



Fastmarkets



Outlook for energy raw materials - Trump 2.0

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The North American EV and BRM markets are changing. Policy shifts create new opportunities and challenges

1

Uncertainty from Trump's evolving statements and actions

2

New US priorities emerging which will affect global markets

3

Oversupply and low prices hinder investment in battery raw materials



**I will end the electric vehicle
mandate on day one. Thereby
saving the U.S. auto industry
from complete obliteration**

President-Elect Donald Trump at
the RNC in July





I'm for electric cars; I have to be because Elon endorsed me very strongly

President-Elect Donald Trump at a rally in August

US President Trump – Executive orders



President Trump has enacted a significant shift in US energy policy. Trump cancelled all of Biden's executive orders to address climate change. Instead, Trump declared a national energy emergency, citing national security as the prime concern in energy matters.

- **Eliminating the EV mandate** by removing regulatory barriers to vehicle access and promote true consumer choice, by terminating, where appropriate, state emission waivers that function to limit sales of ICE vehicles
- Considering the **elimination of unfair subsidies** and other government-imposed market distortions **that favor EVs** over other technologies
- **Terminating the green new deal**, ordering agencies to immediately **pause the disbursement of funds** appropriated through the IRA and the Infrastructure Investment and Jobs Act (IIJA), including but not limited to funds for EV charging stations
- Establish the US as the **leading producer and processor of non-fuel minerals**
- Ordering an immediate review of all agency actions that potentially **burden the development of domestic energy** resources, this includes critical battery raw materials
- **Restore America's mineral dominance** and rescind actions that impose undue burdens on the domestic mining and processing of non-fuel minerals
- Expedited permitting and leasing of **energy and natural resource projects in Alaska** is ordered
- Assess the **national security implications of the US's mineral reliance** and the potential for trade action
- Assess the quantity and inflow of minerals into the US that are likely the product of **forced labor** and whether such inflows pose a threat to national security
- **Enhance the competitiveness of American mining** and refining companies in other mineral-wealthy nations
- Immediate **withdrawal from the Paris Climate Agreement**
- Potential for 25% **tariffs** on Canada and Mexico and 10% on China



Changes in Washington create increased uncertainty in North American BRM markets, but the impact globally is just one of many bumps on the road of strong growth.

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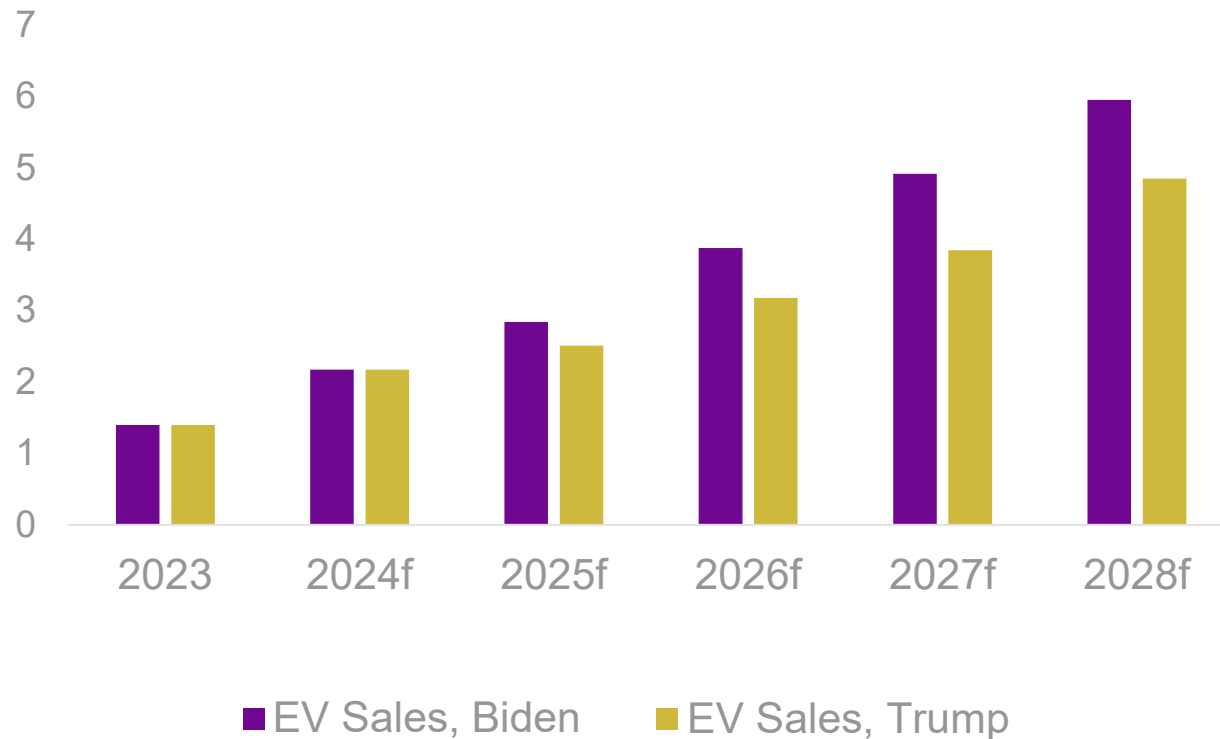
Oversupply and low prices hinder investment in battery raw materials

The second Trump Administration presents a different environment



US EV sales forecast - Trump vs Biden scenarios

Mn units



Trump scenario is the new base case

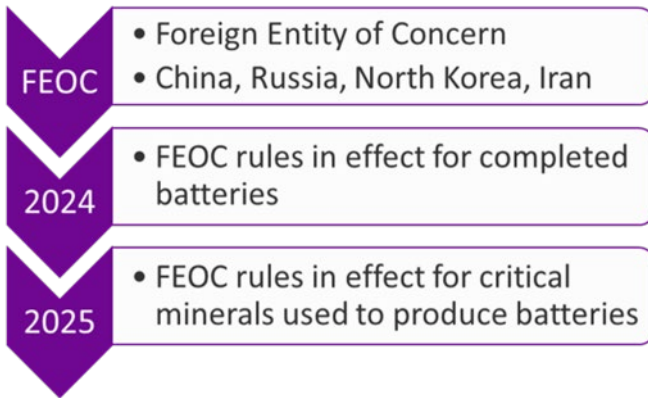
- 1) **IRA 45X and 30D tax credit:** Potentially a more restrictive view of **FEOC** regulations
- 2) Removal of **EPA** vehicle standards and commitments to **government fleet electrification**
- 3) **Tariffs** and potential new **trade conflicts** even with Canada, Mexico and other FTA partners

Source: Fastmarkets Long Term Forecasts

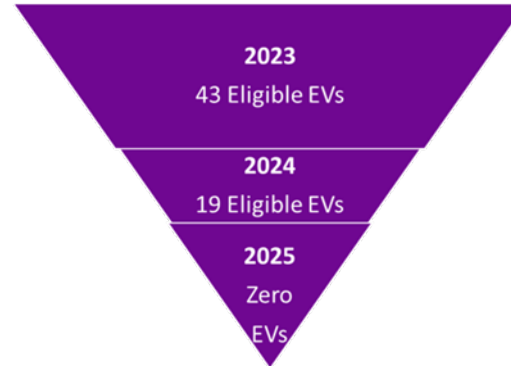
Uncertain future for IRS 30D and 45X tax credits - FEOC



