

P R A K A R S A *Policy Brief*

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The Nickel Trap: Balancing Profitability, Sustainability, and Energy Transition

Key Points:

- The nickel industry, which is considered part of the low-carbon development solution, poses serious environmental risks.
- European banks and the national bank in Indonesia (Mandiri, BNI, BRI, BCA) have been involved in financing nickel projects, even though they have committed not to finance coal.
- The government needs to immediately revise its investment policies, environmental protection and management policies that specifically regulate provisions related to energy transition projects, by considering the principles of NDPE, High Carbon Stock, and anti-deforestation.



Environmental Risks from Nickel Downstreaming in Indonesia

Nickel is one of the critical minerals that plays a crucial role in the renewable energy transition. As a key component in lithium batteries, nickel has the potential to provide significant economic benefits for the country. Responding to this, the Indonesian government issued the Minister of Energy and Mineral Resources Regulation No. 11 of 2019, which prohibits the export of nickel ore, with the aim of encouraging the downstream processing or refining of nickel within the country.

While nickel is an essential commodity for the low-carbon energy transition, the nickel industry in Indonesia faces serious environmental challenges. Nickel production in Indonesia on average generates 58.6 tons of CO₂ per ton, higher than the global average of 48 tons per ton. These emissions mainly come from mining, transportation, and processing processes that are still dependent on coal-fired power generation.

Furthermore, the Indonesian nickel industry has grown rapidly, with 43 nickel smelters and 199 furnaces as of January 2023. The high number of production facilities has caused carbon emissions from the nickel industry to continue to increase. According to the data, the consumption of nickel ore for these 43 smelters reaches 145 million tons per year, and the demand for nickel ore is expected to continue to increase to 400 million tons per year by 2025 for 136 smelters (Rahayu, 2023).

The increase in nickel production has also caused a global oversupply in the market, which ultimately led to a 45% drop in nickel prices during the period of March 2023 - March 2024. Meanwhile, on the other hand, the exploitation of the nickel industry

has also had a serious environmental impact. For example, data shows that illegal deforestation in Southeast Sulawesi reached 1,700 hectares during 2018-2020 (Tempo, 29/01/22). This reflects the dilemma between economic growth and sustainability issues, which needs to be carefully managed by stakeholders.

Challenges of Decarbonizing the Nickel Refining Industry

Technologically, the nickel refining process requires a large supply of electricity (Yang et al., 2021). This is related to the process of separating nickel ore from other minerals such as iron, cobalt, or sulphur. As a result, nickel refining companies in Indonesia have built their own power plants, which are mostly coal-based.

The availability of coal has encouraged many companies in the nickel industry in Indonesia to use coal-fired power plants (CFPP) as their energy source. Indonesia's coal reserves, which reach 34.8 billion tons or 3.2% of the global total (BP, 2021). Global Energy Monitor (2023) showed that there are currently CFPPs for the nickel sector in Indonesia with a total capacity of 7.2 Gigawatts (GW) that are already operational. In addition, there are 2 GW in the pre-construction stage and 8 GW in the construction stage. The existence of "captive" CFPPs makes nickel processing in Indonesia highly dependent on fossil fuels, which have a high environmental impact.

The nickel refining industry, which is still dependent on coal-fired power plants, is difficult to decarbonize (hard to abate). This is because the high greenhouse gas emissions from nickel smelters are an unavoidable consequence. For example, 1

kilogram of processed nickel produces 13 kg of carbon dioxide (CO₂) emissions (Nickel Institute, 2023). Meanwhile, the transition to a low-carbon nickel industry requires more expensive costs. The construction of hydropower plants, for example, requires an investment of around USD 3–4 million per Megawatt (MW) (Agung, 2021), while coal-fired power plants only cost around USD 1.8 million per MW (EFSC, 2023). The high cost of decarbonization is a challenge for the nickel industry to reduce its emissions. Currently, there is only one nickel company in Indonesia that utilizes hydropower for nickel processing.

