



**Euromonitor
International**

Future of the EV: Assessing Battery and Metals Supply

November 2023

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.