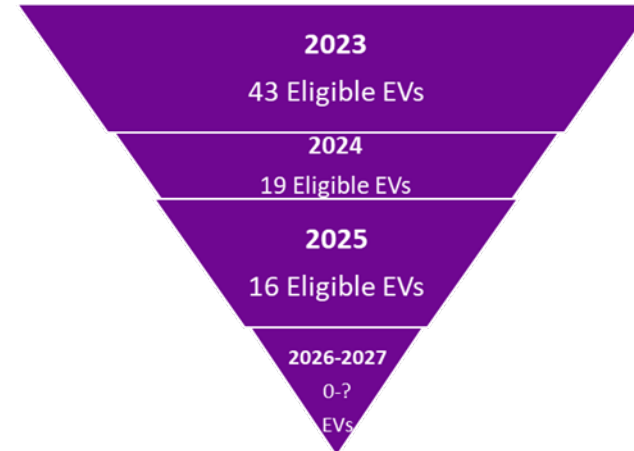
IRA regulations with FEOC sourcing



Original IRA/FEOC impact on IRS 30D credits



Post May 2024 IRA/FEOC impact on IRS 30D credits

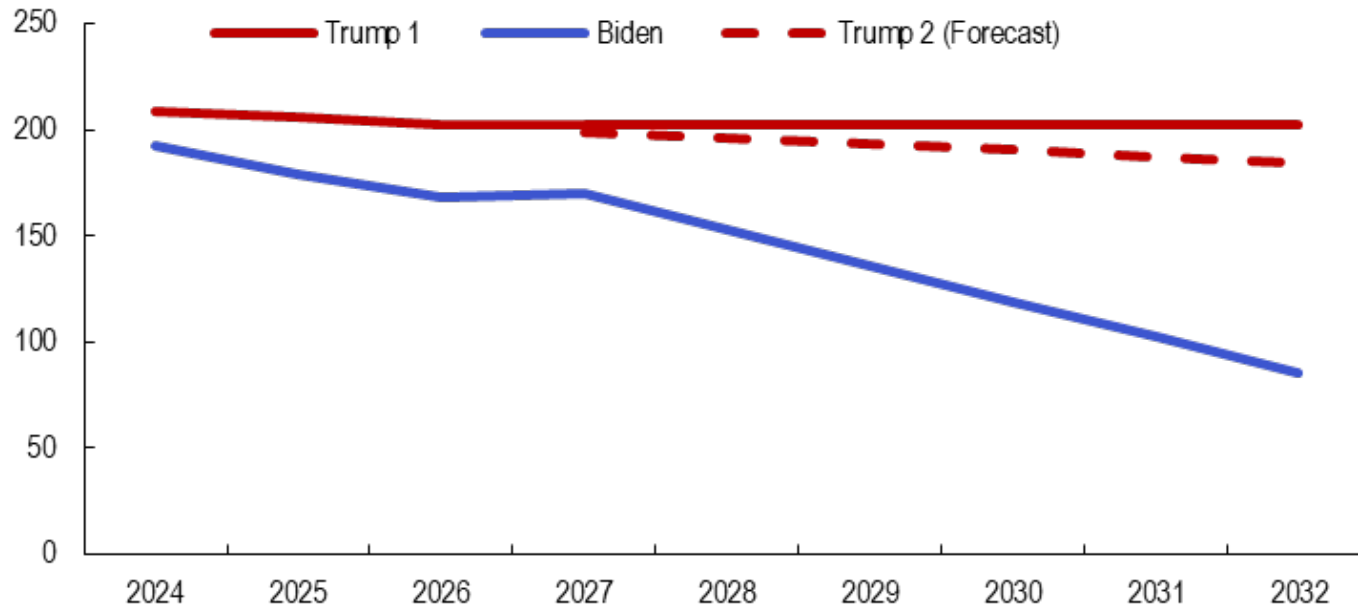


- Two-year extension for graphite in anodes, giving the industry until 2027 to reduce its dependence on Chinese graphite anode supply, but **all other critical minerals must meet the FEOC requirement in 2025**
- Achieving more diversified graphite anode supply chain a very real challenge to EV and battery producers
- Suspect there will still be significantly reduced EVs eligible for 30D credits in 2027, if they still exist
- **Elimination of the \$7,500 30D tax credit high on Trump's agenda**, may be eliminated as part of legislation to extend Trump's 2017 tax cuts which are due to expire at the end of 2025
- In 2025, only **16 vehicle models eligible** for 30D tax credits out of around 120 EV models sold in US
- **45X tax credits may be more secure** based on administration's push for increased manufacturing and plant locations in Republican states

Elimination of the EV mandate



Targets for light-duty vehicle greenhouse gas (GHG) standards (CO2 grams/mile)



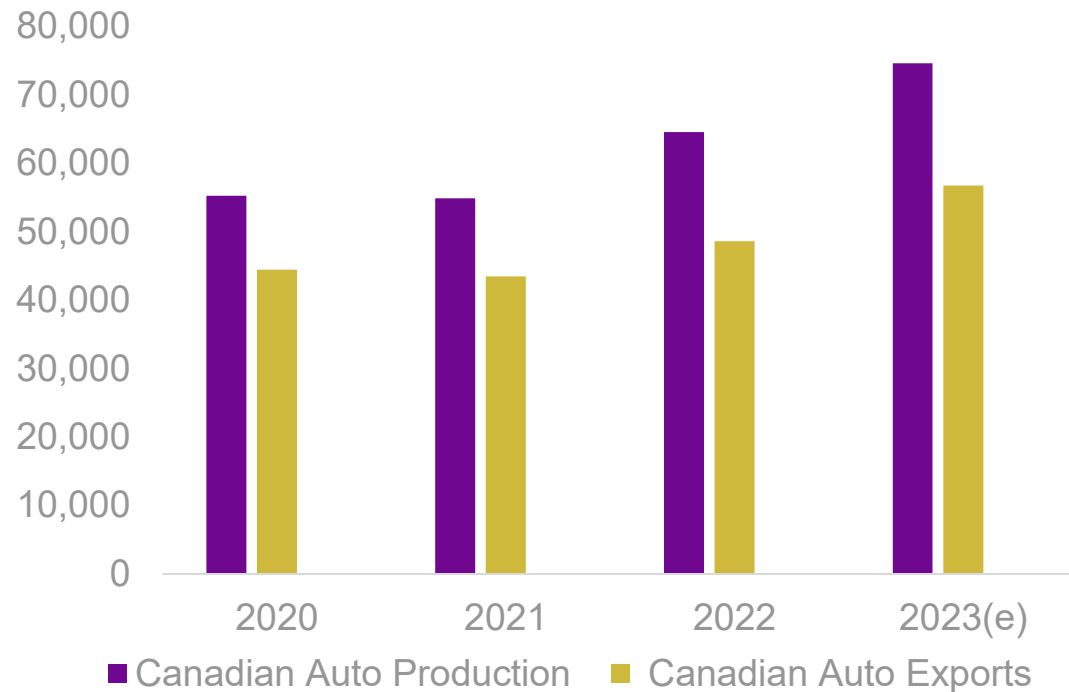
Source: Fastmarkets Long Term Forecasts

- ‘EV mandate’ was **not an official mandate** – refers to the % of total vehicle sales to be EVs to meet EPA emission standards
- Removing regulatory barriers to vehicle access, promote consumer choice
- Actions to reverse emissions standards will likely be challenged in court and will **pause any immediate action on EPA standards**