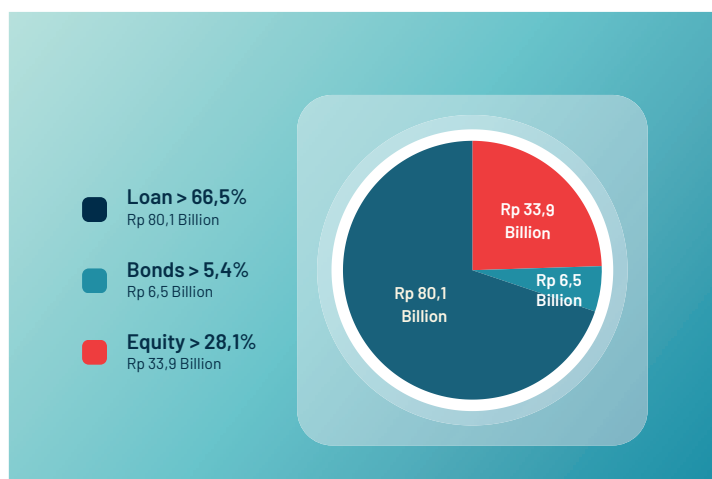
On the other hand, some financial institutions view nickel as a better alternative for low-carbon development. However, financing of nickel projects indirectly funds coal. Meanwhile, countries around the world have committed to no longer funding the development of coal-fired power plants and coal-related businesses. At the COP-26 Climate Summit in Glasgow in 2021, 40 countries pledged to no longer fund the coal sector in various forms of investment (UNFCCC, 2021; UN, 2021). This is driven by the poor environmental impact of coal as the highest contributor to global emissions (IEA, 2022).

Foreign Financing Dominates the Nickel Industry in Indonesia

Due to the high demand for nickel, mining companies, investors, investment managers, and financial institutions have started to provide massive financing. This trend has also encouraged foreign companies, through their subsidiaries in Indonesia, to invest. Investment data released by the Investment Coordinating Board (BKPM) in 2022 showed that Foreign Direct Investment (FDI) had a larger share, which was 54.2% or Rp654.4 trillion (up 44.2% YoY), compared to Domestic Direct Investment (DDI) of 45.8% or Rp552.8 trillion (up 23.6%) (PRAKARSA, 2024).

Nickel investment in Indonesia is dominated by China. In the last decade (2012–2022), China has invested Rp213 trillion in the nickel-producing islands of Sulawesi and North Maluku. Meanwhile, based on the flow of financing from financial service institutions, the highest financing flow for the nickel industry is in the form of loans (Rp80.1 trillion), followed by equity (Rp33.9 trillion) and bonds (Rp6.5 trillion) (Figure 1). This financing covers mining activities, smelters, and captive coal-fired power plants (PRAKARSA, 2024).

Figure 1. Forms and Values of Nickel Industry Financing in Indonesia (unit: Trillion Rupiah) 2009–2023



Source: PRAKARSA, 2024

The financing flow of Indonesia's nickel industry is dominated by foreign capital. This is due to the large investment requirements for smelter infrastructure, which exceed the capacity of the domestic banking system. The largest sources of financing come from banks in China, Canada, Australia, the United States, and South Korea. However, this paper does not delve deeper into the banks based in Canada, Australia, the United States, and South Korea due to the limited availability of public data.

The Chinese banks involved in nickel financing include the China Development Bank (CDB), Bank of China, Agricultural Bank of China, China CITIC Bank Corporation, Shanghai Pudong Development Bank, Industrial Bank of China, and China Guangfa Bank. Singaporean banks, such as DBS, are also involved in smelter project loans. Meanwhile, European banks such as Standard Chartered, Barclays, and BNP Paribas have also provided loans. On the other hand, some

state-owned national banks, such as Bank Mandiri and Bank BRI, have also participated in syndicated financing.

The Challenges of Implementing Sustainable Finance in Indonesia

The concept of sustainable banking finance has internationally integrated environmental, social, and governance (ESG) aspects into banking activities, including financing, investment, and operations (OJK, 2021). This concept aims to support sustainable development in line with global agendas such as the SDGs and the Paris Agreement. Several countries have implemented this concept, including Indonesia through the OJK Sustainable Finance Roadmap 2015–2019 and 2021–2025. In the European Union, the European Commission has also issued a Sustainable Finance Action Plan that includes initiatives

to integrate ESG factors into the financial system (European Commission, 2023).

However, there are no clear investment rules for financial service institutions (FSIs) in financing the nickel industry in Indonesia. Although nickel is an essential component of the energy transition, the nickel industry still heavily relies on coal in its production process. Meanwhile, coal is classified as "red" in the Indonesian Green Taxonomy, indicating its negative impact (OJK, 2022). However, FSIs do not have clear regulations, guidelines, or incentives to encourage the implementation of sustainable finance in this industry. As a result, FSIs do not assess the environmental, social, and governance (ESG) performance of debtors and are less motivated to finance more sustainable nickel industries.

