

Battery Recycling Units

ANMD-MRS6-057 · Recycling & Resource Recovery

A Global Sustainability Due Diligence & Market Research Study

History 2020–2024 · Base Year 2025 · Forecast 2025–2032 · Outlooks 2035 / 2040 / 2050 · Currency US\$

WHY THIS REPORT

Battery recycling units recover critical metals from spent batteries, turning end-of-life cells into a domestic source of lithium, nickel, cobalt and lead. This decision-grade study sizes the global market three ways — value, units and capacity — across process type, battery chemistry and application, across seven regions and four scenarios to 2032, with outlooks to 2050.

SUSTAINABILITY & SDG IMPACT — THE ANMD LENS

Sustainability is this report's backbone, not an afterthought. Beyond throughput, battery recycling units deliver measurable critical-mineral recovery, supply-chain security and circular battery materials, while recovering battery metals strengthens the circular-economy story.

Mapped Sustainable Development Goals:

| | | |
|---|--|---------------------------------|
| SDG 7 Affordable Clean Energy | SDG 12 Responsible Consumption | SDG 13 Climate Action |
|---|--|---------------------------------|

Measurable sustainability outcomes assessed:

- Critical-mineral recovery (lithium, nickel, cobalt, lead)
- Battery supply-chain security
- Circular battery-material loops
- Process energy, residual streams, offtake quality and worker safety as material risks

Framework alignment: Double materiality mapped to GRI, SASB, ISSB, TCFD, TNFD, CSRD and the EU Taxonomy, with greenwashing and SDG-washing screens applied throughout.

WHAT'S INSIDE AT A GLANCE

| | | | |
|------------------------------------|-------------------------------|----------------------------------|-------------------------------|
| 53 Chapters | 9 Report Parts | 7 Regions Covered | 40+ Country Markets |
| 2025–32 Forecast Horizon | 4 Forward Scenarios | 25+ Companies Profiled | 3 SDGs Mapped |

REPORT COVERAGE

Geographic scope: North America, Europe, Asia Pacific, Latin America, Africa, Middle East and Rest of World — with named country intelligence. Europe is the policy leader (Germany, France, United Kingdom) on recycling targets and EPR; North America is the value leader (United States, Canada) on recycling-capacity build-out; Asia Pacific is the scale engine; other regions assessed on their own merits.

MARKET OVERVIEW

From pilot to gigascale — where battery recovery goes hydrometallurgical, direct-recycling and supply-securing.

The battery recycling units market is moving from early adoption to mainstream commercial scale. Demand is driven by circular-economy and recycling pressure converging with regulation and material-security needs, supported by strong momentum across Asia Pacific, Europe and North America. The market is read three ways — value, units and capacity — and forecast under four scenarios, each region reported separately.

- **Asia Pacific is the scale engine** — China, South Korea and Japan, on cell-manufacturing and recycling
- **Europe is the policy leader** — Germany, France and United Kingdom, on the EU Batteries Regulation
- **North America is the value leader** — United States and Canada, on EV-battery recovery and IRA support
- **Critical-mineral recovery is the differentiator** — hydrometallurgical and direct recycling plus supply security

REGIONAL OUTLOOK

Across seven reporting regions, the report separates early commercialisation leaders from high-growth and emerging markets — each profiled in full rather than aggregated into Rest of World.

| Region | Stage | Lead Markets & Drivers |
|---------------|---------------|--|
| Europe | Policy leader | Germany, France, United Kingdom — recycling targets, EPR |
| North America | Value leader | United States, Canada — recycling-capacity build-out |
| Asia Pacific | Scale engine | China, Japan, India — waste-infrastructure, volume |
| Middle East | High-growth | Saudi Arabia, UAE — circular-economy investment |
| Latin America | Emerging | Brazil, Mexico — waste-management expansion |
| Africa | Emerging | South Africa, Nigeria — recycling, resource recovery |

KEY MARKET DRIVERS & RESTRAINTS

| Drivers | Restraints |
|--|--|
| <ul style="list-style-type: none"> • Critical-mineral-security + EV-growth convergence • Recovered-metal value & supply security • Policy support (Batteries Regulation, EPR, IRA) • Recycled-content mandates & offtake demand • Hydromet, pyromet & direct-recycling technology gains | <ul style="list-style-type: none"> • Capital cost & first-of-a-kind financing risk • Process energy, emissions & safety scrutiny • Feedstock-availability & chemistry-variability • Metal-price volatility & market exposure • Permitting, siting & scale-up readiness gaps |