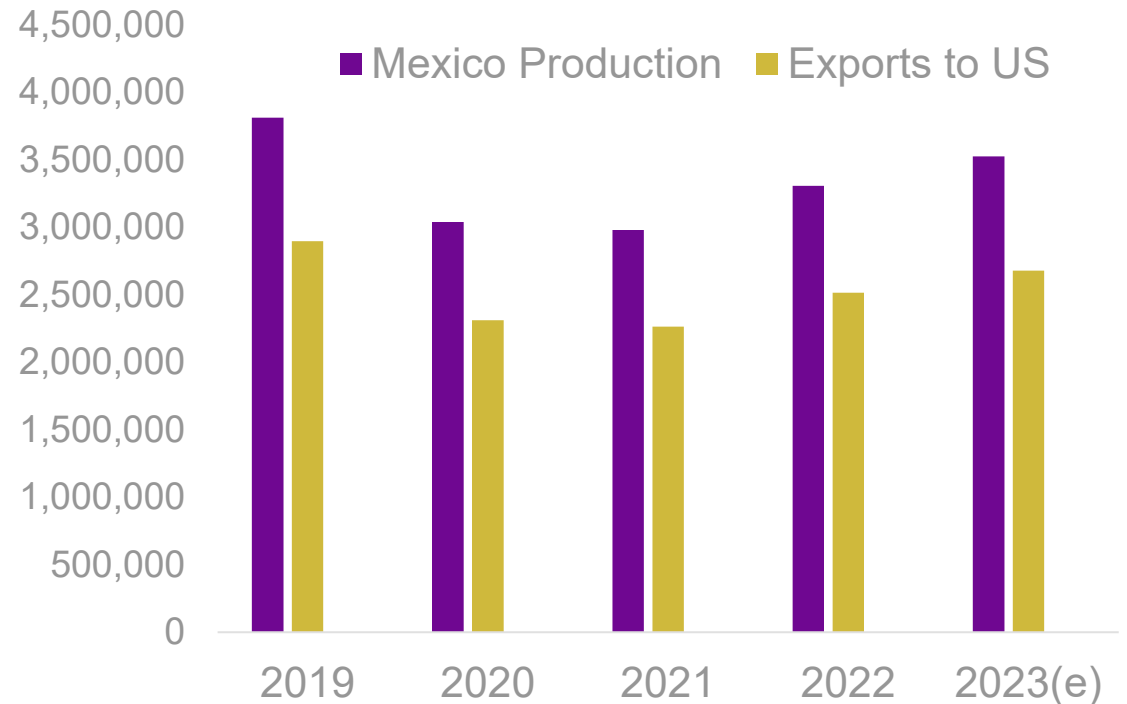
Tariffs would be very disruptive to auto production with US automakers intertwined with Canada & Mexico



Canadian auto production and exports
Thousand US Dollars



US share of Mexican auto production
Vehicles

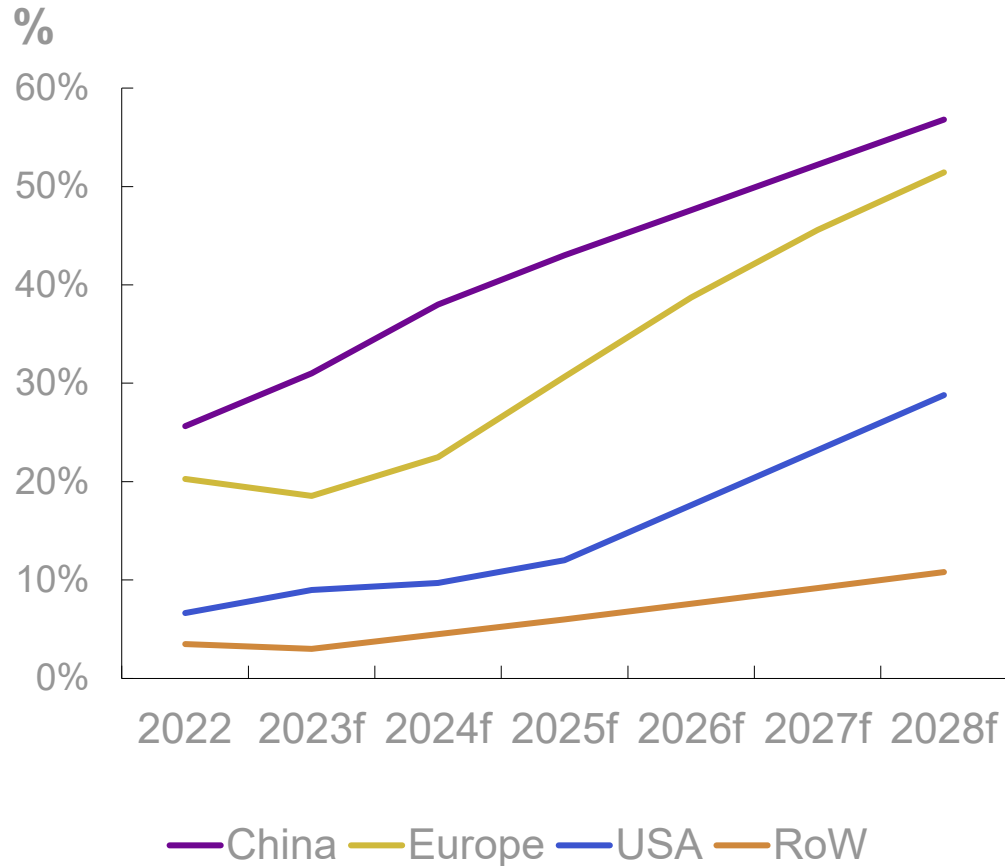


Source: Statistics Canada, Mexican Automotive Industry Association (AMIA) and ITA Office of Transportation and Machinery

