PRAKARSA Policy Brief

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Setting the Right Direction for the Nickel Decarbonization Roadmap: Linking Licensing, Incentives, and Financing to Equitable Decarbonization

Key Messages:

- The Nickel Industry Decarbonization Roadmap targets an 80.98% reduction in emissions by 2045. However, it does not yet establish the indicators, compliance thresholds, and enforcement mechanisms needed to assess decarbonization performance at the company level.
- The Annual Work Plan and Budget (RKAB), fiscal incentives, and financing are three instruments that can shape industrial behaviour. However, they do not yet consistently incorporate requirements for emissions performance, occupational safety, environmental protection, and respect for community rights.
- ResponsiBank Indonesia Coalition indicates that at least US$14.3 billion in syndicated financing has flowed into the nickel industry, including US$2.0 billion for captive coal-fired power plants (captive coal power plants). Within a just transition framework, these three instruments must be linked to measurable performance standards to ensure that transition risks are not shifted onto workers, communities in producing regions, financial institutions, and the state.



A Gap Remains Between the Roadmap and Its Implementation Instruments

The significant gap in the Nickel Industry Decarbonization Roadmap is the lack of alignment between sectoral targets and the instruments governing corporate decision-making. The Roadmap, developed by the Ministry of National Development Planning (Bappenas) in collaboration with the World Resources Institute (WRI), sets a target of reducing emissions by 80.98% by 2045 (Bappenas & WRI, 2025). However, it has lack of performance indicators, compliance thresholds, or enforcement mechanisms that can be consistently applied to operational approvals, the allocation of incentives, and financing decisions.

This implementation gap also raises concerns about distributive justice. When investment and production decisions fail to account for socio-ecological performance, the benefits of downstream industrial development may become concentrated among business actors, while the costs associated with occupational safety, pollution, land conflicts, and environmental remediation risk being shifted onto workers, communities in producing regions, and the state. Therefore, the principles of a just transition must be embedded in the implementation framework of the Roadmap rather than treated as a separate agenda disconnected from its emissions reduction targets.

Three existing instruments provide the government and the financial sector with opportunities to close the gap between decarbonization objectives and company-level decisions. The annual Work Plan and Budget (RKAB) determines operational continuity and production quotas, tax incentives influence the economic viability of investments, while credit approvals determine whether industrial facilities can be constructed or expanded. However, these instruments do not yet consistently require verified performance in emissions reduction, occupational safety, environmental protection, and the fulfilment of community rights.

The following sections examine these three instruments, beginning with financing, for which the most comprehensive evidence is currently available.

Financing Instruments: Transition Risks Remain Inadequately Assessed

The scale of financing channeled into the nickel industry makes the financial sector a critical actor in transition governance. The ResponsiBank Indonesia Coalition mapped 40 syndicated financing transactions involving mining companies, smelters, and power plants, based on corporate announcements, financial news reports, and publicly available documents from lending institutions (Perkumpulan PRAKARSA, 2024). These figures do not represent official banking exposures, but rather a verifiable lower-bound estimate derived from publicly available sources.

The mapped financing amounted to approximately US$14.3 billion and was concentrated among several groups of lenders. Chinese lending institutions accounted for US$7.17 billion, or 50% of the total, followed by global and regional banks with US$4.15 billion (29%), domestic banks with US$2.83 billion (20%), and multilateral institutions with US$0.21 billion (1%).

Financing risks associated with smelters and captive coal-fired power plants cannot be assessed in isolation, as both are integral to the same operational value chain. Domestic banks have greater exposure through financing for smelters, acquisitions, and supporting infrastructure, while the mapped financing for captive coal-fired power plants, approximately US$2.0 billion, is dominated by Chinese lending institutions. Nevertheless, refining facilities remain dependent on the energy supply of their respective industrial complexes. Changes in carbon costs, emissions standards, or market requirements for products with high carbon footprints could affect the cash flows and repayment capacity of borrowers financed by domestic banks.

