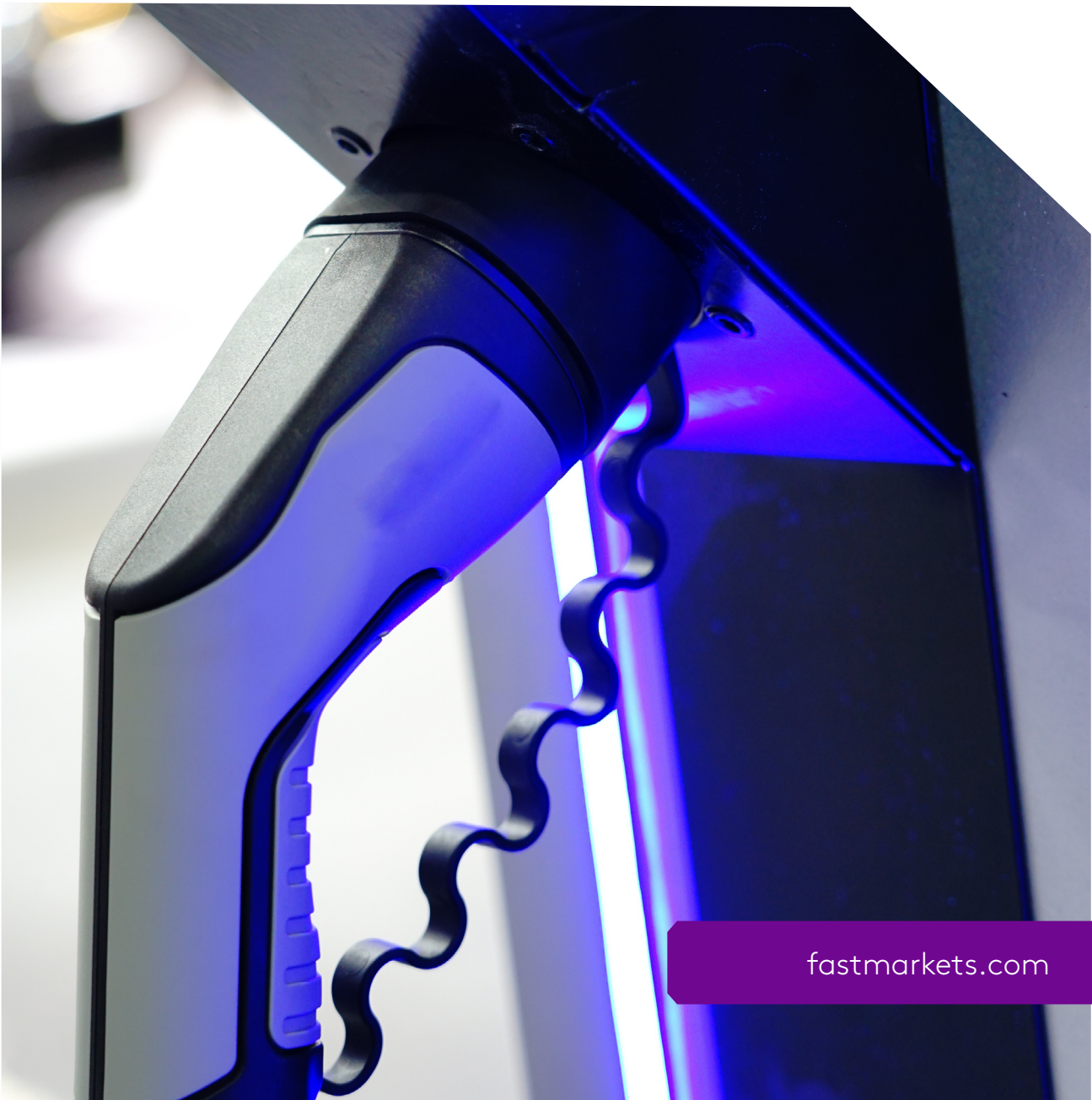


Mastering the EV revolution: Drive business success with Fastmarkets' battery material insights and forecasts



Introduction



Battery electric vehicles (BEVs) will remain the dominant source of battery demand, representing 60% of total battery demand by 2033.



In an era where environmental sustainability is paramount and governments and organizations are driving towards electrification, electric vehicles (EVs) have surged to the forefront of mobility solutions. Yet, amidst this electrifying transformation, a complex set of challenges confronts the EV industry.