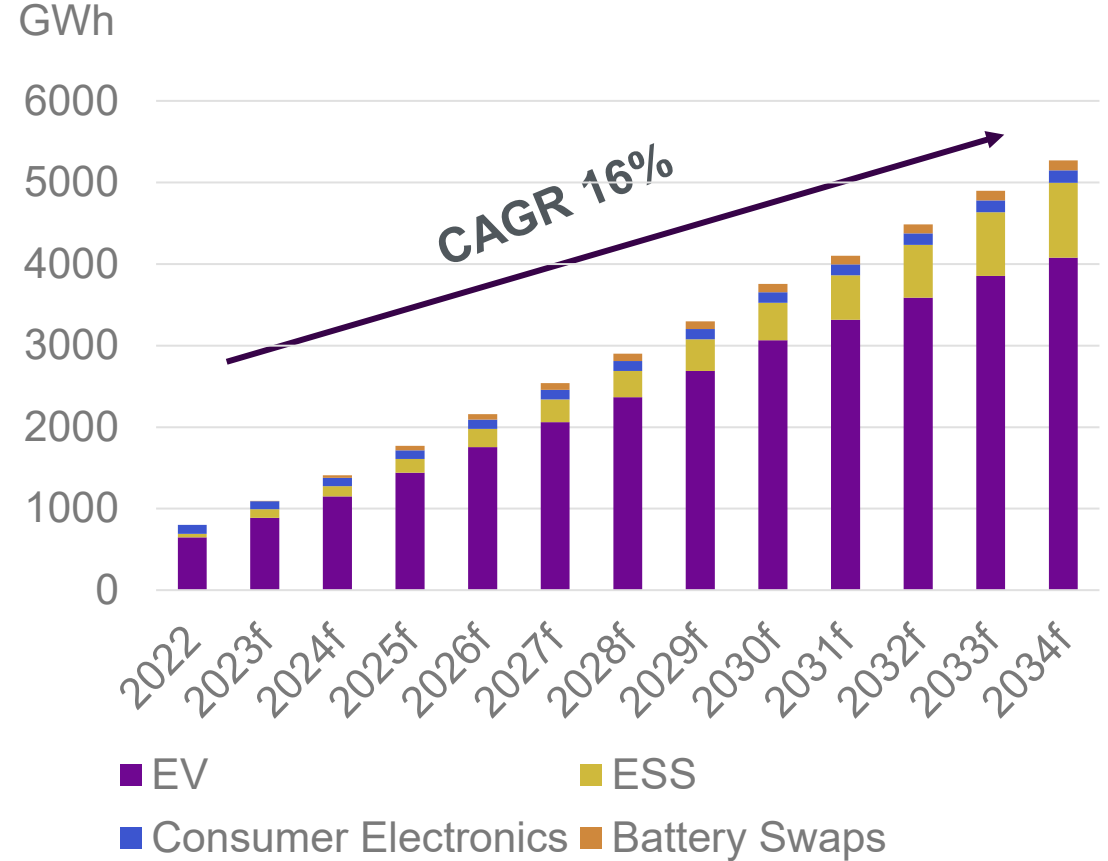
Despite uncertainty, battery demand growth still buoyant



Regional EV penetration rates to 2028f



Demand by sector (2022-2034)



Source: Fastmarkets Long Term Forecasts, national data sources



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Global supply and demand picture differs from North America

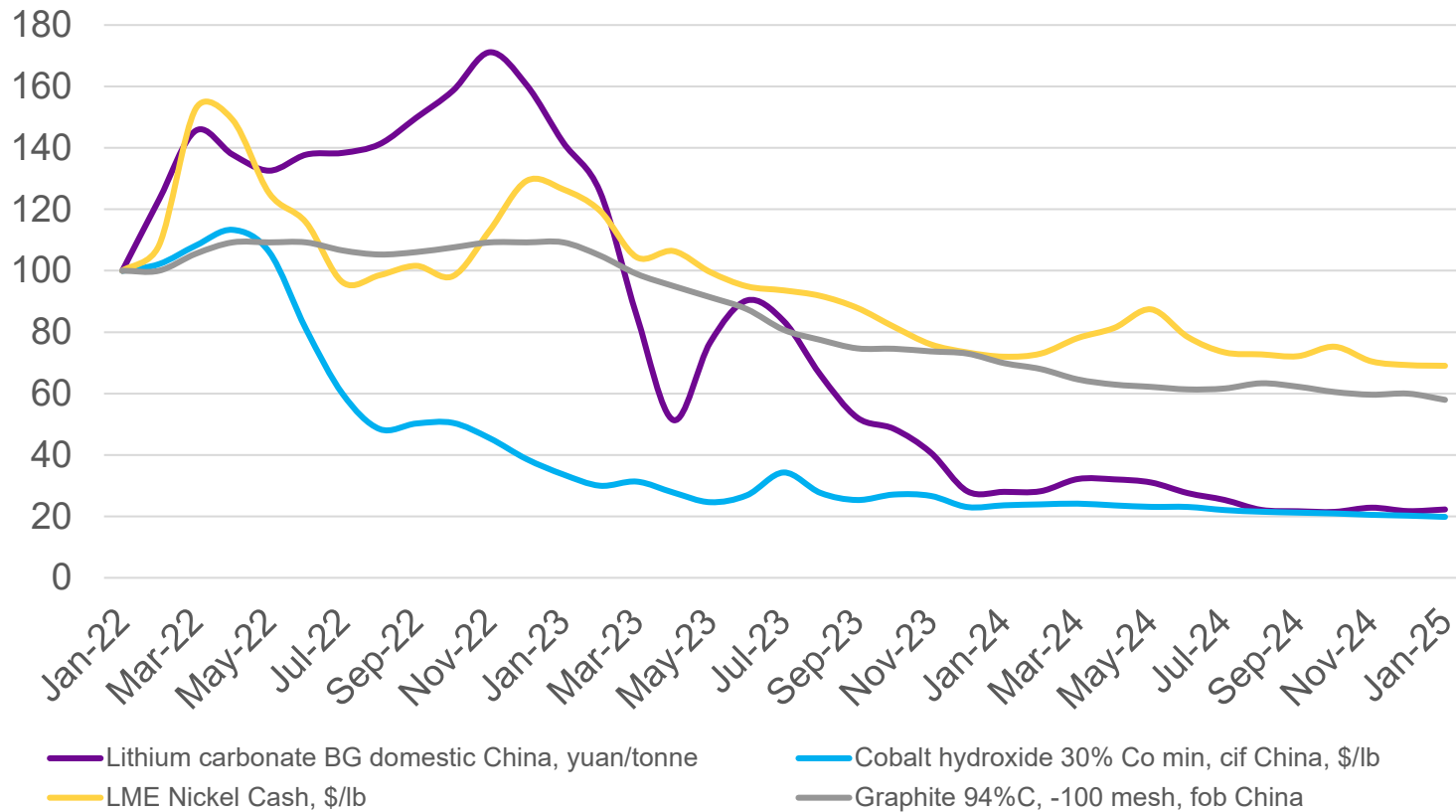
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Oversupply and low prices hinder investment in battery raw materials

Battery raw material prices on persistent downtrend



Key battery raw material price indices
(Jan 2022=100)



- Prices in **decline** for the past 2-3 years
- **Excess capacity**, particularly in China, responsible for supply outpacing demand
- Chinese producers also maintaining **low-price environment to dominate global markets**, discourage competition
- Prices **unsustainable**, at or near pricing floor
- Low prices prompting **production cuts**, helping to rebalance markets
- Prices expected to **bottom out in 2025**, but will not return to 2022 levels

