

Navigating Domestic and International Pressures: A Securitization Analysis of Indonesia's Nickel Policy

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Abstract. This paper examines Indonesia's nickel downstreaming policy, a strategy aimed at boosting economic growth and establishing the country as a major player in the battery and electric vehicle industry. While existing analyses often view this policy through the lens of resource nationalism, this perspective overlooks crucial international political and economic dynamics. We propose a securitization/resource security framework to provide a more comprehensive understanding of Indonesia's nickel downstreaming policy. The natural resource securitization approach frames natural resources as existential threats to state interests, varying based on specific conditions. This framing occurs when natural resource issues impact economic security, regime stability, or geopolitical standing. Using qualitative analysis of policy documents and economic data, we argue that Indonesia's nickel downstreaming policy is a response to perceived threats to economic and regime security, as well as geopolitical challenges at both domestic and international levels. This new perspective offers insights into the complex interplay of factors driving Indonesia's natural resource policies. Our findings suggest that policymakers and researchers should consider a broader range of security concerns when analyzing resource policies in developing economies. This approach may have implications for understanding similar policies in other resource-rich countries.

Keywords: Indonesia, Nickel Downstreaming, Securitization

1 Introduction

The global transition towards renewable energy and electric vehicles (EVs) has precipitated an intense competition for critical minerals, with nickel emerging as a pivotal resource in this evolving landscape (Olivetti et al., 2020). Indonesia, possessing the world's largest nickel reserves, has positioned itself at the forefront of this transition through its ambitious nickel downstreaming policy. This strategy aims to transform Indonesia from a mere exporter of raw materials into a major producer of higher-value nickel products, garnering significant attention from both policymakers and scholars [1].

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Indonesia's nickel reserves, estimated at 21 million tonnes or approximately 21% of the world's total in 2023, represent a substantial economic opportunity [2]. The country's nickel production has experienced a remarkable surge, increasing from 853,000 tonnes in 2019 to an estimated 1.6 million tonnes in 2023, solidifying its position as the world's largest nickel producer [3]. This production boom has been accompanied by a significant policy shift towards resource nationalism, exemplified by the ban on nickel ore exports implemented in January 2020 [4].

The rationale underpinning Indonesia's nickel downstreaming policy is multifaceted. Superficially, it appears to be a straightforward attempt to capture more value from the country's natural resources and stimulate domestic industrial development. Indeed, the policy has shown early indications of success. As Minister Coordinator of Maritime and Investment, Luhut Pandjaitan has indicated that Indonesia's export of nickel jumped 745% from around US\$4 billion in 2017 to US\$33.81 billion in 2023 [5]. Moreover, the Ministry of Investment/BKPM noted that the realization of investment in the downstream sector in January-June (semester I) 2024 reached IDR 181.4 trillion. This figure increased by 21.9 percent on an annual basis (year on year), with details of investment in the nickel sector of IDR 80.9 trillion [6].

However, viewing this policy solely through the lens of resource nationalism, as many existing analyses do (e.g., Warburton, 2021), provides an incomplete picture. This approach reveals the first significant research gap: the need for a more comprehensive framework that accounts for the complex interplay of domestic and international factors shaping Indonesia's policy choices. Current literature often fails to fully account for the global geopolitical dynamics surrounding critical minerals, the intensifying competition in the EV supply chain, and the broader economic and political pressures facing the Indonesian government [7], [8].

To address this gap, this paper proposes a more comprehensive framework for understanding Indonesia's nickel downstreaming policy by employing a securitization approach. Securitization theory, originally developed in the field of international relations, posits that security is a socially constructed concept, where actors frame certain issues as existential threats to a referent object, thereby justifying extraordinary measures to address them [9]. When applied to natural resources, this approach allows us to examine how governments frame resource issues as matters of national security, encompassing economic, regime, and geopolitical dimensions [7], [8].

The application of securitization theory to resource policies in developing economies represents a novel approach that can provide insights into the complex motivations and strategies underlying these policies. By examining Indonesia's nickel downstreaming policy through this lens, we aim to contribute to a more nuanced understanding of resource governance in the context of global energy transitions and shifting geopolitical dynamics.

2 Literature Review

Indonesia's nickel downstreaming policy is one of the development strategies driven by the mining commodity sector. This policy is often cited as one example of a policy of natural resource nationalism. Studies on Indonesia's policies in the resource sector are currently dominated by explanations of domestic factors. The study of domestic factors influencing resource nationalism policies was popularized by Eve Warburton. In her various publications, Warburton argues that natural resource nationalism refers to Indonesia's efforts to gain greater control over its natural resources, which are often portrayed as exploited by foreign capital, as an attempt to reassert sovereignty and gain a greater share of profits from resource extraction [1], [10], [11], [12].

