

Electric Vehicle Battery Recycling Market Size & Share Analysis - Growth Trends and Forecast (2026 - 2031)

> **Industry:** Electric Vehicles & Clean Mobility (Automotive & Transportation)

> **Source:** <https://www.mordorintelligence.com/industry-reports/electric-vehicle-battery-recycling-market>

> **Scraped Date:** 2026-09-17

Executive Market Summary

Market Metric	Details
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Base Market Size	USD 20.64 billion
Projected Forecast (2031)	USD 20.64 billion
Growth Rate (CAGR)	31.29 %
Largest Market Region	N/A
Fastest-Growing Region	N/A

Market Visualizations & Infographics

! [Major players in Electric Vehicle Battery Recycling industry](images/chart_2.png)

! [Electric Vehicle Battery Recycling Market Size](images/chart_3.png)

! [Electric Vehicle Battery Recycling Market Share by Battery Chemistry, 2025](images/chart_4.png)

! [Electric Vehicle Battery Recycling Market Share by Vehicle Type, 2025](images/chart_5.png)

! [Electric Vehicle Battery Recycling Market Growth Rate by Region](images/chart_6.png)

! [Electric Vehicle Battery Recycling Market Concentration](images/chart_7.png)

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Comprehensive Research Analysis

Overview Points List Flex 49 Share Feature End

Market Overview

Study Period	2019 - 2031
Market Size (2026)	USD 5.29 Billion
Market Size (2031)	USD 20.64 Billion

Growth Rate (2026 - 2031) | 31.29 % |
Fastest Growing Market | Asia-Pacific |
Largest Market | Asia-Pacific |
Market Concentration | Medium |
Major Players*Disclaimer: Major Players sorted in no particular order

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Market Overview

Electric Vehicle Battery Recycling Market Analysis by Mordor IntelligenceThe electric vehicle battery recycling market size is expected to be USD 4.03 billion in 2025, USD 5.29 billion in 2026, and reach USD 20.64 billion by 2031, growing at a CAGR of 31.29% from 2026 to 2031. Automakers are increasingly relying on closed-loop supply agreements to shield themselves from price spikes in lithium and cobalt. Coupled with stringent recycled-content mandates in the European Union, China, and India, recycling is evolving from a mere option to an operational imperative. As installed electric vehicle (EV) fleets age and head towards retirement, the resulting physical scrap is starting to surpass the mechanical and pyrometallurgical capacities that were anticipated to be sufficient. Meanwhile, hydrometallurgical technologies, now reaching commercial viability, are achieving impressive metal recoveries. These technologies also boast lower energy intensity than traditional smelting methods, setting the stage for rapid expansion in the electric vehicle battery recycling market. Price fluctuations in lithium carbonate have not only heightened the return on investment (ROI) for recycled materials but also spurred the adoption of long-term offtake contracts. These contracts play a crucial role in stabilizing processors' cash flows. Furthermore, regional decarbonization targets amplify the appeal of recycled materials: recycled cathode-active materials come with significantly lower embedded emissions than their mined counterparts. This significant reduction offers downstream buyers a distinct Scope 3 advantage, all without incurring a cost premium.

Key Report Takeaways

- * By battery chemistry, lithium-ion captured 76.07% of the electric vehicle battery recycling market share in 2025, while lithium-ion feedstock is forecast to expand at a 32.07% CAGR through 2031.
- * By source, production scrap led with a 58.37% share of the electric vehicle battery recycling market in 2025; end-of-life batteries are projected to grow at a 32.15% CAGR through 2031.
- * By recycling process, hydrometallurgy accounted for 61.11% of 2025 revenue, whereas direct and mechanical routes are advancing fastest at 32.82% through 2031.
- * By vehicle type, two-wheelers held 28.73% share in 2025 and are climbing at a 33.47% CAGR, driven by India, Indonesia, and Thailand.
- * By recovered material, lithium represented 36.58% of the value in 2025 and is expanding at 33.71%, outpacing cobalt and nickel on the back of LFP adoption.
- * By geography, Europe dominated with 32.87% revenue share in 2025, while Asia-Pacific is the fastest-growing region at a 33.12% CAGR.

Key Market Trends

Global Electric Vehicle Battery Recycling Market Trends and InsightsDrivers Impact Analysis*

Driver | (~) % Impact on CAGR Forecast | Geographic Relevance | Impact Timeline |

Surging EV Sales | +9.1% | Global, concentrated in China, Europe, North America | Long term (≥ 4 years) |

Stringent Extended-Producer-Responsibility (EPR) Mandates | +7.2% | Global, with early gains in Europe, China, emerging in United States | Medium term (2-4 year

s) |
Escalating Critical-Mineral Prices | +6.3% | Global, particularly impacting import-dependent regions | Short term (≤ 2 years) |
OEM Drive for Low-Carbon | +4.3% | North America and Europe, spill-over to Asia-Pacific | Medium term (2-4 years) |
LFP-Specific Lithium-Recovery Economics | +3.2% | APAC core, spill-over to global markets adopting LFP | Medium term (2-4 years) |
AI-Enabled Automated Pack Disassembly | +2.1% | Global, with early adoption in developed markets | Short term (≤ 2 years) |
Source: Mordor Intelligence |