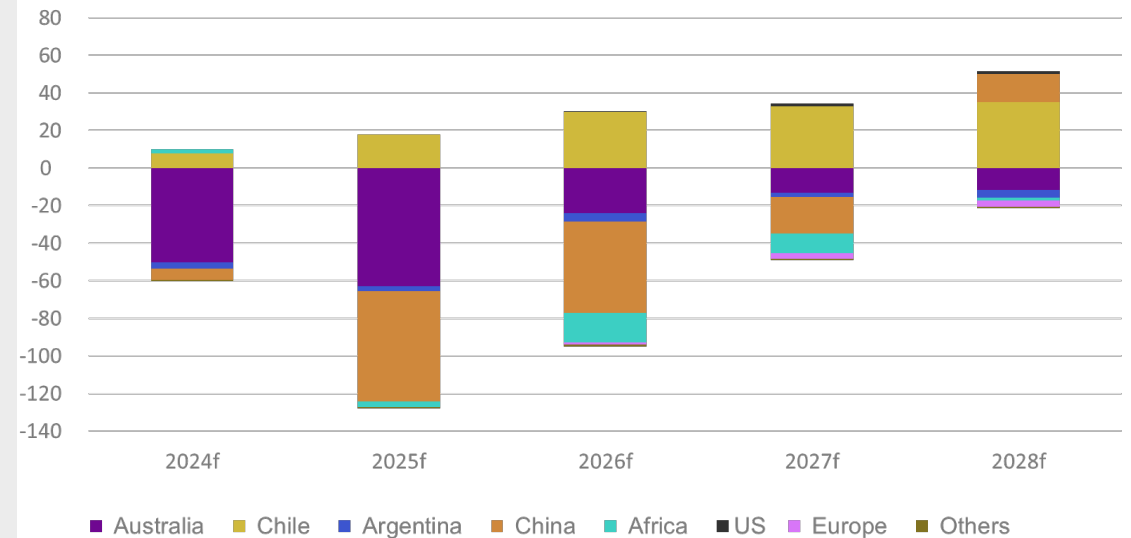
Lithium: growing supply restraint helping to rebalance market



Rebalancing of the market is underway:

- Low prices have prompted **production cuts** and announcements of project delays and curtailments
- But some **new supply** still ramping up
- Seeing cuts in both **Australia** and **China**
- The low-price environment threatens to play into the hands of **China**

Mines supply changes Q3'24 vs Q4'24 forecast
'000 tonnes LCE



Source: Fastmarkets Lithium Long Term Forecast

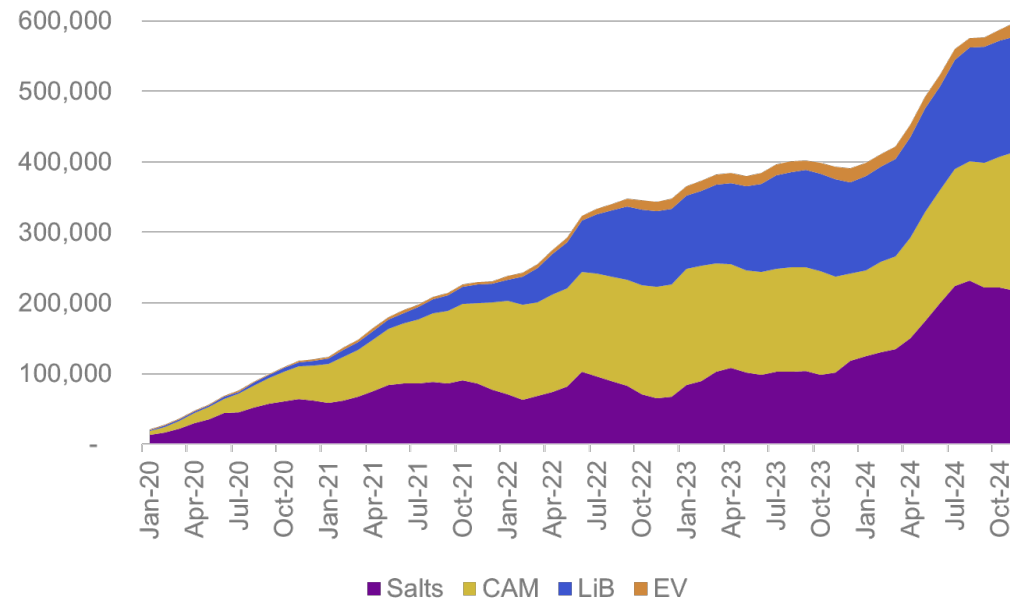


Further production cuts and delays would speed up the **rebalancing** of supply & demand

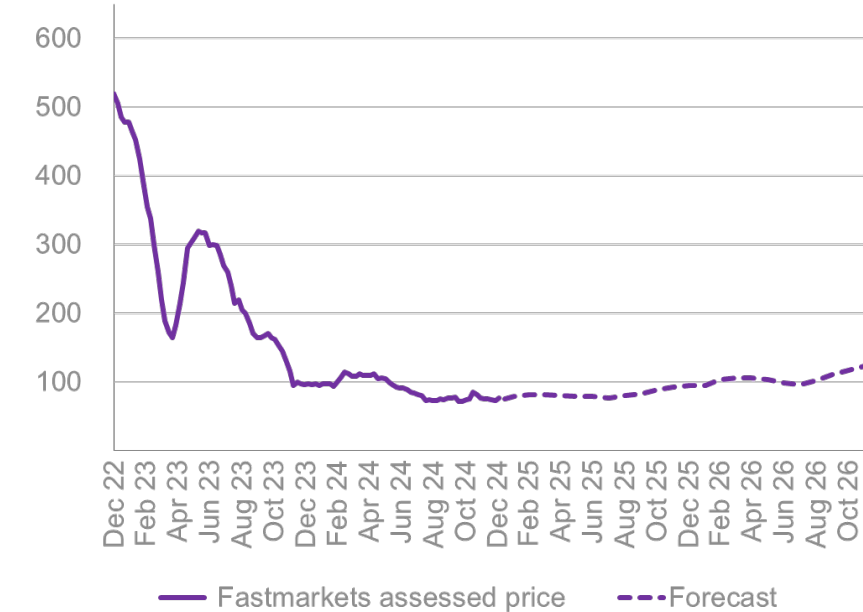
Lithium: some price support in 2025, but inventories will cushion market from actual shortage