Furthermore, Warburton argues that the emergence of resource nationalism in Indonesia is greatly influenced by several domestic political conditions. First, resource nationalism is driven by political opportunism packaged in the concept of nationalism. This is related to efforts to arouse positive sentiment from the people, which can be used in the election process. In general, expressions that show a strong spirit of nationalism, which prioritizes domestic ownership of industries and resources, will influence patterns of political support. Second, the character of Indonesian society that still shows a strong patronage system greatly affects the patterns of support between the government and its support network. This strong link is found in the network of interests between vested business interests and its patronage relationship with Indonesian legislators, and the relationship with the structural power and influence of large foreign mining companies in Indonesia [12, pp. 16–19]. In other publication Warburton stated:

“(Indonesia) resource nationalism should not be viewed as a temporary response to price booms Instead, we should see nationalist interventions in Indonesia as part of a re-emergent developmentalist model. The developmentalist vision for a locally owned and industrialised resource sector enjoys much support within the policy-making elite, and dovetails with the interests of domestic business. The ideas that underpin resource nationalism also resonate with broader narratives about Indonesia’s struggle against foreign economic exploitation [12, p. 91].”

Thus, natural resource nationalism in Indonesia, including nickel downstreaming policies arises due to a combination of efforts to arouse populist sentiment in society through the jargon of nationalism and the existence of a strong network of interests between politicians, domestic business groups and foreign business groups.

Another study that also focuses on domestic conditions as a driver of nationalistic mining policy is a publication by IGW Wicaksana. In his publication, Wicaksana argued that economic nationalism, especially in the mining sector, is greatly influenced by the need for legitimacy of the Indonesian government (Jokowi administration), because ‘*facing legitimacy challenges from the inside and the outside of the political system has to opt for the nationalistic stance on the basis of its visibility to respond to dynamics [13, p. 33]*’

Another study from the domestic aspect was *presented* by Riza Budi Santosa *et. al* who stated that the nickel export ban (and downstreaming) policy aims to strengthen Indonesia's bargaining position in global trade and show Indonesia's independence in decision-making. Using the perspective of rational choice theory, the authors argue that the policy of banning the export of nickel ore is the result of rational considerations that include consideration of ideological preferences and economic considerations in its efforts to increase the added value of nickel products through processors from upstream to downstream to create economic independence of the nickel industry [14].

Although the above arguments are very interesting to explain the phenomenon of resource nationalism, especially related to nickel downstream policies, they focus only on domestic aspects (except for Wicaksana's opinion which also covers international dynamics). This focus on the domestic aspect tends to ignore other factors outside Indonesia that also greatly influence Indonesia's decision to implement a policy of resource nationalism, especially in the nickel mining sector. To complete this explanatory gap, this paper explores the international factors that influence, and shape Indonesia's preferences in implementing nickel downstream policies.

One of the studies that can be used as a foothold for analysis is the explanation given by Jeffrey D. Wilson in his book *International Resources Politics in Asia Pacific: The Political Economy of Conflict and Cooperation* (2017). In his book, Wilson explained that one important factor at the international level that is often overlooked in the policy of resource

economic nationalism in a country is the encouragement to securitize/secure resources from external factors that are considered to threaten the existence of a country [15].

In Wilson's view, the natural resource securitization approach is – a process in which the government frames natural resources as an existential threat to the interests of the state – that varies in nature and depends heavily on certain conditions. This policy appears in countries where natural resource problems are affected in terms of economic security, regime security and/or geopolitics. This securitization policy will usually direct the government to adopt a nationalistic policy framework that can result in international conflicts over natural resources [15, p. 11].

The paper argues that the securitization approach can be used as a lens to look at the political dynamics – both at the domestic and international levels – that shape a country's preferences over resource policies. Following Wilson's explanation, this securitization approach is important to explain the international factors of resource nationalism policy for several reasons [15, pp. 12–14]. First, the securitization approach argues that the government will make efforts to secure resources because the security domain is the main role of the government. In many countries, resources are considered an important economic security issue. In countries that are consumers of resources, resource securitization is aimed at protecting the access of economic interest groups to resources. While in producer countries, this securitization concerns how resource revenues are used by the state for economic and development purposes and the process of its distribution to community groups.

