Nickel manganese cobalt battery cost breakdown in Indonesia 2025

Overview

Indonesia possesses vast reserves of key minerals, including 42% of global nickel resources and 2% of global cobalt resources (according to USGS), but challenges re-main in scaling up production capacity for these essential minerals for domestic battery production.

Indonesia possesses vast reserves of key minerals, including 42% of global nickel resources and 2% of global cobalt resources (according to USGS), but challenges re-main in scaling up production capacity for these essential minerals for domestic battery production.

Sodium-ion batteries (SIBs) are more cost-effective, less prone to thermal runaway, and have a lower environmental impact when compared to lithium-ion batteries (LIBs), yet, SIBs industry lacks scale and maturity relative to LIBs. In 2022, the LIB market was valued at USD $70 billion and it is.

Nickel producers are bracing for a tough year in 2025, with the global nickel market expected to remain oversupplied, putting downward pressure on prices. Analysts attribute this oversupply to Indonesia’s rapidly expanding nickel industry, disrupting global markets and driving nickel prices down.

Lithium-ion (Li-ion) EV battery prices have decreased dramatically over the past few years, mainly due to the fall in prices of critical battery metals: Lithium, cobalt and nickel. For example, the price of cobalt has fallen from roughly $70,000 per metric ton in 2022 to about $30,000 in 2024.

The Li-ion battery is currently the most common battery used in EVs due to its high energy density, durability, safety, and cost competitiveness. Nickel is predicted to be an essential component for the lithium nickel cobalt manganese oxide (NMC) as a cathode material of choice for EV applications.

Labor and electricity account for around 6% of total battery pack costs. Indonesia is also endowed with reserves of nickel and cobalt, key battery raw materials which make up 22% of total battery pack costs. BloombergNEF estimates that total battery pack manufacturing costs in Indonesia can be 8%.

Explore Indonesia's 2025 nickel mining quota increase and its strategic implications for global electric vehicle and battery industries, highlighting economic opportunities and environmental challenges. Indonesia, a nation abundant in natural resources, has recently approved its 2025 nickel mining.

Nickel manganese cobalt battery cost breakdown in Indonesia 2025

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 ...

Life-cycle analysis, by global region, of automotive lithium-ion nickel

In this study, we examined how transitioning to higher-nickel, lower-cobalt, and high-performance automotive lithium nickel manganese cobalt oxide (NMC) lithium-ion ...

Indonesia's 2025 Nickel Quota Boost: Transformative ...

Explore Indonesia's 2025 nickel mining quota increase and its strategic implications for global electric vehicle and battery industries, highlighting economic opportunities and environmental challenges.

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

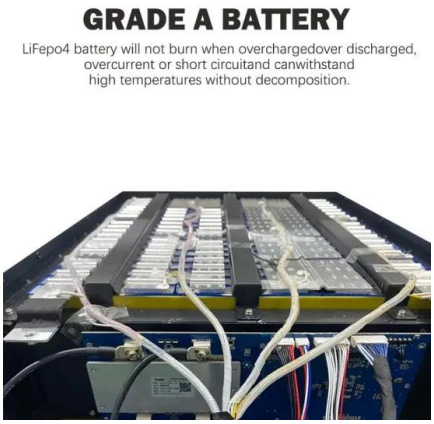
compatibility of various material ...

Trends in batteries - Global EV Outlook 2023 - ...

New alternatives to conventional lithium-ion are on the rise In 2022, lithium nickel manganese cobalt oxide (NMC) remained the dominant battery chemistry with a market share of 60%, followed by lithium iron phosphate (LFP) with a share of ...

Lithium nickel manganese cobalt oxides

Lithium nickel manganese cobalt oxides (abbreviated NMC, Li-NMC, LNMC, or NCM) are mixed metal oxides of lithium, nickel, manganese and cobalt with the general formula LiNi x Mn y Co ...



Improving process granularity of life cycle inventories for battery

For instance, a recent parametric LCA study found that climate change impacts of raw materials for a nickel-manganese-cobalt (NMC-811) battery cell may quintuple from 23 to ...

Battery Raw Materials: Latest Prices, Market Trends

Battery raw material prices, news and market analysis. Get the latest on lithium, cobalt, nickel and more from our team of battery raw materials experts.

NCM Battery VS LFP Battery? This is the most ...

2. How to evaluate power battery performance? It is well known that the lithium-ion battery consists of cathode material, anode material, diaphragm and electrolyte, of which the cathode material costs up to 30%, and ...

Right-sizing EV battery packs to reduce cost and BRM

Right-sizing EV battery packs to reduce cost and BRM supply constraints As the battery materials market continues to experience price volatility, we use the Fastmarkets ...

The Emerging Electric Vehicle and Battery Industry in Indonesia

As the battery cost contributes over half of an EV price, the success of IBC in lowering battery production cost will significantly influence the final price of EV products in Indonesia.

What are LFP, NMC, NCA Batteries in Electric Cars?

Uses environmentally unsustainable raw materials Nickel-manganese-cobalt (NMC) batteries are the most common form found in EVs today, ranging from the Nissan Leaf to Mercedes-Benz EQS. As the name ...

CHART: Price spike doubles value of cobalt EV battery market

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 ...