Implied inventory level in China
Tonnes LCE

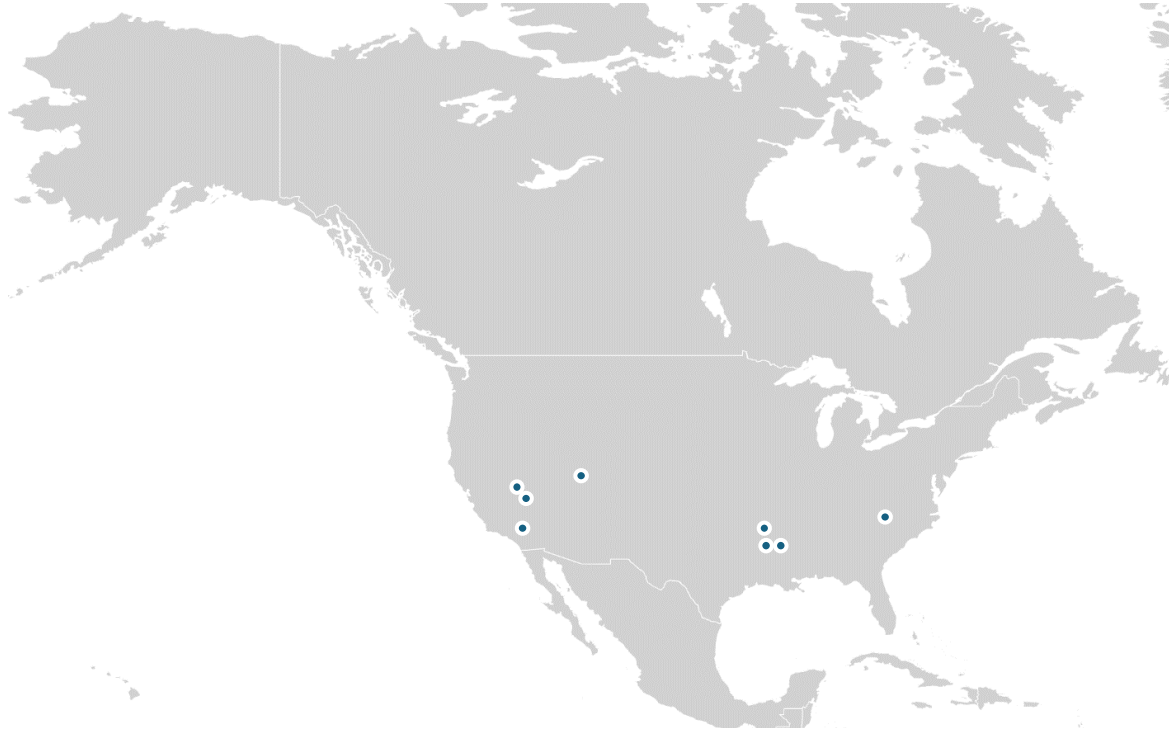


Lithium carbonate BG China spot exw domestic
China
'000 Yuan/tonne



- We expect a **tightening market** to provide some **support for prices**, gradually in 2025 because of excess inventory, before accelerating thereafter
- Forecasting a **small deficit/balanced market in 2026** due to supply expanding at a faster pace again, supported by recovering prices

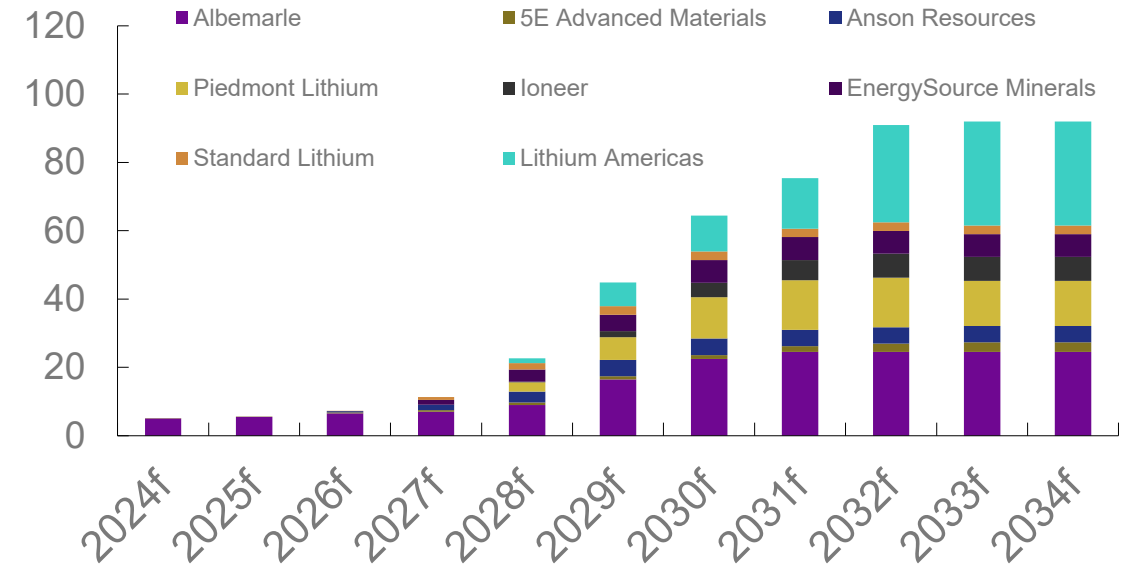
Lithium: US has production potential, but also challenges



Legend

● USAassets

US production forecast
'000 tonnes LCE



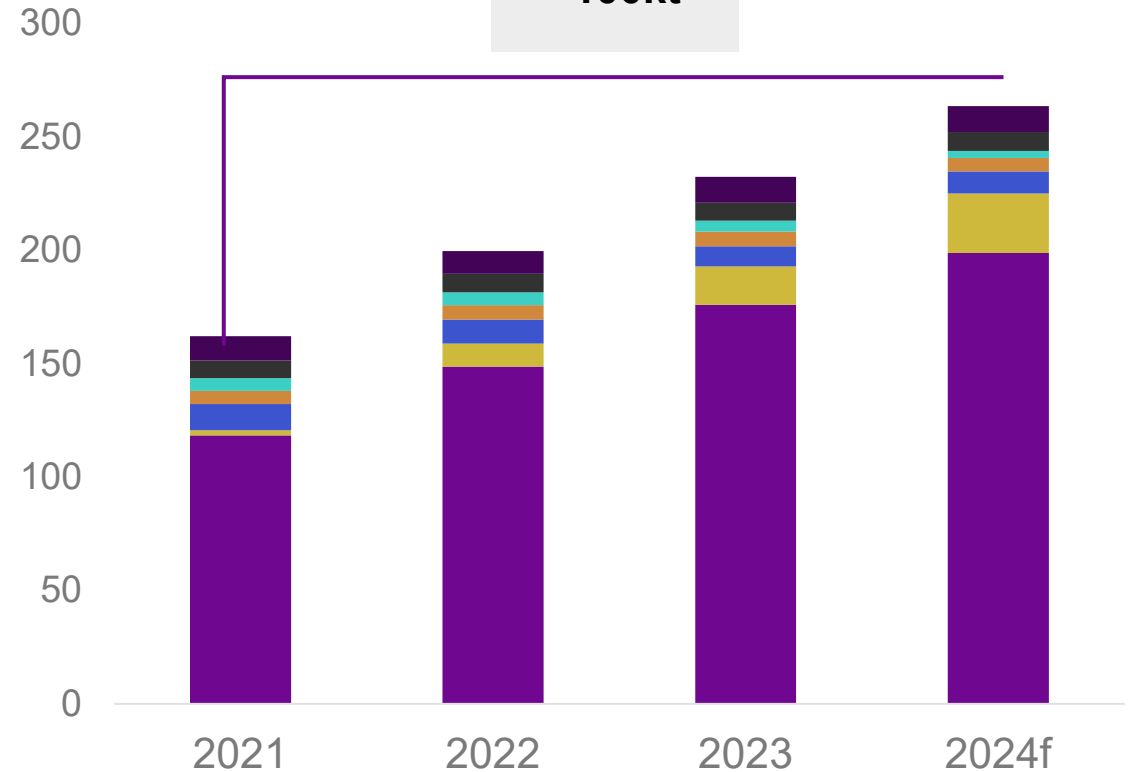
Source: Fastmarkets

Cobalt: mined supply growth has outpaced demand



- **Bullish copper prices** have incentivized mined supply growth in the DRC
- **Surplus** to persist to the end of the decade
- Status as a **by-product** leave little room for supply cuts
- **China** and **Indonesian**-origin metal will continue to pressure prices