Table 1. Selected Financing Transactions in Indonesia's Nickel Industry

Bank Category	Bank/Financial Institution	Main Recipients/ Borrowers	Estimated Financing Value	Primary Asset Purpose
State-Owned Banks/Himbara	Bank Mandiri	PT GNI, Harita Group, Ceria Corp	US$707.67 million + IDR 3.1 trillion	Smelters, infrastructure, and operations
State-Owned Banks/Himbara	BNI	PT GNI	US$337.41 million	Smelters, infrastructure, and operations
Domestic Private Banks	BCA	PT GNI	US$259.40 million	Smelters, infrastructure, and operations
Foreign Banks	China Development Bank (CDB)	IMIP, Merdeka Battery, PT SMI	US$1.768 billion	Captive coal-fired power plants and smelters
Foreign Banks	Bank of China (BOC) & China Exim Bank	PT Indonesia Guang Ching & PT Indonesia Tsingshan Stainless Steel (ITSS)	US$1.274 billion	Construction of captive coal-fired power plants

Source: Compiled from Perkumpulan PRAKARSA (2024) and Perkumpulan PRAKARSA & Koalisi ResponsiBank Indonesia (2026). Values denominated in different currencies are retained without exchange-rate conversion; amounts in the same currency are aggregated.

The case of PT Gunbuster Nickel Industry (GNI) illustrates how borrower's operational disruptions can affect banks' risk exposure. According to the mapped transactions, Bank Mandiri and BNI participated in syndicated financing to GNI. In August 2026, GNI was reported to have experienced financial difficulties, followed by the suspension of operations at two smelter units and workforce layoffs (Meilanova, 2026). These developments do not, in themselves, indicate that the loans have become non-performing. However, they underscore the importance of assessments that capture operational, transition, and borrower concentration risks both before and throughout the loan tenure.

The need to strengthen due diligence is particularly pronounced at the transaction level, where credit risks are assessed and allocated. OJK Regulation No. 51/POJK.03/2017 requires financial institutions to prepare Sustainable Finance Action Plans and Sustainability Reports. However, these instruments primarily operate at the institutional and annual reporting levels. For the nickel sector, which faces risks related to emissions, occupational health and safety (OHS), tailings, land conflicts, and dependence on high-emission energy infrastructure, this framework needs to be complemented by enhanced due diligence and credit covenants that can trigger corrective action when material risks emerge.

Figure 1. Syndicated Financing in Indonesia's Nickel Industry by Lender Origin and Financing Purpose



Source: Compiled from the ResponsiBank Indonesia Coalition's financing mapping (2024).

Figure 1 also highlights borrower concentration, which needs to be factored into risk management. Tsingshan, Gunbuster Nickel Industry, and Harita appear repeatedly across the mapped transactions.

For state-owned banks, exposure concentrated among a small number of business groups increases the likelihood that operational disruptions in a single industrial area could affect multiple financing facilities and supply chains simultaneously.

Licensing Instruments: Socio-Ecological Performance Is Not Yet a Core Approval Requirement

The Annual Work Plan and Budget (RKAB in Bahasa Indonesia), is an annual instrument that can be used to link the continuation of operations with corporate performance. As it is subject to periodic approval, the RKAB provides the government with an opportunity to assess compliance and require corrective action. However, its approval process continues to place greater emphasis on administrative completeness and does not consistently establish emissions performance, occupational safety, land conflict resolution, and environmental rehabilitation as substantive requirements. Consequently, the RKAB's potential as an instrument for controlling production and managing socio-ecological risks has yet to be fully utilised.

Strengthening the RKAB can begin with obligations that are already in place. According to confirmation from the Ministry of Energy and Mineral Resources (ESDM) during a Policy Dialogue in December 2025, Community Development and Empowerment (Pengembangan dan Pemberdayaan Masyarakat or PPM) expenditure is a mandatory operational component of the RKAB, rather than a voluntary corporate social responsibility commitment. However, the fulfilment of this obligation is not yet systematically audited or linked to decisions on subsequent RKAB approvals. Linking compliance with PPM obligations, occupational health and safety, and environmental rehabilitation to production quotas would strengthen incentives for companies to undertake corrective measures.

Exemptions for captive coal-fired power plants also undermine consistency between electricity policy and nickel decarbonization targets. Presidential Regulation No. 112/2022 restricts the development of new coal-fired power plants but retains exemptions for national strategic projects involving upstream and downstream mineral industries. As long as these exemptions remain in place without stringent transition requirements, nickel industrial parks retain considerable scope to maintain their dependence on high-emission energy sources.