Second, securitization usually directs the government to adopt a resource policy regime that is economically nationalist. This is based on the idea that rather than leaving the exploitation of resources to market forces and the decisions of private companies, the government intervenes in these sectors to control the sectors that are essential to the existence of the state. In producer countries, securitization often takes the form of so-called nationalist policies of resources, such as state ownership, industrial policy intervention, trade and investment controls, and taxation arrangements. Because of adopting policies that are economic nationalism, the government generally prefers a state-based resource policy regime rather than a market, which results in a relatively high level of state control over the international market.

Third, securitization and nationalism of resources within the state play a decisive role in shaping the political patterns of resources among them. This securitization affects how countries view interdependent relationships between countries, whether they will be individualistic, competitive or act unilaterally when there is a scarcity of resources.

With the above considerations, the nickel downstream policy in Indonesia can be seen as a securitization policy on natural resources which is seen as having a great influence on the existence of the country. This view makes it possible to build an analytical model that can identify the securitization approach as a political driver of international resources. Moreover, there has been a perception that control over nickel resources enhances Indonesia's bargaining power in various international forums, which marked by a broader trend of resource securitization in the context of shifting global power dynamics [4]. It has enabled the government to implement and justify measures that might otherwise be seen as contradicting free-market principles or international trade norms. For example, the abrupt ban on nickel ore exports in 2020, while controversial, was framed as a necessary step to protect national interests

This securitization approach offers several advantages in explaining nickel downstream policies compared to analyses that rely on domestic explanations. The securitization approach does not separate domestic and international politics. This means that in determining the nickel downstream policy, the government considers both domestic and international factors. This approach will also explicitly reveal the international factors behind

the resource securitization policy, by looking at nickel downstream as the government's securitization policy in seeking economic, regime and geopolitical security.

In addition, this securitization approach helps to understand the nickel downstream policy debate in the perspective of 'conflict-or-cooperation' in the political literature of natural resources that tends to be reductionist. Instead of framing resource interdependence as an inherently conflictual or cooperative international game, securitization argues that both dynamics (domestic and international) simultaneously play a role in the process of determining and implementing resource nationalism policies.

3 Method

This study employs a qualitative research methodology to examine Indonesia's nickel downstreaming policy through the lens of securitization theory. Our approach combines document analysis, and economic data examination. We analysed official policy documents, government statements, and economic reports and employed thematic analysis to identify recurring themes and patterns in the collected data, focusing on how nickel resources are framed in terms of economic, regime, and geopolitical security. This multi-faceted approach allowed for triangulation of data sources, enhancing the reliability and validity of our findings. By integrating these diverse data sources, we aim to provide a comprehensive analysis of the securitization processes surrounding Indonesia's nickel policy and their implications for both domestic and international spheres.

4 Result and Discussion

This part analyses factors that driving the securitisation of nickel in Indonesia. It reveals that the securitization narrative employed by the government encompasses three main dimensions: economic security, regime security, and geopolitical security. Hence, Indonesia's nickel downstreaming policy is a response to perceived threats to economic and regime security, as well as geopolitical challenges at both domestic and international levels.

From economic security perspective, there has been a sense of economic insecurity due to the government failure in boosting the economic growth. Indonesia's economic growth has fallen short of government targets in recent years, Indonesia GDP growth rate for 2019 was 5.02%, a 0.15% decline from 2018, GDP growth rate for 2020 was -2.07%, a 7.08% decline from 2019, while in 2021 its GDP rose to 3,7%, below the government's target of 5-6% [16]. This underperformance has created significant pressure to find new engines of economic growth.

There has been a strong belief among Indonesian officials that the nickel industry can drive economic development, in which see nickel as an important ticket to becoming a developed economy. Official statements consistently frame nickel resources as vital for Indonesia's economic growth and development. This framing justifies the extraordinary measure of banning raw nickel exports, positioning it as necessary for safeguarding national economic interests. Jokowi has emphasised that the downstream of the nickel industry and other natural resources is the key to improving the national economy. The President also explained how the nickel downstream policy has brought a big jump to state revenues through tax and other state revenues

In his State Address before the parliament, Jokowi stated:

“because Indonesia is very rich in natural resources including mineral materials, plantation products, marine products, as well as new and renewable energy sources. However, being rich in natural resources is not enough. Become the owner is also not

enough. Because it will make us a lazy nation that only sells raw materials of its wealth without any added value, without any sustainability. I want to emphasize; Indonesia should not be like that. Indonesia must be a country that is also able to cultivate its resources, be able to provide added value and prosper its people. And we can do this through downstreaming, which I have conveyed hundreds of times, dozens of times. The downstream that we want to do is downstream that transfers technology, which utilizes new and renewable energy sources, and minimizes environmental impacts. The government has required mining companies today to build nursery centres, build nursery centres, to reforest land after mining, after mining. The downstream that we want to do is downstreaming, not only in mineral commodities. But also, non-mineral, such as palm oil, seaweed, coconut and other potential commodities [17].”