Mined supply
'000 tonnes Co



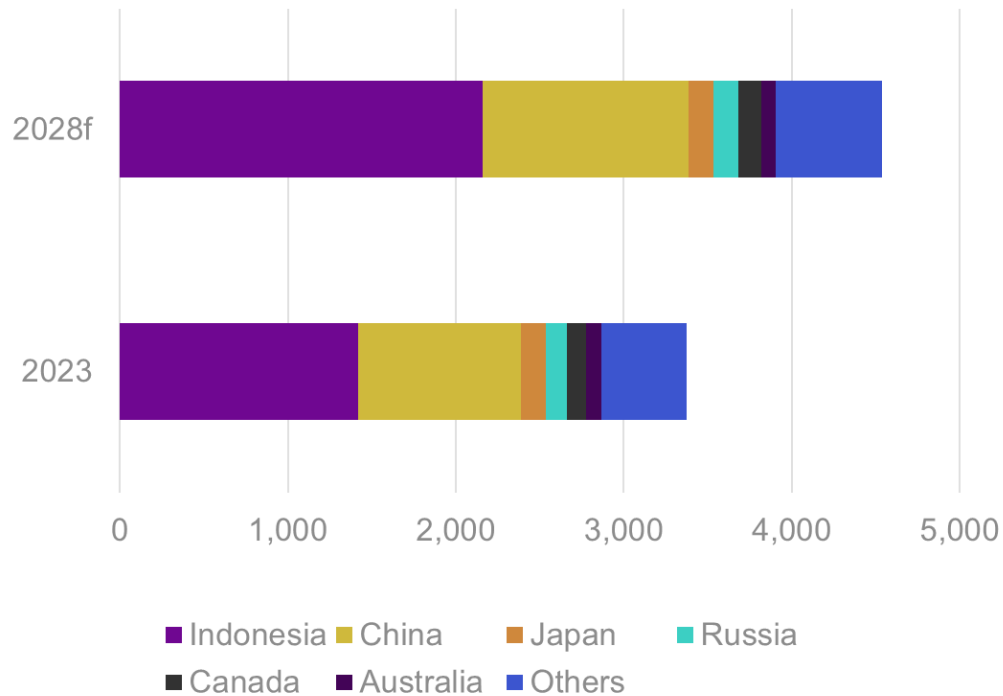
Source: Fastmarkets Cobalt Long Term Forecast

Nickel: market slowly rebalancing but remains in surplus



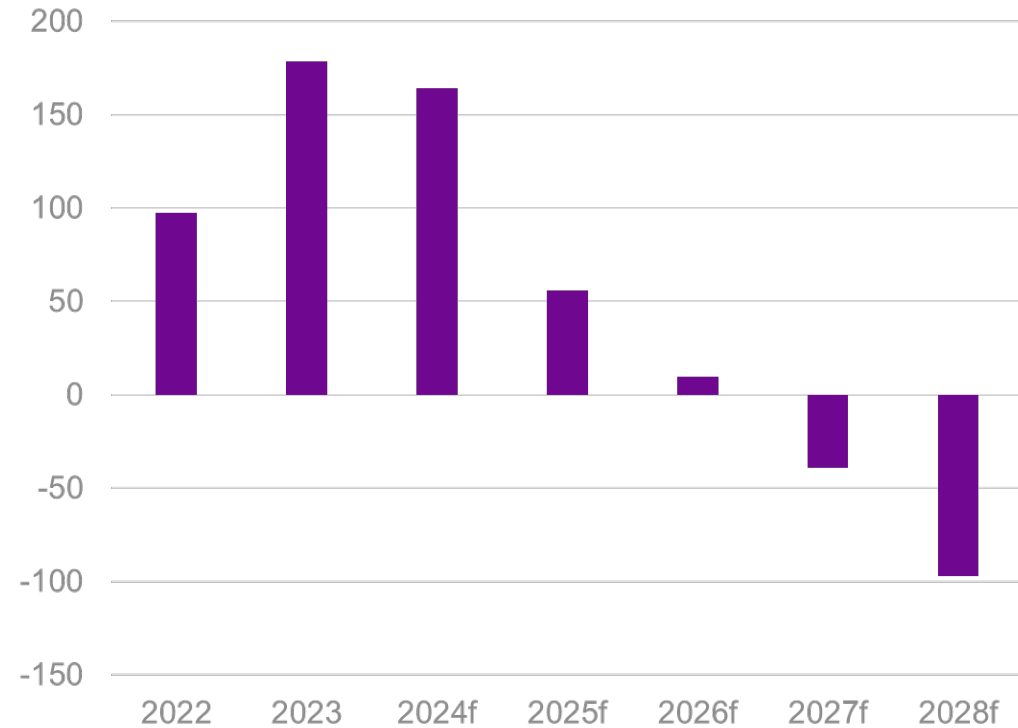
Primary nickel production

'000 tonnes nickel, before disruption allowances



Nickel market balance

'000 tonnes nickel



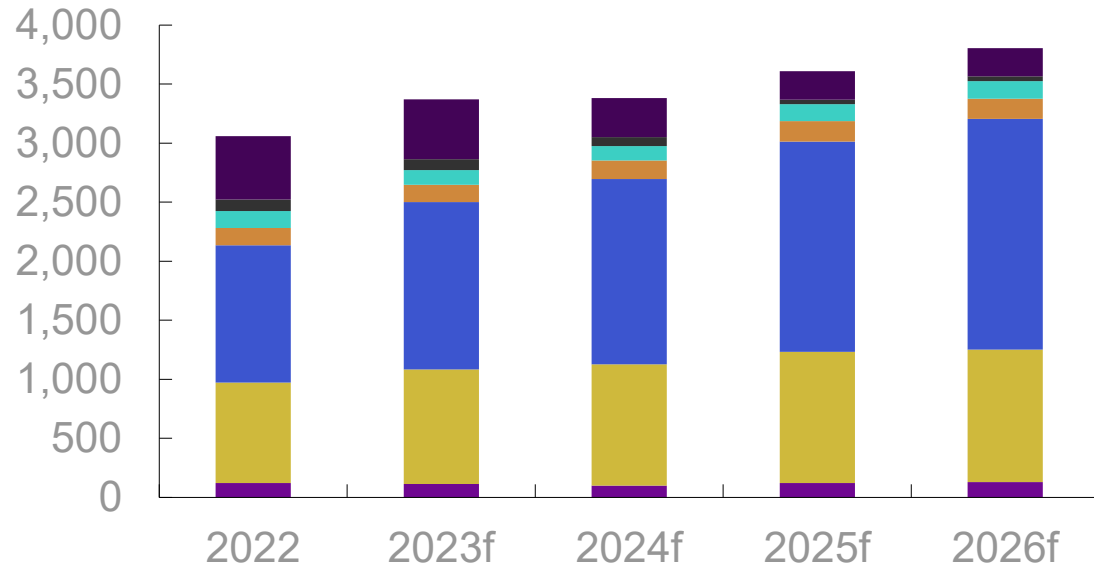
- Nickel market in **persistent surplus** in recent years, production cuts have been insufficient
- Primary production driven by **China and Indonesia**, but growth in Indonesian ore availability increasingly uncertain