The OJK has released a Taxonomy for Sustainable Finance in Indonesia (TKBI) for the mining sector in early 2024. However, the implementation of TKBI is still voluntary and is considered to have several weaknesses. For example, the transition criteria are deemed too lenient, allowing coal mining with still high emission thresholds to be classified as "transitional activities." Additionally, the definition of "green" is not strict enough, for instance, for nickel mining activities. The TKBI is also perceived to lack attention to social aspects, such as the impact on local communities. Meanwhile, Law No. 4 of 2023 on the Development and Strengthening of the Financial Sector (UU P2SK), which regulates sustainable finance, is still very general. The derivative regulations of the UU P2SK that should regulate the Establishment of the Sustainable Finance Committee have not yet been issued.

Chinese banks dominate the financing of coal-fired power projects that support the development of nickel smelters in Indonesia. For example, The China Development Bank (CDB) has provided loans to Tsingshan for their smelter projects in the Indonesia Morowali Industrial Park (IMIP). This is in line with the ownership of smelters, which is also dominated by Chinese companies. This condition is noteworthy, given the statement of commitment made by Chinese President Xi Jinping in September 2021 to no longer build new coal-fired power plants abroad. However, there are still captive coal-fired power plants that continue to be built by Chinese companies in Indonesia after this commitment statement (PRAKARSA, 2024).

Meanwhile, the European Union has already implemented strict regulations for the regulation of high-risk investments with environmental impacts through the Green Taxonomy Regulation (EU Taxonomy Regulation) which has been in effect since 2020. At least 20 European banks have committed to no longer financing coal projects. However, PRAKARSA (2024) has identified the involvement of European banks such as Standard Chartered, BNP Paribas, Barclays, Santander, HSBC, Credit Agricole, ING, and Natixis in financing the nickel industry in Indonesia through syndicated loans. HSBC is also known to be involved in financing the Indonesia Morowali Industrial Park (IMIP), although the amount is not yet known. In addition, European asset managers such as UBS Group, Amundi, JP Morgan (Ireland), Fidelity Fund SICAV (Luxembourg), and Manulife Global Fund are also involved in the purchase of nickel industry bonds in Indonesia.

Although European banks and asset managers have committed to no longer financing coal projects, their policies only focus on direct exposure. This leaves a "large gap" because the financing of the nickel industry in Indonesia is still connected to coal energy. European-based banks and asset managers tend to comply with the policy standards in the countries where they invest, such as the AMDAL (Environmental Impact Assessment) in Indonesia. Meanwhile, the AMDAL in Indonesia currently does not comprehensively regulate the significant environmental impacts of the nickel industry, such as the management of hazardous and toxic waste, GHG emission reduction targets, impacts on ecosystems and post-mining reclamation. Instead of applying high-standard policies as a reference, European-based banks just complying with local regulations, which are often have lower standard. This is ironic given that the nickel industry in Indonesia is still closely linked to coal energy, which should be avoided according to those banks' commitments.

The timeline for phasing out coal financing is a significant challenge, as the 2030 target for the EU and OECD, and the 2040 global target, raise concerns about the urgency needed to drive the energy transition. The long-term goals of addressing the climate crisis require more immediate action, and delaying crucial measures until 2040 will undermine the effectiveness of these policies in reducing the climate impact of coal. This includes the commitments from financial institutions.

Policy Recommendations

The following are some policy recommendations that policymakers can implement:

1. The Indonesian Parliament needs to revise Law No. 25 of 2007 on Investment. In this revision, it is necessary to include provisions that require both foreign and domestic investors to fulfil the principles of environmentally, socially, and governance (ESG) responsible investment. These principles include Protection of forests, peatlands, and other natural ecosystems (No Deforestation, No Peat, No Exploitation - NDPE), asset management with consideration of high carbon stocks, and a ban on deforestation in any investment activity.
2. The Indonesian Parliament needs to revise Law No. 32 of 2009 on Environmental Protection and Management. This revision must specifically regulate provisions related to energy transition projects, with due regard to the principles of NDPE, High Carbon Stock, and anti-deforestation.
3. The President must immediately issue a Government Regulation to establish a Sustainable Finance Committee as mandated by Law Number 4 of 2023 on the Development and Strengthening of the Financial Sector (P2SK). This Committee must include representation from Civil Society Organizations, business actors, and academics.
4. The Financial Services Authority (OJK) must revise OJK Regulation Number 51/POJK.03/2017 on the Implementation of Sustainable Finance for Financial Service Institutions, Issuers, and Public Companies. This

revision must strengthen ESG standards in various forms of financing by banks, considering international standards such as the IFC Performance Standards and Equator Principles.

5. The banks that provide financing in Indonesia must have specific policies regarding financing in the mining sector, including indirect financing related to coal. Additionally, these banks must conduct stricter monitoring during the financing period.

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