



CASE STUDY

Dirty Nickel: ESG Standards as a Competitive Weapon

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The Race for Clean Cars and the Rise of Dirty Nickel

PT Vale Indonesia, Tbk. (Vale Indonesia) will appoint a new CEO replacing Febriany Eddy in July 2025. The appointment will take place in the middle of major transformation in the transportation industry, shifting from fossil fuel-powered vehicles to electric vehicles (EVs) as part of global efforts to combat climate change. In support of net-zero emission targets, EV production has experienced dramatic increases worldwide. Leading automotive manufacturers such as Tesla, Volkswagen, BMW, and Mercedes-Benz are racing to secure crucial raw material supplies for their EV battery production.

The global race toward electric vehicles (EVs) is not just a technological transformation, it is a battle for control over critical mineral supply chains. As countries and corporations accelerate toward net-zero targets, demand for nickel, an essential component of high-energy-density batteries, is expected to double or even triple by 2030. This surge has elevated nickel from a commodity into a strategic geopolitical asset, reshaping global trade, industrial policy, and corporate strategy.

Indonesia dominates the global nickel supply chain, holding the world's largest reserves (42.3% as of 2023) and accounting for over 61% of global production in 2024 (projected to hit 63% in 2025).¹ Producing about 40% of the world's processed nickel, Indonesia is critical to the global electric vehicle industry. This dominance was reinforced by a 2020 ban on nickel ore exports, successfully attracting significant foreign investment, mainly from China, for domestic smelter and processing facility construction. Indonesia's extensive nickel industry network spans Sulawesi (Morowali, Sorowako), Maluku (Halmahera, Obi), and Papua (Raja Ampat).

However, this rapid expansion has triggered a new global narrative, "Dirty Nickel." This term, increasingly used in global discourse, refers to nickel produced through coal-intensive smelting processes, deforestation and environmental degradation, and weak social and labor safeguards. What began as an environmental concern has quickly evolved into something more strategic, which is a market-shaping narrative that influences pricing, regulation, and access to global supply chains.

¹ International Nickel Study Group (INSG), cited in "Dirty Nickel Gagal Nempel di Vale, Ini Alasan dan Faktanya," Warta Ekonomi, November 24, 2025, <https://id.investing.com/news/economy-news/dirty-nickel-gagal-nempel-di-vale-ini-alasan-dan-faktanya-2898992>.

Purpose and Disclaimer

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IRMA: A New Lucrative Standard

Detrimental narratives toward extractive business sectors are usually neutralized by various Environmental, Social, and Governance (ESG) standards. Early ESG frameworks prominently focus on financial aspects and have increasing greenwashing risks. Mining sectors have the International Council on Mining and Metals (ICMM) as their particular standard, aiming to make the sector fairer and more sustainable. However, civil society and advocacy groups often criticize ICMM for leaning toward industry interests compared to environmental and human rights aspects. This implies the need of a more neutral standard, positioning all stakeholders on equal power.

Initiative for Responsible Mining Assurance (IRMA) was founded in 2006 by the coalition of multistakeholders. It makes IRMA a relatively more objective standard. IRMA's framework independently audits over 400 requirements across environmental management, human rights, community engagement, and occupational safety, provides precisely this standardized verification, and its multi-stakeholder governance structure, which includes civil society and labor unions.² It would increase a company's credibility that internal ESG disclosures alone cannot achieve. Lastly, it should be noted that IRMA assurance is based on a single specific operating site instead of corporation-wide business processes.

Vale Indonesia, The Nickel Pioneer

Vale Indonesia stands as the pioneering force in Indonesia's nickel industry, having commenced operations in 1968, making it the oldest nickel producer in the country with over 56 years of operational experience. Despite being the pioneer and oldest integrated nickel producer in Indonesia, the company contributes approximately 3% of global nickel production, operating from its integrated mining and processing facilities in Sorowako, South Sulawesi, making it the only large-scale integrated nickel operation in the region. This strategic location, combined with its extensive operational history, has established Vale Indonesia as a cornerstone player in Indonesia's nickel sector, setting benchmarks for industry standards and practices long before the recent nickel boom that attracted numerous new entrants to the Indonesian market.

Vale Indonesia's core business involves nickel ore extraction and processing into nickel matte (Exhibit 1), primarily for export markets such as Japan. Unlike many newer players focused on high-pressure acid leach ("HPAL") technology to produce battery-grade nickel (Mixed Hydroxide Precipitate/"MHP"), Vale Indonesia has maintained a relatively conservative technological pathway, prioritizing product consistency and long-term offtake agreements.³ This business model reflects both legacy infrastructure and strategic caution amid volatile global nickel markets.