Nickel: limited North American supply pipeline

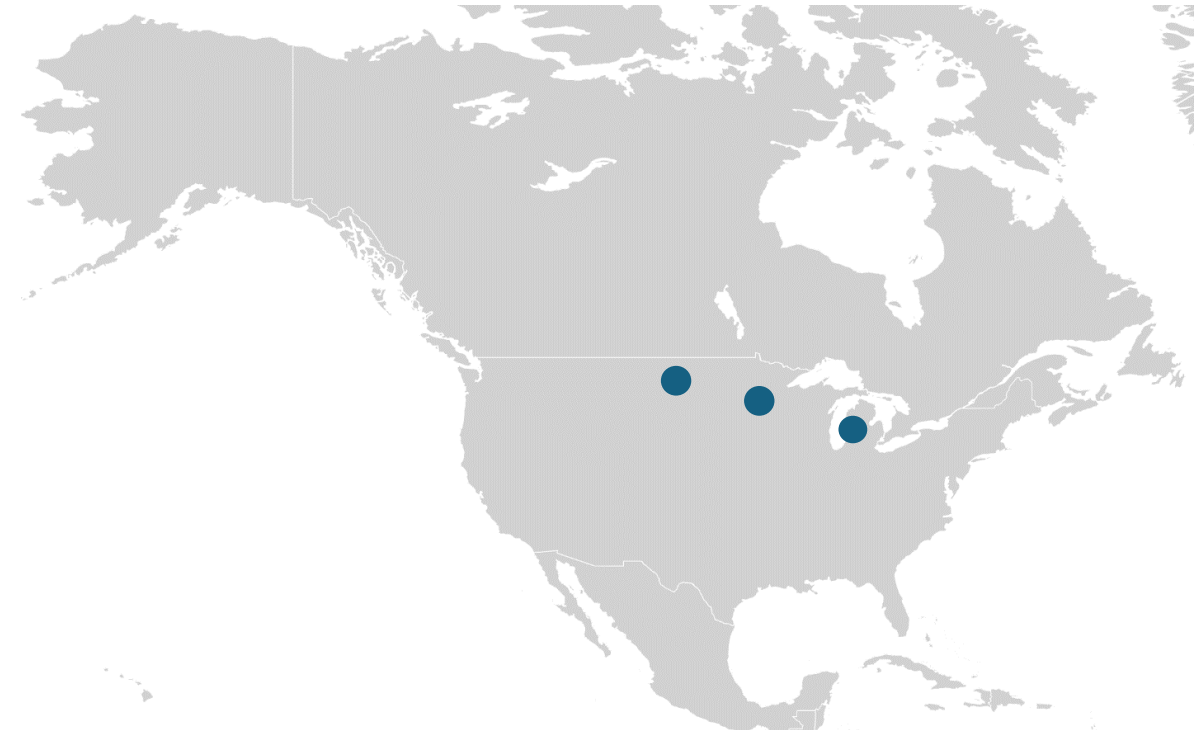


Refined nickel supply to 2026

kt Ni



- Canada
- China
- Indonesia
- Japan
- Russia
- Australia



- Legend
- USA assets

Source: Fastmarkets

Graphite: China controls price dynamics across anode supply chain



China natural graphite market share



~ 80% of global natural graphite



~ 99% of natural graphite pre-AAM (uSPG)



~ 97% of natural graphite AAM (cSPG)

China synthetic graphite market share



~ 57% of global synthetic graphite output



~ 99% of synthetic graphite AAM output



~ 99% of synthetic graphite AAM shipments



China graphite AAM market share

~ 98% of global AAM production

Source: Fastmarkets Long Term Forecasts

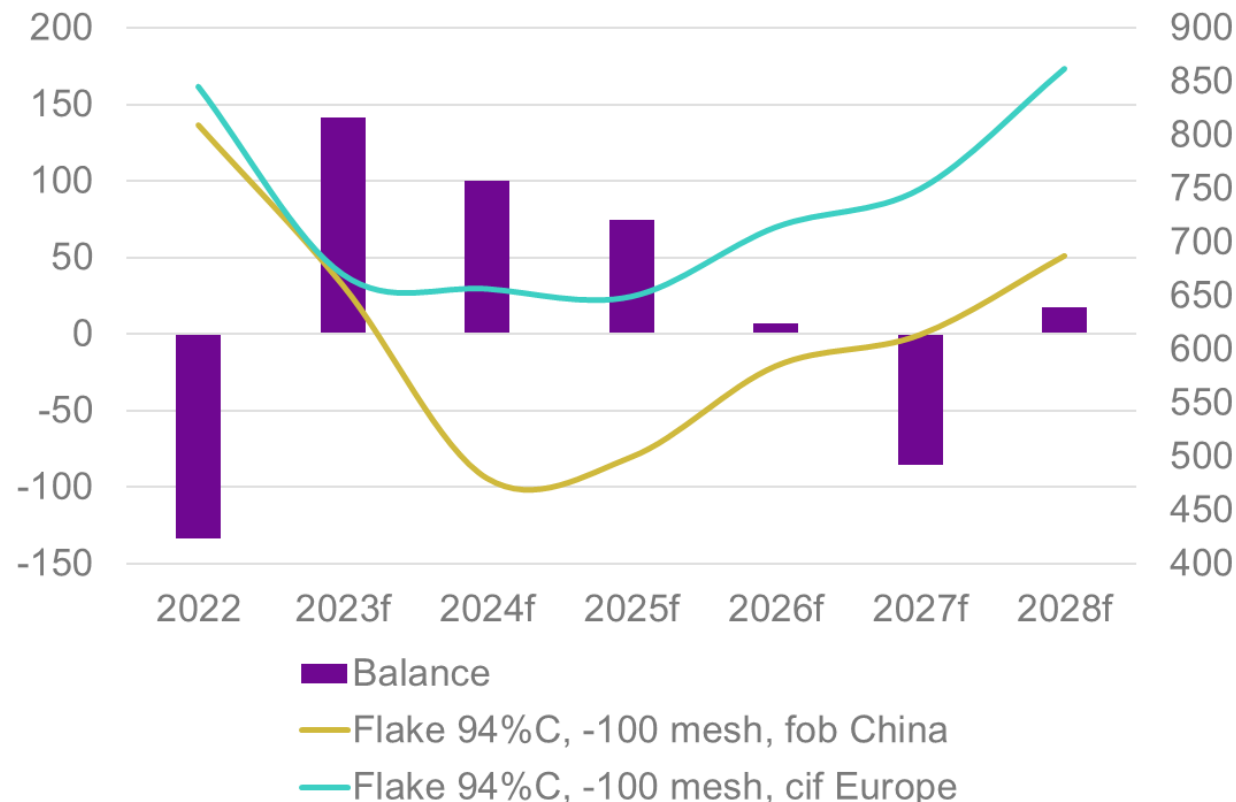
Graphite: surplus in 2025, more balanced from 2026



- **Demand** outlook remains largely positive, though EV uptake is slowing across several markets including US
- Natural graphite facing **intense competition** from the synthetic graphite sector
- Prices **below operating costs** for new and existing producers
- Unsustainably low prices will prompt additional graphite **production cuts**, helping to rebalance the market
- EU/US will maintain **premium pricing** reflecting:
 - geopolitical tensions
 - protectionist measures
 - higher prices required to support localized, diversified supply

Total graphite battery balance vs price

'000 tonnes (LHS), \$/tonne (RHS)



Takeaways



1. Demand

—
Headwinds and **uncertainty** across major demand drivers



2. Supply

—
Domestic production **lacks existing infrastructure** and faces a **challenging development process**, but **Trump executive orders** appear favorable to development



3. Prices

—
Global **oversupply** suppressing prices, while **trade wars** create uncertainty in a market dealing with short-term headwinds

Thank you

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