

Nickel-cobalt-aluminum batteries nca malaysia

As the EV market accelerates globally, nickel has cemented itself as a vital component in the battery technologies fueling the transformation. While recent price fluctuations have impacted the market, nickel's essential role in EV batteries remains clear, underpinning rising demand across key sectors worldwide.

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

These chemistries are prized by EV manufacturers for their ability to deliver extended range and performance. According to Adamas Intelligence, nickel use in EV batteries has seen a marked increase, with each battery EV (BEV) containing an average of 25.3 kilograms.

"Nickel weighting in BEV batteries jumped 8% year on year to average 25.3 kilograms in July as carmakers continue to opt for high-nickel batteries for long-range, performance and even many entry-level new models," reports Adamas Intelligence. The increase highlights nickel's growing role as EV manufacturers prioritise high-nickel batteries to meet evolving consumer expectations.

Indonesia has become the world's largest nickel producer, reshaping global supply dynamics in just a few years. In 2022, the nation's mined nickel production surged 48%, reaching 1.58 million tonnes.

Other significant consumers include the United States, Germany and Italy--nations with robust automotive manufacturing sectors fueling nickel's continued demand. The global tug-of-war over nickel resources highlights the metal's critical role in advancing EV technologies.

Despite nickel's prominence in EV batteries, its market has experienced dramatic price volatility. In early 2024, global nickel prices took a steep downturn due to a supply glut spurred by Indonesia's rapid output expansion and supported by Chinese investments. The price drop has created opportunities and challenges for consumers and producers, influencing how countries and corporations strategise for the future.

"In February 2024, nickel prices bombed, following a global supply glut from Indonesia engineered by China. The global price fell from a high of US\$50,000 in 2022 to just US\$16,400 per tonne."

The growth of Indonesian nickel production has presented significant challenges for traditional nickel-producing countries like Australia. As a result, Australian mining giant BHP recently suspended its domestic nickel operations, citing the prolonged surplus and market imbalance.

Geraldine Slattery, BHP's President of Australia, described the suspension as "difficult but

necessary," explaining that with the surplus expected to persist for at least three years, "efforts to find a viable path forward had been exhausted."

Despite recent market challenges, the long-term demand for nickel in the EV industry remains strong. As automakers prioritise high-nickel battery chemistries for range and performance advantages, nickel consumption is anticipated to grow with the global shift toward electrification.

Nickel's role in the EV industry goes beyond just being a raw material; it represents a catalyst for change in the global automotive market, propelling advancements in battery technology and reshaping national economies.

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