

Summary notes

From Captive Coal to Green Nickel: Securing Indonesia's Future Competitiveness

Nickel-coal nexus in Indonesia. Nickel is essential for EV and stationary batteries. Indonesia — now the world's processing hub — has expanded rapidly, but much of the sector runs on captive coal in remote industrial parks with weak grids, land constraints, and challenging geography. Coal has become the fast, cheap, logistically easy option given Indonesia's established supply chains, so parks defaulted to coal.

Not a niche issue, but utility-scale and growing. Indonesia's captive coal capacity already exceeded 15 GW in 2024 and could more than double to over 32 GW by 2031, exceeding Vietnam's entire coal fleet, the second largest in the region. This comes as Indonesia rises into the top-six global emitters in some inventories — underscoring urgency.

Encouraging signs. Indonesia has launched the Nickel Industry Decarbonisation Roadmap; think tanks and development agencies are mapping pathways and instruments (*e.g.*, sustainability-linked loans, transition finance); buyers increasingly ask how materials are produced; and firms are piloting captive renewables.

From pilots to scale: get the “settings” right. Scaling renewables for nickel is hard (intermittency, land, slower delivery than coal) but not unique to Indonesia. Viable approaches include efficiency first, industrial clustering/resource sharing, on-park RE integration, and hybrid systems (RE + storage + firming).

Policies, planning, governance will decide outcomes. Without alignment, clean options will keep losing on park economics. For example, PR 112/2022 exemptions let “strategic industries” (nickel) build/run captive coal. Split energy vs industry mandates impede smart siting near RE or extending clean infrastructure. Own-use licensing discourages shared RE. Entrenched coal interests; uneven capacity; central–local coordination on land, permits, and community relations affect effective implementation.

Competitiveness, not compliance. Modelling across major Special Economic Zones (SEZs) in Indonesia indicates substantial additional investment and value added when clean power is integrated. Conversely, coal-powered nickel faces credibility and market-access risk as supply chains demand “clean all the way down.”

Where Chinese stakeholders can help (for consideration).

- **Prove the case (research).** Joint research to quantify jobs, resilience, and export-risk reduction from green nickel, providing the evidence needed to position

“green nickel” as a strategic lever for future competitiveness – opening premium markets, securing long-term offtake, lowering capital costs, and de-risking downstream development.

- **Strengthen pull factors (policy & finance):**
 - a. Public agencies: embed green nickel in regional policy and trade frameworks (e.g., RCEP) and clarify whether the no-new-overseas-coal pledge covers captive coal.
 - b. DFIs/banks: deploy sustainability-linked/transition finance rewarding verified intensity reductions.
 - c. Industry: pilot captive RE (proof of concept) and deepen industry–government dialogue to demonstrate viability.
- **Knowledge-sharing.** China–Indonesia co-creation, data systems, and standard-setting (e.g., a “green nickel” certification akin to green steel).
- **Capacity support to accelerate standards & MRV:** Harmonised park-level standards, transparent MRV, and product carbon-footprint rules to crowd in capital and offtake. Leverage China’s green industrial park/zero-carbon factory (ISO-aligned) standards already diffusing via Chinese investors. Consider a trilateral pilot (Indonesia–China–Australia) to lock standards, governance, and investment, drawing on Australia’s environmental-governance strengths.