² IRMA Standard, Initiative for Responsible Mining Assurance, 2025, <https://responsiblemining.net/what-we-do/standard/irma-mining-standard/>

³ Vale (2025). PT Vale Urges Nickel Producers to Pivot Toward the Right Nickel During LME Week 2025. <https://vale.com/w/pt-vale-urges-nickel-producers-pivot-toward-the-right-nickel-during-lme-week-2025>

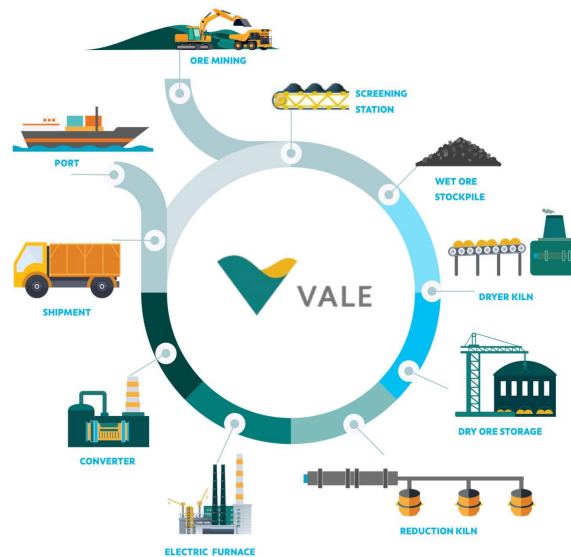


Exhibit 1. Process Flow of Nickel Ore Mining (Sources: Vale Indonesia 2025 Annual Report)

In recent years, Vale Indonesia has finally begun aligning itself with Indonesia's downstream agenda through development projects in Pomalaa and Bahodopi, which aim to integrate mining with processing and support domestic value creation.⁴ Three nickel processing projects utilizing HPAL to produce MHP are now being developed to support Indonesia's downstream goals. This includes ongoing developments of new mining sites and processing facilities.

The Australian Challenge

On February 24, 2024, Australian businessman and Fortescue Metals Group founder Andrew Forrest urged the London Metal Exchange (LME) to classify nickel contracts into clean and dirty categories to provide customers with greater choice.⁵ This campaign represents part of broader efforts by Australian miners and parliamentarians to rescue their domestic nickel industry following price collapses driven by cheaper Indonesian supply flooding the market. Forrest argues that nickel is typically produced under higher environmental and regulatory standards in Australia compared to Indonesia, justifying Australian producers' demands for an eco-friendly premium. He contends that battery manufacturers and consumers should be informed about the environmental footprint of the nickel in their products, advocating for market transparency that would allow buyers to choose cleaner alternatives. By pushing the LME to differentiate between clean and dirty nickel, Forrest frames the issue as both a matter of environmental responsibility and consumer rights, while simultaneously creating a competitive market advantage for Australian nickel producers facing economic pressure from Indonesia's dominant position in global supply.

⁴ Indonesia Stock Exchange (IDX). *INCO Share Performance and Market Data*.

⁵ Reuters. (2024, February 26). *Forrest urges LME to separate nickel contracts into 'dirty' and 'clean'*. Mining Weekly. <https://www.miningweekly.com/article/forrest-urges-lme-to-separate-nickel-contracts-into-dirty-and-clean-2024-02-26>

Vale Position

In August 2024, Vale Indonesia's former President Director and CEO Febriany Eddy has strongly refuted,⁶ emphasizing dirty nickel accusations are fundamentally inapplicable to Vale's operations. Eddy counters the carbon emission claims by highlighting that Vale Indonesia operates entirely on 100% hydroelectric power from the Larona River, differentiating it from coal-dependent Indonesian nickel producers that have earned the industry's negative reputation. She stresses that sustainability has been embedded in the company's DNA since its establishment with a robust ESG framework. It includes independent third-party audits under IRMA standards and the highest ASEAN Corporate Governance scorecard rating at 98.68%.⁷ Eddy expresses concern that Western narratives tend to paint all Indonesian nickel with the same brush, warning that if Vale Indonesia does not speak up, the global perception will categorize all Indonesian nickel as identical regardless of actual operational practices. Her leadership emphasizes transparency, progressive land reclamation targeting 70% completion by 2025,⁸ active environmental monitoring of the Malili Lake Complex, and a performance evaluation system balancing profit, people, and planet, arguing that Vale represents a model of responsible mining that should be recognized separately from other operations elsewhere in Indonesia.