SEGMENTATION SNAPSHOT

| | |
|--------------------------|--|
| By Process Type | Mechanical / black-mass · hydrometallurgical · pyrometallurgical · direct-recycling · lead-acid |
| By Chemistry | Li-ion · NiMH · lead-acid |
| By Application | EV & automotive batteries · consumer electronics · energy storage & lead-acid |
| By End User | Recyclers & MRF operators · waste processors · municipalities · OEMs · circular-economy ventures |
| By Business Model | Capital purchase · turnkey EPC · processing-as-a-service · lease / BOO |
| By Scale | Pilot · commercial · gigascale |

TABLE OF CONTENTS — PARTS & CHAPTERS

The full report is organised into nine parts across 53 chapters, listed below. Detailed sub-headings, country tables and directories are provided in the full report.

Part I — Report Foundation, Discovery and Strategic Intelligence

- › Chapter 1. Scope, Methodology and Report Architecture
- › Chapter 2. Industry Discovery Summary — Battery Recycling Units
- › Chapter 3. Executive Intelligence and Decision Dashboard
- › Chapter 4. Strategic Findings, Materiality and Investment Verdict Preview

Part II — Market Intelligence, Sizing, Forecasting and Segmentation

- › Chapter 5. Industry Overview and Market Evolution
- › Chapter 6. Market Dynamics
- › Chapter 7. Global Market Size and Forecast, 2020–2032
- › Chapter 8. Market Segmentation Analysis
- › Chapter 9. End-User and Demand-Side Intelligence
- › Chapter 10. Pricing, Cost and Commercial Model Intelligence

Part III — Regional and Country Intelligence

- › Chapter 11. Global Regional Intelligence Framework
- › Chapter 12. North America Market Intelligence
- › Chapter 13. Europe Market Intelligence
- › Chapter 14. Asia Pacific Market Intelligence
- › Chapter 15. Latin America Market Intelligence
- › Chapter 16. Africa Market Intelligence
- › Chapter 17. Middle East Market Intelligence
- › Chapter 18. Rest of World Market Intelligence

Part IV — Technology, Innovation and Category-Specific Intelligence

- › Chapter 19. Technology Landscape and Architecture
- › Chapter 20. Emerging and Next-Generation Technology Intelligence
- › Chapter 21. Category-Specific Intelligence Module
- › Chapter 22. Research, Innovation and Funding Landscape

Part V — Company, Competition, Patent and Project Intelligence

- › Chapter 23. Competitive Landscape
- › Chapter 24. Company Profiles
- › Chapter 25. Mergers, Acquisitions, Partnerships and Ecosystem Intelligence
- › Chapter 26. Patent Landscape and Intellectual Property Intelligence
- › Chapter 27. Project, Deployment and Case-Study Intelligence

Part VI — Sustainability, ESG, SDG, Climate and Natural-Capital Intelligence

- › Chapter 28. Sustainability Intelligence Suite
- › Chapter 29. ESG Intelligence and Double Materiality
- › Chapter 30. ESG and Sustainability Framework Alignment
- › Chapter 31. SDG Intelligence
- › Chapter 32. Carbon, Net-Zero and Climate-Mitigation Intelligence
- › Chapter 33. Water, Biodiversity and Natural-Capital Intelligence
- › Chapter 34. Circular Economy and Resource-Security Intelligence
- › Chapter 35. Social Impact, Human Capital and Community Intelligence
- › Chapter 36. Climate Risk, Adaptation and Resilience Intelligence

Part VII — Supply Chain, Policy, Legal, Economics and Finance

- › Chapter 37. Value Chain, Supply Chain and Geopolitical Intelligence
- › Chapter 38. Policy, Regulation and Incentive Intelligence
- › Chapter 39. Legal, Contracting and Risk-Allocation Intelligence
- › Chapter 40. Unit Economics, CAPEX, OPEX and Return Analysis
- › Chapter 41. Investment, Sustainable Finance and Bankability Intelligence