The pressure of licensing decisions on natural capital is particularly evident in Morowali, Central Sulawesi. Approximately 35% of Morowali's territory, equivalent to 157,935 hectares, has been allocated as nickel mining concessions. Of this area, 133,256 hectares overlap with forest areas, including approximately 97,790 hectares of primary forest (National Geographic Indonesia, 2026). This scale of land allocation demonstrates why licensing decisions must consider not only production targets but also ecological carrying capacity, worker safety, community livelihoods and living spaces, and environmental rehabilitation obligations.

In the downstream sector, regulatory control mechanisms need to reflect the specific characteristics of the industry. Refining facilities and industrial park operators account for a substantial share of energy consumption and emissions but are not subject to annual production quotas in the same way as mining companies.

Therefore, Environmental Approvals and compliance audits conducted through the National Industrial Information System (Sistem Informasi Industri Nasional or SIINas) need to be strengthened to establish emissions limits, impact management requirements, and social safeguards at the operational licensing level of industrial parks.

Fiscal Instruments: Incentives Are Granted Regardless of Transition Performance

Fiscal incentives are not yet tied to product pathways and their respective transition performance. Approximately 70–80% of global nickel consumption is still accounted for by the stainless steel industry, rather than electric vehicle batteries (Nickel Institute, n.d.). Without more specific eligibility criteria, incentives such as tax holidays and tax allowances may benefit various production pathways, including emissions-intensive RKEF-based pyrometallurgical processes. Therefore, eligibility for fiscal support should be assessed based on the additional contribution a company makes to decarbonization, rather than solely on its industrial classification.

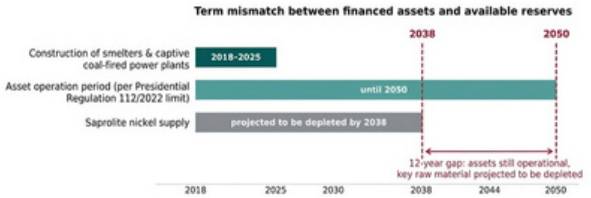
The design of eligibility requirements determines whether public incentives drive industrial transformation or reinforce existing high-emission production patterns. Fiscal support should be linked to carbon intensity, energy sources, environmental compliance, occupational safety, and the fulfilment of social obligations. This approach can maintain investment attractiveness while ensuring that tax expenditures are directed towards companies demonstrating measurable progress in their transition, rather than allowing socio-ecological costs to be externalised onto communities.

Conditional eligibility criteria can be developed using indicators already recognised by the government. PROPER environmental performance ratings, Occupational Safety and Health Management System (SMK3) audit results, disclosure of incident reports, and the completion of corrective actions can serve as the basis for evaluation. Incentives could be reduced or suspended when companies fail to meet established standards and reinstated once improvements have been verified. This approach is more appropriate than relying solely on zero-fatality records as the primary performance measure, as it also encourages transparent incident reporting and proactive risk prevention.

Shared Risks: Asset Lifespans, Reserve Availability, and Rehabilitation Liabilities

The misalignment among these three instruments could lock in long-lived investments without adequate consideration of transition risks. Most of the mapped facilities were constructed between 2018 and 2025. Presidential Regulation No. 112/2022 sets 2050 as the deadline for the operation of certain coal-fired power plants, while Bappenas and the World Resources Institute project that nickel saprolite reserves—the primary feedstock for Rotary Kiln Electric Furnace (RKEF) technology could be depleted by 2038 if extraction rates and technological configurations remain unchanged.

Figure 2. Comparison of Asset Development Timelines, Power Plant Operating Lifespans, and Projected Saprolite Reserve Availability



Source: Compiled from Bappenas and the World Resources Institute (2025) and Presidential Regulation No. 112/2022.

This misalignment in time horizons creates both economic and distributional risks. RKEF-based facilities could lose access to their saprolite feedstock before their associated power plants reach the end of their operational lifespans. If these risks are not addressed from the outset, the consequences could include asset devaluation, deterioration in credit quality, workforce reductions, declining local government revenues, and abandoned facilities without adequate funding for rehabilitation. Transition planning must therefore anticipate the implications for assets, workers, communities, and public finances simultaneously.

