Euromonitor International

Future of the EV: Assessing Battery and Metals Supply

November 2023

Table of Contents

INTRODUCTION

Scope
Key findings
Electrification is one of the major megatrends shaping the mobility and automotive industries
The EV industry today

EV BATTERY MARKET DRIVERS

EV transition is driving demand for critical metals and minerals
Shift to pure EVs will require larger battery packs and greater supply of minerals and metals
Electrification of heavy-duty vehicles will further raise demand for minerals and metals
Major governments are actively stepping in to reinforce domestic EV battery production
Incentives have buoyed automakers to expand battery manufacturing

METALS SUPPLY FOR EV BATTERIES

China continues to dominate battery production yet other countries aim to catch up

METALS SUPPLY FOR EV BATTERIES

NMC batteries dominate yet cheaper alternatives are gaining ground
Expanding global production of batteries will create strong demand for metals
Reserves of metals are sufficient, but production fails to meet the projected demand
Cobalt shortages forecast to continue due to difficulties expanding mining capacity
Rising demand and geopolitical tensions threaten graphite supply
Lithium and nickel supply needs to increase to avoid price hikes and production disruptions
Supply of metals will be underpinned by geopolitics
Exploration of new metal deposits will accelerate, but extraction can be difficult

FUTURE-PROOFING FOR SUCCESS

Four ways to achieve success in the EV battery and metals supply industry
Upstream supply: OEMs will need to focus on the upstream supply process to build success
Case study: Tesla opening a lithium refinery capable of supplying one million EVs annually
Case study: Volkswagen establishes joint ventures to build battery supply chain in Indonesia
Lower cost: Cheaper battery chemistries including LFPs are emerging to reduce EV cost
Case study: BYD moving forward with the production of cheaper sodium-ion batteries
Longer range: Solid-state batteries are seen as the new gold-standard for future EVs
Case study: Toyota developing a solid-state battery with a range of over 1,000km
Recycling: Metals supply can be improved by boosting recycling intensities
Case study: EMR and Northvolt launch battery recycling plant in Hamburg
Other key innovations in the EV battery industry

CONCLUSION

Key commercial takeaways for the EV battery industry
Summary 1 key points

About Euromonitor International

Euromonitor International is an independent market intelligence provider. Data, insight and analysis stem from in-the-field research spanning 210 national markets.

Content ranges from the in-depth and country-specific, to key strategic themes with a global range and significance. Products cover a comprehensive range of insights and market data, but can be broadly categorised as:

- Strategy Briefings: Global or regional in scope, and focussing on the most important themes shaping consumer demand, the key markets, competitive environment and future outlook across a range of industries.

- Company Profiles: Analysis dedicated to the world's most significant companies, with detailed insight into their activities, focus of operations, their competitors, their geographic presence and performance.
- Country Reports: For an in-depth understanding of specific countries, whether by industry, economic metrics or consumer trends and lifestyles. These reports cover current trends, consumer demand, market potential and future prospects, with country-specific local insight and comprehensive data, unavailable elsewhere.

For more information on this report, further enquiries can be directed via this link www.euromonitor.com/future-of-the-ev-assessing-battery-and-metals-supply/report.