As the call for more affordable EVs grows louder, so does the pressure on supply chains. This heightened demand has propelled prices of battery materials like cobalt and lithium to multi-year highs. Batteries, the lifeblood of EVs, are not just a critical component but often constitute a substantial portion of an EV's total cost, accounting for approximately 30% to 40% of their overall value. The repercussions of these price surges are far-reaching, casting a shadow of uncertainty over potential EV adopters. This makes the wider adoption of EVs an increasingly complex and calculated decision, with price fluctuations adding an element of hesitation for consumers.

Batteries account for approximately 30% to 40% of the total cost of an EV.



Supply and demand imbalances aren't the only thing market players have to worry about. The rapidly evolving nature of the battery materials market means it is often volatile. Factors like geopolitical tensions, policy shifts, scarcity of raw materials and market sentiment can also have a tremendous effect on the market.

These factors add to the growing list of concerns for those in the EV market.



How do I secure my supply of battery materials for the future?



How do I know which battery chemistry would be most cost-effective?



How is the current price momentum affecting my margins?

Building success

Yet, this unpredictability brings a wealth of potential for forward-thinking innovators and businesses. Those poised to seize the moment stand to not only drive the future of sustainable transportation but also reap the rewards of a burgeoning market hungry for EV solutions.

So, how do you succeed in a market that's ever evolving? To do so, you will need access to clear analysis and data that cut through the noise. A guide that can provide you certainty and clarity, so you can confidently plan for the long term while mitigating immediate risks.

In this complex landscape, Fastmarkets' battery materials insights and forecasts take center stage. Gain unprecedented clarity in the battery materials market with comprehensive insights from across the value chain, including new mining developments, prevailing cell chemistries, historical and forecasted raw material prices, EV adoption rates across regions and many more.



A rapidly evolving market

Given the evolving nature of the battery materials market, it's important to recognize that it is relatively new compared to other established metals markets, resulting in a level of opacity and unpredictability. This lack of visibility makes it difficult for market participants to have a holistic view across the value chain, preventing them from making effective strategic decisions.



Limited standardized metrics

Due to the market's relative infancy, the absence of standardized metrics and benchmarks makes it difficult to accurately compare and assess battery material and black mass prices and costs across the value chain and within different regions.



Rapid technological advancements

The evolving landscape of battery technologies and manufacturing processes adds complexity to pricing and cost analysis. For example, the development of direct lithium extraction techniques presents both opportunities and challenges in terms of production costs and supply chain dynamics.



Price volatility

Fluctuations in raw material prices, such as lithium, cobalt and nickel, impact the overall cost of battery production and create difficulties in forecasting and analysis.



Lack of transparency

Limited transparency across the supply chain from data availability, cell chemistry and cost structures make it challenging to gain comprehensive insights.



Complex supply chains

The global nature of the battery materials supply chain involves multiple stakeholders across different geographies. This complexity along with the fact that mining and production is concentrated in specific areas hinders effective forecasting and planning.

Overcome challenges with certainty

Navigating this dynamic terrain demands not only acute data but also accurate and reliable forecasts.

Make informed decisions, anticipate changes in the market and maintain a competitive edge with Fastmarkets' battery material insights and forecasts.

Four ways Fastmarkets battery materials insights and forecasts can help you



The price volatility of the battery materials market is affecting your day-to-day operations and margins. You want to optimize your supply chain by strengthening your purchasing strategy and inventory management. However, without data on price changes and material costs, your next steps are based on guesswork.

What you need: Short-term forecasts

What you get:

- Two-year forecasts for lithium, nickel, cobalt, manganese and graphite
- Analysis of pricing mechanisms, including spot, contract and formula-based spodumene prices
- Key trends that impact price dynamics
- Regional price difference of key materials

How it helps:

- Minimize time spent searching, auditing and evaluating information
- Gain a deeper understanding of the trends driving price changes
- Make better decisions about the timing of purchasing and management of inventories
- Minimize margin risks and secure supply chain



Key insight

A resource boom is currently taking place in Indonesia who currently account for 55% of current global supply. This figure is expected to grow to over 70% in the next five years.