Why the Three Instruments Remain Misaligned

The misalignment between the Roadmap and its three implementation instruments primarily stems from three interconnected institutional challenges.

First, the Roadmap does not yet establish common indicators, thresholds, and consequences that can serve as a shared reference point. These indicators should cover emissions, occupational safety and working conditions, environmental protection, meaningful participation, respect for community rights, and impact remediation. Without such a common reference framework, licensing authorities, fiscal incentive administrators, and financial institutions lack a consistent basis for establishing requirements or demanding corrective action.

Second, fragmented data systems limit the ability of the government and financial institutions to verify corporate performance. The National Industrial Information System (Sistem Informasi Industri Nasional), the National Registry System for Climate Change Control (Sistem Registri Nasional Pengendalian Perubahan Iklim), SIGN SMART, and AKSARA have yet to be integrated into a unified monitoring, reporting, and verification mechanism that consolidates data on production, emissions, environmental quality, occupational safety, land conflicts, social obligations, and community grievances. Without credible verification, additional requirements risk becoming merely administrative burdens without improving the quality of decision-making.

Third, the acceleration of National Strategic Projects (Proyek Strategis Nasional or PSN) must remain subject to adequate socio-ecological safeguards and equivalent due diligence standards. Strategic project status can accelerate licensing processes, strengthen eligibility for fiscal incentives, and influence credit risk perceptions. However, such acceleration should not come at the expense of occupational safety standards, environmental protection, community participation, or assessments of economic viability under different transition scenarios.

Without a common framework, adjustment costs risk being transferred to parties that have no direct control over investment decisions.

Shareholders and creditors face the risk of asset devaluation, the state, as the controlling shareholder of state-owned banks, may experience declining dividend revenues or face the need for capital injections, workers risk losing their jobs, while communities in producing regions may inherit environmental damage and unproductive industrial facilities. The strengthening of carbon footprint and sustainability standards in major markets could further accelerate the materialisation of these risks.

Policy Recommendations

Strengthening these three instruments does not necessarily require new legislation, but it does require a common set of performance benchmarks. In revising the Roadmap, the Ministry of National Development Planning (Kementerian PPN/Bappenas) should establish indicators, thresholds, and consequences covering emissions performance, occupational health and safety, environmental protection, community participation, and impact remediation. These benchmarks should then serve as the basis for strengthening the following three instruments:

1. Strengthening RKAB Requirements
The Directorate General of Mineral and Coal (Ministry of Energy and Mineral Resources) should make emissions performance, OHS audit results, the actual disbursement of Community Development and Empowerment (Pengembangan dan Pemberdayaan Masyarakat or PPM) funds, and compliance with environmental obligations substantive requirements for annual RKAB approval. Material non-compliance should trigger clearly defined corrective measures, including production quota adjustments or the postponement of subsequent RKAB approvals. This mechanism could also be used to regulate extraction rates in line with reserve lifespans and the readiness of decarbonization technologies.

2. Reforming Fiscal Incentive Eligibility Criteria
The Ministry of Finance should introduce eligibility criteria that differentiate the allocation of tax holidays and tax allowances based on product pathways, carbon intensity, energy sources, and socio-ecological performance. Conditional incentive schemes should allow for the reduction or suspension of fiscal facilities when companies fail to meet PROPER, SMK3, or corrective action requirements, with incentives reinstated once improvements have been verified. This would ensure that tax expenditures are directed towards investments demonstrating measurable additional contributions to decarbonization and social protection.

3. Strengthening Responsible Financing and Enhanced Due Diligence
The Financial Services Authority (OJK), together with state-owned banks (Himbara), should classify nickel mining and refining as high-risk sectors and require enhanced due diligence prior to credit approval and renewal. Due diligence should include independent on-site verification of energy sources, OHS track records, tailings management, land conflicts, and the consent of affected communities. State-owned banks should also incorporate emissions, OHS, and environmental covenants into credit agreements, with provisions for facility reviews in the event of material violations or operational crises. This approach would safeguard banks' asset quality while preventing transition costs from being transferred to workers, communities, and the state.

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