Indonesia Lithium-ion Battery Market 2033

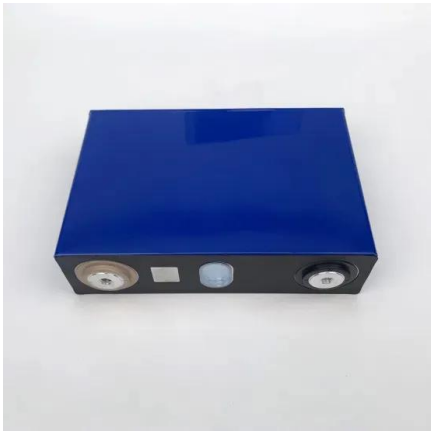
The Indonesia lithium-ion battery market size reached USD 697.07 Million in 2024. Looking forward, IMARC Group expects the market to reach USD 1,802.02 Million by 2033, exhibiting a ...

Ni-rich lithium nickel manganese cobalt oxide cathode materials: ...

The purpose of using Ni-rich NMC as cathode battery material is to replace the cobalt content with Nickel to further reduce the cost and improve battery capacity.

What Is Nickel Manganese Cobalt (NMC) and Why Is It Used in ...

The NMC battery is named after its three primary components: nickel, manganese, and cobalt. These metals collectively form the cathode material, which is integral ...



LiFePO4 Batteries vs NMC Batteries: Which is Better?

The most common types of rechargeable lithium-ion batteries are Lithium Nickel Manganese Cobalt Oxide (NMC), Lithium Iron Phosphate (LFP) Lithium Cobalt Oxide (LiCoO2), and Lithium Manganese Oxide (LMO). ...

0.4% of global battery production capacity: Indonesia's ...

At the current trajectory, Indonesia's likely path seems to be a shift in nickel product exports, from stainless steel-related materials to battery-linked products such as MHP, nickel matte and ...

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 persist amid lithium price volatility and regulatory ...

MANGANESE. IS IT THE FORGOTTEN BATTERY MINERAL?

Current preferred battery cathode compositions, utlise manganse, cobalt, nickel and aluminium. Of these compositions mangansese is by far the cheapest mineral to mine and produce.

What Impact are EVs and Renewables Having on Raw Materials?

The volatility in cobalt prices and ethical sourcing concerns are driving the industry towards greater transparency and sustainability in cobalt procurement. Although ...

Electric vehicle battery chemistry affects supply chain

We examine the relationship between electric vehicle battery chemistry and supply chain disruption vulnerability for four critical minerals: lithium, cobalt, nickel, and ...

Nickel: Driving the Future of EV Battery Technology ...

Nickel's role in EV battery technology Nickel is indispensable in lithium-ion battery production, especially in high-performing cathode chemistries like nickel-cobalt-manganese (NCM) and nickel-cobalt-aluminium (NCA). ...

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 ...

The future of electric vehicles & battery chemistry

cathodes, most often containing lithium iron phosphate (LFP) or lithium nickel manganese cobalt oxide (NMC) coated on aluminum foil, are the main driver for cell cost, emissions, and energy density electrolytes, either ...

Critical minerals outlook: What is in store for 2025?

Price predictions for cobalt, lithium, nickel, and manganese in 2025 will be influenced by shifts in demand, technological breakthroughs and geopolitical developments. While 2024 presented challenges for these critical ...

Utility-Scale Battery Storage , Electricity , 2024 , ATB , NREL

Current Year (2022): The 2022 cost breakdown for the 2024 ATB is based on (Ramasamy et al., 2023) and is in 2022$. Within the ATB Data spreadsheet, costs are separated into energy and ...

Indonesia considers 45% cut to nickel output

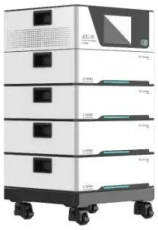
Reports suggest the Energy and Mineral Resources Ministry wants to cut production to boost nickel prices, after global nickel prices fell by 45% in 2023. If Indonesia goes ahead with the cuts, Macquarie Group ...

Battery Recycling Industry Report 2025-2033 , Advanced

15 ????· Battery Recycling Market Dublin, Sept. 12, 2025 (GLOBE NEWSWIRE) -- The "Battery Recycling Market Report by Type, and Region 2025-2033" report has been added to ...

How do different battery chemistries affect the cost of utility-scale

Different battery chemistries can significantly affect the cost of utility-scale battery storage systems. Here's a breakdown of how various chemistries influence costs: ...

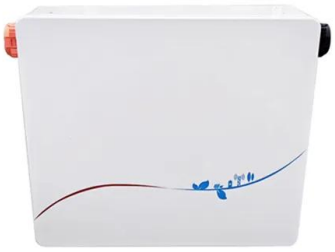


NCM Battery VS LFP Battery? This is the most comprehensive

2. How to evaluate power battery performance? It is well known that the lithium-ion battery consists of cathode material, anode material, diaphragm and electrolyte, of which ...

Visualized: What is the Cost of Electric Vehicle ...

Lithium nickel cobalt aluminum oxide (NCA) battery cells have an average price of $120.3 per kilowatt-hour (kWh), while lithium nickel cobalt manganese oxide (NCM) has a slightly lower price point at $112.7 per kWh. ...



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.

Contact Us

For catalog requests, pricing, or partnerships, please visit: https://solar.j-net.com.cn