 2021.

- Meanwhile, the European Union has prohibited battery landfilling since 2006, and it is preparing to implement new rules that will hold automakers accountable for recycled batteries from their EVs, demand specific amounts of recycled content in new lithium-ion batteries, and require new batteries to be built using techniques that make it easier to recycle.Several European countries, including Germany, France, and the Nordic countries, have been investing in recycling infrastructure for lithium-ion batteries. Thus with the above factors the lithium-ion battery recycling market is evolving rapidly in Europe.

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Key Developments in the Global Lithium-Ion Battery Recycling Market
In February 2023, Li-Cycle Battery Recycling received a loan from the Department of Energy to build a recycling plant for essential battery materials near Rochester, New York. According to the corporation, the operation would recycle up to 200,000 lithium-ion batteries every year. The facility will thereafter generate 8,500 tonnes of lithium carbonate, as well as nickel and cobalt sulphates.

In March 2023, Stena Recycling recently inaugurated its first industrial lithium-ion battery recycling facility. The new factory will handle battery material collected and pre-treated at all Stena Recycling's existing facilities and processes in Sweden, Denmark, Poland, Finland, Norway, Germany, and Italy, with an initial yearly recycling capacity of 10,000 tonnes.

In November 2022, Attero Recycling, India's largest electronics recycling company, opened its second lithium-ion battery recycling operation in the nation. The factory will raise Attero's battery recycling capacity from 4,500 tonnes to 19,500 tonnes by the end of 2023.

Key Companies in the Global Lithium-Ion Battery Recycling Market:
- American Battery Technology Company
- Cirba Solutions
- Duesenfeld GmbH
- East Penn Manufacturing
- Ecobat
- Exide Industries Limited
- Fortum
- Ganfeng Lithium Group Co., Ltd.
- LG Energy Solution Ltd.

- Li-Cycle Corp
- Lithion Technologies
- LOHUM
- RecycLiCo Battery Materials Inc.
- Redwood Materials, Inc.
- Umicore N.V.
- Other market participants

Key Segments Profiled in the Lithium-Ion Battery Recycling Market Survey:

By Battery Chemistry

- Lithium Cobalt Oxide ($LiCoO_2$)
- Lithium Manganese Oxide ($LiMn_2O_4$)
- Lithium Nickel Manganese Cobalt Oxide ($LiNiMnCoO_2$)
- Lithium Iron Phosphate ($LiFePO_4$)
- Lithium Nickel Cobalt Aluminum Oxide ($LiNiCoAlO_2$)
- Lithium Titanate (Li_2TiO_3)

By Source

- Electric Vehicles
- Electronic Devices
- Industrial Equipment
- Medical Devices
- Others

By Recycling Process

- Pyro- metallurgy
- Hydrometallurgy
- Direct Recycling

By Region

- North America (U.S., Canada, Mexico, Rest of North America)
- Europe (France, The UK, Spain, Germany, Italy, Nordic Countries (Denmark, Finland, Iceland, Sweden, Norway), Benelux Union (Belgium, The Netherlands, Luxembourg), Rest of Europe)
- Asia Pacific (China, Japan, India, New Zealand, Australia, South Korea, Southeast Asia (Indonesia, Thailand, Malaysia, Singapore, Rest of Southeast Asia), Rest of Asia Pacific)
- Middle East & Africa (Saudi Arabia, UAE, Egypt, Kuwait, South Africa, Rest of Middle East & Africa)
- Latin America (Brazil, Argentina, Rest of Latin America)

Consult with Our Expert:

Jay Reynolds
The Niche Research
Japan (Toll-Free): +81 663-386-8111
South Korea (Toll-Free): +82-808- 703-126
Saudi Arabia (Toll-Free): +966 800-850-1643

United Kingdom: +44 753-710-5080
United States: +1 302-232-5106
Email: askanexpert@thenicheresearch.com

Jay Reynolds
The Niche Research
+1 302-232-5106
email us here
