Press release

Most Indonesian nickel is being routed for stainless steel, putting the sector on course to miss global EV boom

The nation's 'green nickel' for EV drive is in fact a coal boom in disguise, fueled by record surges in off-grid captive power.

JAKARTA, 16 April 2026 - Despite being branded as an Electric Vehicle (EV)-driven boom, the vast majority (83%) of Indonesia's nickel production was absorbed by the stainless steel sector in 2025, with only 17% going to the EV battery supply chain. Along with the recent revealing of the industry's massive reliance on emissions-intensive captive coal power, the sector's viability is at risk both domestically and globally, according to a new brief from the Centre for Research on Energy and Clean Air (CREA).

The briefing points to the disconnect between Indonesia's 'green nickel' messaging and the industry's 31 GW boom in captive coal power, driven by regulatory loopholes and by green taxonomy that classifies such plants as 'transitional'. This carbon lock-in is exacerbated by a lack of anticipatory planning or mechanisms to ensure that new industrial sites are located near renewable energy potential or designed for future grid connectivity.

Additionally, it's essential to note that internal combustion engine (ICE) vehicles still form the majority of global vehicle sales, meaning a large share of Indonesia's nickel — which is used in stainless steel vehicle components — will continue to be tied to the ICE vehicle market, further offsetting Indonesia's 'green nickel' narrative.

What's more, Indonesia's nickel downstreaming strategy faces a major threat as nickel-free batteries gain traction globally, with LFP (Lithium Iron Phosphate) batteries in particular commanding over 80% of the Chinese market due to lower costs and longer lifespans. Given the rapid uptake of LFP by Chinese brands both domestically and across emerging markets, this trend is likely mirrored in Indonesia, indicating that a significant share of EVs sold in the country use nickel-free battery technologies.

The rapid expansion of the nickel industry has also accelerated Indonesia's nickel ore depletion, particularly of higher-grade saprolite resources required for energy-intensive processing. As ore quality declines, energy demand, production costs, and emissions rise. Furthermore, accelerated ore depletion—which may reach full exhaustion by the early 2030's—could potentially discourage

future investments in renewable energy or grid integration. While policies such as the nickel production quota reduction reflect the government's efforts to stabilise nickel prices and conserve high-grade ores, Indonesia has yet to establish a clear and concrete decarbonisation pathway.

In global trade, Indonesia's emissions-intensive nickel production faces significant headwinds from evolving Western environmental policies. While the EU's Carbon Border Adjustment Mechanism (CBAM) does not yet specifically target nickel, the EU Battery Regulation—which mandates carbon footprint declarations and performance classes—poses an immediate risk of locking Indonesian products out of premium EV supply chains.

'Indonesia's EV-centric nickel ambition overlooks significant domestic technological and supply chain readiness. Expanding advanced nickel refining technologies such as High-Pressure Acid Leaching (HPAL) can support the production of higher-value derivatives and reduce the country's reliance on stainless steel. And while Indonesian nickel is stabilising, it remains hesitant to reveal clear baselines and to commit to firm decarbonisation pathways for its assets, the majority of which remain anchored in carbon-intensive operations. By strengthening technology transfer, addressing rapid ore depletion, and resolving the "dirty nickel" paradox, Indonesia's nickel sector can transform systemic risks into industrial resilience, and, by extension, sectoral vitality,' said Syahdiva Moezbar, Industry Analyst at CREA.

'Decoupling Indonesia's nickel industry from captive coal power is not just an environmental objective, but also a strategic industrial policy critical to realising the Golden Indonesia 2045 vision. This pivot will require not only a shift to low-carbon refining but also smarter spatial planning that sites plants near renewable potential to avoid decades of carbon lock-in. Only when Indonesia ceases reliance on and the construction of new high-carbon assets can it transform 'green nickel' from a mere label into a financially and operationally incentivised reality,' said Katherine Hasan, Analyst at CREA.

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Note to editors

The publication related to this press release is available here.

About CREA

The Centre for Research on Energy and Clean Air (CREA) is an independent research organisation focused on revealing the trends, causes, and health impacts, as well as the solutions, to air pollution. CREA was founded in December 2019 in Helsinki and has staff in several Asian and European countries. The organisation's work is funded through philanthropic grants and revenue from commissioned research.
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