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Supply and demand imbalances are affecting how you plan for the long term. The volatility of raw material prices makes it difficult to secure supplies and ultimately impacts vehicle profitability. Outside of supply and demand imbalances, other risks, such as geopolitical tensions or regulatory developments, also affect how you plan for the future.

What you need: Long-term forecasts

What you get:

- 10-year forecasts for lithium, nickel, cobalt, graphite, copper and manganese
- Supply and demand forecast of the EV market by region
- Mine supply breakdown and forecast
- ESG and political consideration analysis
- Access to expert analysts

How it helps:

- Gain visibility into extensive historical data and forecasts for evaluating future demand, supply and pricing of crucial battery materials
- Identify potential bottlenecks in your value chain
- Learn about the production capacity and timing of new projects so you can make strategic investments or partnerships to secure future materials supply
- Understand the current regulatory environment and how to navigate it



Key insight

The demand for lithium-ion batteries is expected to grow five-fold from 821 gigawatt hours in 2023 to 4,328 gigawatt hours in 2033 at a compound annual growth rate (CAGR) of 16%. This rapid growth has led to a steep increase in demand for battery metals such as lithium, nickel and cobalt.

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You want to reduce price risks in your value chain, but you have no visibility over the production of raw materials and the costs that are associated with it – from prices of different cathode chemistries to manufacturing costs. This affects how you set cost expectations and how you plan procurement strategies.

What you need: Battery Cost Index

What you get:

- CAM cost model
- Cell cost model
- Historical and forecast (up to 2033) cost data for LFP and NCM (111, 523, 622, 811)
- Monthly updates on historic cell costs and cell cost forecasts every quarter
- Tailored cost model according to your specific needs, from bespoke cell designs or incorporating other cost variables such as location

How it helps:

- Fastmarkets' cell cost model incorporates the CAM cost model into a tool that enables the user to quickly calculate the total materials and manufacturing cost of a bespoke cell design across different regions.
- Understand the influence of battery material prices on different cathode chemistries
- Evaluate price risks in raw material costs to decide how to reflect this in purchasing contracts
- Budget accurately, anticipate price fluctuations and effectively track cost variations over time



Key insight

While LFP is taking market share from NCM batteries, NCM is still expected to retain the dominant market share. It's forecasted that EVs containing NCM batteries should reach 19.5 million units in 2030 and that the EV industry will account for 47% of the total demand for cobalt by then.

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With the increased emphasis on ESG concerns, scrutiny surrounding the sustainability of the battery materials market and focus on the emerging battery recycling market, you decide that you want to invest in battery recycling to close the EV supply chain loop. However, there are various factors that affect your investment that are unknown to you, such as forecasted end-of-life batteries vs scrap materials, black mass prices, as well as winning recycling technologies.

What you need: Battery Recycling Outlook

What you get:

- Ten-year scrap and black mass availability outlook
- Predicted scrap vs manufactured volumes
- Key ESG and supply chain qualification criteria
- Economics of recycling different battery chemistries and technologies

How it helps:

- Explore channels to reducing your carbon footprint by sourcing recycled materials
- Get access to expert assessments of regional capabilities and technology capacity of battery recyclers
- Learn about the latest recycling policy and regulation developments in different regions
- Develop a profitable recycling strategy before going to market



Key insight

Production scrap currently accounts for 73% and end-of-life (EoL) 27% of all battery scrap. However, by 2031, EoL will take over as the main source of scrap when some of the EVs being made now are ready to be recycled. By 2033, it's forecasted that EoL to account for 59% and production scrap for 41%.

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Why choose Fastmarkets?



Trusted data

Price data is market-reflective and backed by IOSCO-compliant methodologies



Expert analysis

Team of over 30 experts working exclusively with battery materials



Experience

Over 130 years of benchmarking commodities experience



Exchange backing

Backed by the major metal exchanges across the world



- The LME, CME and SGX have all launched or announced futures contracts that are cash settled against the Fastmarkets lithium indices.
- About 80% of the world's cobalt trade is referenced to the Fastmarkets benchmark, with Lithium currently transitioning towards indexation
- Robust presence in the Asian spot markets
- Fastmarkets launched the first seaborne black mass price and the first price in Asia outside of China

Gain a competitive edge with insights and data you can trust.

Talk to us



Bringing you commodity prices, news and market analysis
for more than 150 years

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