

Global PV Storage Insights

Expected ROI of nickel manganese cobalt battery project in Indonesia 2025



Overview

What is Indonesia doing about nickel refining?

Indonesia is not stopping at nickel refining. Its endgame is to develop a full-fledged EV battery supply chain and, eventually, an EV manufacturing ecosystem. To achieve this, the government has implemented policies to:

Is Indonesia supplying half of global nickel needs?

The Energy Shift Institute (Energy Shift) is of the view that Indonesia's share of global battery production capacity is far out of step with its dominance in supplying half of global nickel needs. This observation should not come as a surprise to industry insiders as nickel is only one among many determinants of battery and EV production.

Are nickel-to-domestic EV batteries a problem in Indonesia?

A prior analysis published in March last year underscored the weak presence of nickel batteries in Indonesia's EV market.³⁵ This casts attention to the disjointed state of narratives in nickel-to-domestic EV development as the type of batteries deployed in the domestic market will influence the battery manufacturing build-out. Figure 5.

What fuels Indonesia's nickel plan?

Several things fuel Indonesia's nickel plan. A 2020 ban on raw ore exports spurs local smelting. Cash from China, Japan, and South Korea funds projects like high-pressure acid leaching (HPAL) plants. These support battery hubs. Indonesia also wants to shift from raw exports to making high-value goods like EV batteries.

Why did Indonesia ban nickel smelting & refining in 2020?

These batteries power leading EV brands like Tesla, BYD, and CATL, making nickel a sought-after commodity in the global clean energy transition. Recognizing this, the Indonesian government banned raw nickel ore exports in

2020, forcing foreign companies to invest in smelting and refining facilities within Indonesia.

Will Indonesia make a leap into battery production at a significant scale?

47 BNN Bloomberg. Indonesia to trace nickel in bid for US critical minerals deal. 16 November 2023. which production started just last year. Deeper progress into the value chain, such as precursor materials and cathode, is anticipated, but whether the leap into battery production at significant scale can be achieved is highly questionable.

Expected ROI of nickel manganese cobalt battery project in Indonesia

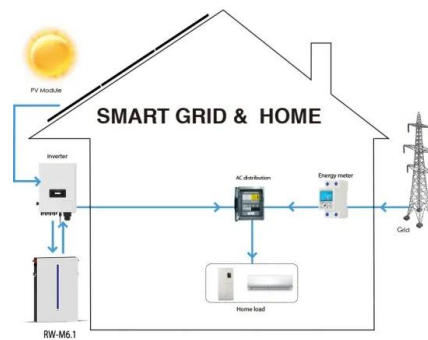


Battery Metals at Risk: Securing Lithium, Cobalt & Nickel Supply ...

Explore the challenges & opportunities in battery metal supply chains. Learn about the IEA's insights on lithium, nickel, and China's dominance in the EV market.

CATL Breaks Ground on Indonesia Nickel and Battery Industrial ...

Few updates have been released since then. Upon completion, the project is expected to make Indonesia the largest EV battery production hub in ASEAN. Once ...



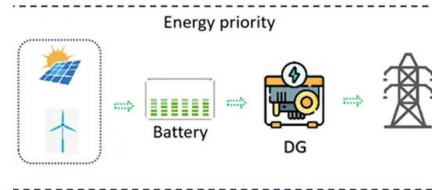
[Fastmarkets Monthly BRM Update 2025](#)

The speculative bubble burst, revealing a market still grappling with oversupply and weak downstream demand, particularly in the nickel-cobalt-manganese battery sector. . Market shifts ...

LG's \$1.7 Billion Battery Investment Expands in ...

The plant produces prismatic battery cells using LG's proprietary NMC 811 chemistry (80% nickel, 10% manganese, 10% cobalt), which delivers

energy density exceeding 700 Wh/L while reducing cobalt ...



Nickel Frenzy: Demand Set to Triple by 2030 - Is the Market ...

...

The company's economic assessment is expected to be completed by 2025, contributing to the development of local critical mineral sources. In conclusion, the global ...

Indonesia Leads the Global Nickel, Cobalt, and Lithium Industry!

2025 Indonesia Mining Conference and Critical Metals Conference Date: June 3-5 Location: Pullman Jakarta Central Park, Jakarta, Indonesia The conference focuses on ...



Europe's cobalt supply security outlook and the potential role ...

...

Even with the expected increase in high nickel/low cobalt manganese (NCM) and cobalt-free lithium-iron-phosphate (LFP) batteries, as well as other emerging cobalt-free battery ...



[SMM Analysis] Analysis of Indonesia's RKAB Approval Situation

It is expected that Indonesia's nickel ore imports may increase to 13 million wmt this year. Overall, nickel ore quotas in H1 2025 appear relatively loose compared to the same ...



Indonesia's Small Islands Pay the Price for Nickel Mining

The push for electric vehicles (EVs) promises a cleaner future, but the production of their batteries comes at a steep cost to Indonesia's small islands. Nickel, a critical component in many EV batteries, has spurred mining ...

McKinsey: Is the 2030 Battery Supply Sustainable?

McKinsey reveals 2030 battery raw material outlook on lithium, nickel and cobalt as demand for these materials may soon outstrip base-case supply. The electrification of ...