Competitive Landscape

Competitive Landscape

Fragmentation remains evident in the market: the leading quintet—Guangdong Brunp Recycling Technology Co., Ltd., Umicore, Redwood Materials, and Ascend Elements—commands a significant share of the global nameplate capacity. This leaves ample room for regional specialists to maneuver. Companies adopting vertically integrated models are gaining traction; for instance, Redwood Materials oversees the entire process from collection and shredding to hydromet refining and foil production, insulating itself from fluctuations in black-mass prices. On the other hand, Li-Cycle's ambitious hub-and-spoke model, heavily reliant on capital, faced a downturn and declared bankruptcy, underscoring the risks associated with multi-site hydromet operations.

Technology leadership is gravitating towards direct regeneration methods and AI-driven disassembly techniques. Ascend Elements has pioneered a Hydro-to-Cathode process that produces cathode powder with cycle life matching that of virgin materials while consuming less energy. This innovation sets a licensable benchmark for direct LFP routes. Meanwhile, R3 Robotics introduced a vision-guided disassembly line, achieving a significant reduction in mechanical costs and a substantial increase in throughput, providing users with a notable labor edge. Intellectual property (IP) intricacies are becoming a barrier to entry: the DOE ReCell Center's patent portfolio on direct recycling underscores the strategic importance of licensing for newcomers.

Processors without offtake contracts face the brunt of price fluctuations. Black-mass payables surged past the contained-metal value, squeezing merchant refiners' margins to minimal levels. This financial strain led to a wave of consolidations and asset divestitures. Conversely, firms like Umicore, whose Hoboken smelter is backed by OEMs such as Volkswagen and LG Energy Solution, enjoyed stable EBITDA amid the market's turbulence. Regional policies play a pivotal role in shaping competitive dynamics: in China, only MIIT-certified recyclers gain access to OEM packs, narrowing the market to a limited number of players. Meanwhile, Europe's stringent compliance standards, particularly the ISO 14001 and Industrial Emissions Directive, establish a capital threshold that tends to favor established players over newcomers.

Electric Vehicle Battery Recycling Industry Leaders* Redwood Materials

* Ascend Elements

* Guangdong Brunp Recycling Technology Co., Ltd.

* Glencore

* Umicore

* *Disclaimer: Major Players sorted in no particular order

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Component Component 3 Scope Of The Report Bottom

Global Electric Vehicle Battery Recycling Market Report ScopeThe electric vehicle battery recycling market report is segmented by battery chemistry (lithium-ion, nickel-metal hydride, and lead-acid), source (EV-production scrap and end-of-life EV batteries), recycling process (hydrometallurgical, pyrometallurgical, and direct/mechanical & other emerging), vehicle type (two-/three-wheelers, passenger cars, light commercial vehicles, medium and heavy commercial vehicles, and buses and coaches), recovered material (lithium, cobalt, nickel, manganese, and graphite and other), and geography. The market forecasts are provided in terms of value (USD).

By Battery ChemistryLithium-ion (NMC, NCA, LFP, LMO, LCO) |
Nickel-metal Hydride |
Lead-acid |

Segmentation Accordion Item

By GeographyNorth America | United States |
| Canada |
| Rest of North America |
South America | Brazil |
| Argentina |
| Rest of South America |
Europe | Germany |
| France |
| United Kingdom |
| Italy |
| Spain |
| Norway |
| Netherlands |
| Russia |
| Rest of Europe |
Asia Pacific | China |
| Japan |
| India |
| South Korea |
| Australia |
| Indonesia |
| Thailand |
| Rest of Asia Pacific |
Middle East and Africa | Saudi Arabia |
| United Arab Emirates |
| Rest of Middle East and Africa |

Frequently Asked Questions

How large will the electric vehicle battery recycling market be by 2031?

The electric vehicle battery recycling market size is projected to reach USD 20.64 billion by 2031, expanding at a 31.29% CAGR over 2026-2031.

What region is growing fastest in battery recycling?

Asia-Pacific leads growth with a 33.12% CAGR, driven by China's white-list traceability regime and India's 2025 Battery Waste Management Rules.

Which battery chemistry generates the most recycling revenue?

Nickel-rich and lithium-iron-phosphate lithium-ion batteries together hold more than 76% of 2025 revenue, with lithium-ion remaining the economic backbone of the Electric vehicle battery recycling industry.

How does the EU Battery Regulation impact recyclers?

It mandates recycled content thresholds—65% cobalt and 6% lithium by 2031—guaranteeing demand and raising penalties for non-compliance.