The EV Supply Chain Pressure and Traceability Imperative

The surge in global EV production has directly elevated the strategic importance of Vale Indonesia's Sorowako operation, given that nickel is the dominant material in high-energy-density lithium-ion batteries used by leading EV manufacturers. Indonesia's position as the world's largest nickel producer which accounts for over 61% of global production in 2024, has made it the focal point of EV supply chain scrutiny, particularly as downstream buyers increasingly distinguish between nickel produced responsibly and what Andrew Forrest has termed dirty nickel. For Vale Indonesia, this scrutiny is simultaneously a threat and an opportunity. The threat lies in the global tendency to treat all Indonesian nickel as homogenous, a concern explicitly raised by the former President Director Febriany Eddy, who warned that silence would result in Vale's operations being unfairly categorized alongside coal-powered smelters in Morowali and Halmahera. The opportunity, however, is that Vale's existing operational profile, 100% hydroelectric power from the Larona River, over five decades of integrated operations, and progressive land reclamation, already meets many of the environmental benchmarks that EV supply chain buyers are beginning to mandate through instruments such as the EU Battery Regulation's forthcoming battery passport requirements.

⁶ Febriany Eddy, "INCO Soal Tuduhan Dirty Nickel di RI: Tak Relevan Buat Vale," Bloomberg Technoz, August 26, 2024, <https://www.bloombergtechnoz.com/detail-news/47410/inco-soal-tuduhan-dirty-nickel-di-ri-tak-relevan-buat-vale>.

⁷ "Dirty Nickel Gagal Nempel di Vale, Ini Alasan dan Faktanya," Warta Ekonomi, November 24, 2025, <https://id.investing.com/news/economy-news/dirty-nickel-gagal-nempel-di-vale-ini-alasan-dan-faktanya-2898992>.

⁸ Febriany Eddy, quoted in "Dirut PT Vale Indonesia Buka Suara Soal Serangan 'Dirty Nickel'," Kumparan, August 4, 2024, <https://kumparan.com/kumparanbisnis/dirut-pt-vale-indonesia-buka-suara-soal-serangan-dirty-nickel-23GDCQ7UOm0>.

IRMA as a Credibility Bridge for Vale Indonesia

Against this backdrop, Vale Indonesia's commitment to completing an IRMA audit at its Sorowako operation represents more than a compliance exercise. It is a deliberate move to convert its operational advantages into internationally verifiable credentials that can withstand the scrutiny of global EV supply chain due diligence. Vale Indonesia's ESG claims, including its outstanding ASEAN Corporate Governance scorecard rating and Gold PROPER award, that they carry weight domestically but are relatively unknown to procurement teams at Tesla, Volkswagen, or BMW that require a standardized, third-party verified evidence, when justifying sourcing decisions to European regulators and institutional investors. For Vale Indonesia, obtaining IRMA would be their new competitive weapon and effectively operationalize Febrany Eddy's defense: transforming the narrative from Vale Indonesia's own assertion that it is different from other Indonesian nickel producers into an independently verified fact that global buyers, regulators, and investors can rely upon when making high-stakes sourcing decisions in the EV supply chain. However, the transparent nature of the IRMA platform might also create new risks for Vale Indonesia, as external stakeholders can submit feedback and complaints that will be publicly accessible. For example, through the independent platform, the public would be able to access complaints by affected communities of the pipeline leaks issue in Lioka Village, East Luwu,⁹ not far from the site where the IRMA audit is now undergoing, Sorowako.

Your Position

This case places you in the seat of Vale Indonesia's newly appointed CEO, with the IRMA audit underway at Sorowako. IRMA could turn your claim that "we are different" into an independently verified fact - a genuine competitive weapon against the dirty-nickel label. But IRMA's transparency cuts both ways: it would also make community grievances over the Lioka spill publicly visible, right next to the site being audited.

You are wondering if you should lean to IRMA's transparency as your strongest asset, or whether it exposes the company more than it protects it - and be ready to justify that decision to buyers, investors, and affected communities. Your choice will define Vale Indonesia's strategic standing on the "dirty nickel" narrative threatening Indonesian supply, with consequences for the company's profitability, its legitimacy, and the rights of the people it affects.

⁹ Vale Angkat Bicara soal Kebocoran Pipa Minyak di Luwu Timur, Tempo, August 26, 2025, <https://www.tempo.co/ekonomi/vale-angkat-bicara-soal-kebocoran-pipa-minyak-di-luwu-timur-2063300>

Questions for Discussion

1. How does Vale Indonesia position itself in the Indonesian nickel industry?
2. What measures can be taken by businesses to mitigate all the potential negative impacts of their activities, i.e., the extent of EV producers' responsibility in ensuring ethical sourcing?
3. Is Andrew Forrest's "dirty nickel" campaign purely an environmental issue, or does it carry economic and political motives?
4. Once you have your decision, how do you justify it to buyers, investors, and affected communities?