Indonesia, Nickel and the Future of Batteries -- Issue #21

Has a high coulombic output, meaning it delivers significant energy or charge during use. Depending on the type of battery and the compatibility of various material ...

GEM, Brunp JV to develop Indonesian nickel-cobalt project

Nickel demand from lithium-ion battery producers is set to rise rapidly from 100,000 tpy to 500,000 tpy by 2025 while the market shifts to nickel-rich batteries, such as ...



Nickel and cobalt free EVs batteries surge is good ...

A type of electric car battery based on iron and phosphorus that poses less of a threat to tropical forests is rapidly replacing batteries reliant on cobalt and nickel, recent data shows. According to a report on energy ...

CHART: Price spike doubles value of cobalt EV ...

In contrast, global nickel deployment into EV batteries increased 11% to 322.7 kt while that of manganese rose 10% to 73.6 kt and cobalt 7% to 59.6 kt as the industry continues to thrift the metal



GEM, Brunp JV to develop Indonesian nickel-cobalt project

Demand from the battery sector is expected to surge fivefold over the next six to seven years, Fastmarkets MB head of battery raw materials research William Adams said at ...

Indonesia's nickel surge

The project, also known as the Dawn HPAL+ project, is expected to produce 72,000 t/a of nickel as mixed hydroxide precipitate, nickel sulphate and nickel cathode with ...



LG's \$1.7 Billion Battery Investment Expands in ...

FAQ: Understanding LG's Battery Investment in Indonesia What types of battery cells will be produced at the facility? The HLI Green Power facility primarily manufactures nickel-manganese-cobalt (NMC) 811 prismatic cells, ...

Nickel Sector: A Macro Analysis for Investors

The rise of lithium-ion batteries, particularly nickel-rich chemistries (NMC: Nickel-Manganese-Cobalt), has driven a surge in demand. EV production is forecasted to quadruple ...



Nickel-Manganese-Cobalt (NMC) Lithium-ion Batteries

PDF , MANGANESE AS A BATTERY RAW MATERIALS. High-purity Manganese Sulphate Monohydrate (HPMSM) vs HPEMM vs High-Purity Electrolytic Manganese Metal , Find, read and cite all the research you

Indonesia's Resource Nationalism: Nickel, EV Batteries, and ...

Indonesia's resource nationalism has transformed it into a global nickel powerhouse and a rising force in EV battery manufacturing. The country's bold policies have ...



Indonesian Nickel: What Is Its Role In The Just Transition?

Indonesia's vast nickel reserves place it at the heart of global clean tech supply chains, but this comes at a steep local environmental and social cost. As demand for EV ...

Nickel prices likely to stay rangebound in 2025 - Argus Metals

But the demand outlook for the nickel-cobalt-manganese (NCM) battery sector is not as optimistic given the rapid development of the more cost-effective lithium-iron ...



From waste to value: the potential for battery recycling

...

The locally recycled battery materials can also replace the need for primary ores, avoiding the need to build 12 new mines globally by 2040 (4 lithium, 3 nickel, 4 cobalt, and 1 manganese mine of average size).

Top 10 biggest nickel projects

According to previous owner Kurora, Dumont is a shovel-ready and permitted nickel-cobalt-PGM development project, expected to produce an average of 39,000 tonnes of nickel over a 30-year mine life at all-in sustaining ...



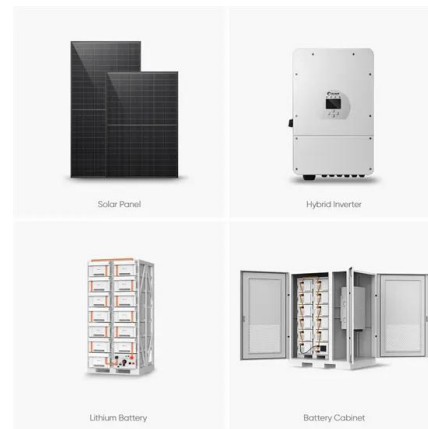
Indonesia accelerates EV battery industry with US\$5.9 B

...

This strategic project is centered in East Halmahera, North Maluku, and Karawang, West Java, and is expected to become a key driver in Indonesia's EV battery ...

Cobalt Reserves: Top 3 Countries

Cobalt Reserves: Top 3 Countries Cobalt is a critical material for the energy transition, with increased demand in recent years due to its essential role in lithium-ion ...



Nickel Prices in 2025: Indonesia's 40% Supply Cut ...

Nickel prices are at the shifting dynamics in 2025, from Indonesia's dominance and production cut plan to evolving EV battery technologies.

Cobalt long-term forecast

Our cobalt long-term forecasts are part of a set of products including long-term forecasts for lithium, graphite, nickel, copper, manganese sulfate and recycled materials



North America's Potential for an Environmentally ...

The Detroit Big Three General Motors (GMs), Ford, and Stellantis predict that electric vehicle (EV) sales will comprise 40-50% of the annual vehicle sales by 2030. Among the key components of LIBs, the ...

Nickel Forecast 2025: Can \$66 Billion Investment ...

Narrowing down to Asia, nickel production is set to rise to 3.002Mt in 2025 where Indonesia and China will be the major contributors to growth. Indonesia: Production will rise from 1.600Mt in 2024 to 1.700Mt in ...



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