Part VIII — Scenario, Future Intelligence and Final Due Diligence Verdict

- › Chapter 42. Scenario Analysis and Future Intelligence
- › Chapter 43. Sustainability Due Diligence Framework and Data-Room Index
- › Chapter 44. Risk Register, RAG Rating and Anti-Greenwashing Screen
- › Chapter 45. Bottom-Line Verdict and Strategic Recommendations
- › Chapter 46. Implementation Roadmap and Stakeholder Playbooks

Part IX — Annexes, Directories and Reference Material

- › Chapter 47. Methodology Annex
- › Chapter 48. Corporate Directory and Company Intelligence Annex
- › Chapter 49. Patent Directory and Patent Intelligence Annex
- › Chapter 50. Project Intelligence Annex
- › Chapter 51. Forecast Annex
- › Chapter 52. Sustainability KPI Annex
- › Chapter 53. Reference Annexes

COMPETITIVE & INVESTMENT SNAPSHOT

The competitive field spans global recycling-equipment majors, specialist battery recycling units makers, and emerging innovators. Deal activity — M&A, technology acquisition and platform expansion — signals a market consolidating around scalable, bankable recycling infrastructure.

Representative players profiled in the full report:

Umicore SA · Li-Cycle Holdings Corp. (Glencore plc) · Redwood Materials, Inc. · Northvolt AB (Revolt) · Glencore plc · and 20+ further profiled players across equipment OEMs, technology licensors and emerging innovators.

Investment intelligence: venture, infrastructure, development, climate and blended finance, green bonds and sustainability-linked loans — culminating in a bankability assessment and a Go / No-Go / Conditional-Go investment verdict.

KEY QUESTIONS THIS REPORT ANSWERS

- ? How large is the global battery recycling units market, and how fast will it grow to 2032?
- ? Which regions, countries and segments offer the strongest risk-adjusted opportunity?
- ? How do recovery rates and offtake quality change project economics versus legacy processing?
- ? Who leads, and where is the competitive and patent white space?
- ? Is the investment case bankable — and under what conditions?
- ? How does the category align with the SDGs, circular-economy and resource-security and disclosure regulation?

WHY ANMD — THE DIFFERENCE

Most market studies stop at units and revenue. This report is built as a sustainability due diligence instrument — fusing market sizing with ESG, SDG, climate, water and natural-capital intelligence and a decision-ready bankability verdict in a single architecture.

- **Triangulated sizing** — every market read three ways so value, volume and throughput views reconcile rather than conflict.
- **Region-honest forecasting** — Latin America, Africa and the Middle East reported in full, never hidden inside Rest of World, every forecast resolved to the 2025 base year.
- **Integrated evidence base** — company, patent and project databases linked to the analysis, with published-filing patents and FTO treated as an indicator, not a legal conclusion.
- **No-fabrication discipline** — every estimate carries a data-confidence rating and disclosed sources; gaps are flagged for further diligence, never filled with invented numbers.
- **Anti-greenwashing rigour** — SDG-washing and greenwashing screens plus claim-substantiation checks built into the ESG and project analysis.
- **Decision-first structure** — 9 Parts and 53 Chapters culminating in stakeholder playbooks and a clear Go / No-Go / Conditional-Go investment verdict.

WHO SHOULD BUY THIS REPORT

Investors and infrastructure / PE funds, recycling and waste-management operators, equipment OEMs and EPC contractors, municipalities and waste authorities, brand owners and producer-responsibility organisations, regulators and lenders, and corporate strategy and ESG teams.

Access the Full Report

The complete report delivers all 53 chapters in full, with every sub-heading, country table, company and patent directory, forecast model and due diligence checklist.

Purchase at www.anewmarketdynamics.com · Standard & Premium licences · Single-Site (SSL) and Global-Site (GSL) options at checkout.

Want the Complete Detailed Table of Contents?

This prospectus lists the nine parts and 53 chapters. The complete detailed table of contents — every sub-heading, country table, exhibit, company and patent directory and annex — is available on request to registered users. To receive it, register with your official company email at www.anewmarketdynamics.com. The full detailed table of contents will be sent directly to your registered company email address.