The above rhetoric clearly emphasises the transformative potential of nickel for Indonesia's economy, moving beyond mere resource extraction to value-added production. The economic securitization narrative is lucidly demonstrated by the government's view of downstreaming policy as the cornerstone of future economic security.

Nickel downstreaming policy also has much to do with Jokowi's administration legitimacy. The nickel downstreaming policy is closely tied to President Joko Widodo's vision of economic nationalism, a key component of his political platform (Warburton, 2021). For example, the Minister of Investment/Head of the Investment Coordinating Board (BKPM) Bahlil Lahadalia underscored that the policy of processing raw products into high added value (downstreaming) in the nickel sector has an impact on increasing the economy up to 10 times. In highlighting the importance of nickel downstreaming policy to the dramatic increase of state revenues and national economic interest, Lahadalia stated:

“In 2017-2018, our nickel exports were only 3.3 billion US dollars. Once we stop, then we build industry, we build downstream. Our exports now in 2023 have reached 33.5 billion US dollars, a 10-fold increase, (.....) The nickel downstream program also makes Indonesia one of the largest producers of stainless steel in the world, as well as a potential country in the development of renewable energy investment, especially electric vehicle batteries [6].”

This framing of the policy as a matter of national pride and sovereignty has been crucial in mobilizing public support and justifying the associated economic disruptions.

The government also often linked the success of the nickel downstreaming policy to its legitimacy and ability to deliver on promises of economic development. President Joko Widodo, in the opening speech of the XXII Congress of the Indonesian Economic Scholars Association (ISEI), September 2024 indicated that the downstreaming of the nickel industry and other natural resources is the key to improving the national economy [18]. In other occasion, Jokowi also affirmed that nickel downstreaming policy has created so many jobs as an effect of investment in the downstreaming industry [17]. This rhetoric ties the policy's success to the regime's stability and popular support. Thus, there have been consistent narratives that frames the nickel policy as a test of the government's ability to assert control over national resources and deliver tangible benefits to the population. This framing aligns with Warburton's (2021) concept of 'new developmentalism' in Indonesia, characterized by increased state intervention in strategic sectors.

Indonesia's decision to embark on its nickel downstreaming policy has also been influenced by several external and international factors. First, the global demand for electric vehicles (EVs) and batteries and the fluctuating global nickel prices. The rapid growth of the EV market and the consequent surge in demand for batteries has been a significant driver.

Nickel is a crucial component in lithium-ion batteries used in EVs. However, volatile nickel prices on the global market have pushed Indonesia to seek more stable and higher-value exports through processed products [19].

Indonesia's policy is also partly a response to competition from other major nickel producers like the Philippines and Russia, while at the same time the country faces pressure from developed countries. On the other hand, Indonesia has long memory of nations' historical exploitation of Indonesia's raw materials, which has fuelled a desire for greater economic sovereignty. These global trade tensions and increasing protectionist policies of many countries have influenced Indonesia's decision to focus on domestic processing. China's strong position in the EV supply chain has also motivated Indonesia to secure a place in this lucrative market. Furthermore, the international push for clean energy transition has increased the strategic importance of nickel for battery production. International commitments to sustainability, such as the Paris Agreement, have increased the importance of securing supply chains for green technologies [20], [21]

The Indonesian government has also increasingly framed nickel resources as a source of geopolitical leverage in the global transition to clean energy. For instance, Indonesian Minister of Energy and Mineral Resources (ESDM) Bahlil Lahadalia has asserted that Indonesia should rightfully dictate the global prices of nickel, coal, and tin, given its status as the world's leading producer of these commodities [22]. This framing reflects a growing awareness of the strategic importance of critical minerals in international relations.

The nickel downstream policy has led to international trade tensions, particularly with the European Union, which filed a complaint with the World Trade Organization over Indonesia's nickel export ban. The Indonesian government has framed these disputes as attempts by foreign powers to undermine its sovereignty over natural resources. In response to the WTO ruling against Indonesia, the Minister of Trade stated Indonesia's appeal is about protecting our national interests, not restricting trade. Further he indicated that 'the Indonesian government and legal representatives have prepared arguments to test the initial panel's decision that was considered wrong in interpreting WTO rules. Indonesia believes that the downstream policy does not violate Indonesia's commitments at the WTO and Indonesia will remain consistent with WTO rules' [23]. Moreover, Airlangga Hartarto, the Minister of Industry stated: 'so if there are other countries that force us to export those commodities, I often call it regulatory imperialism, imperialist regulators, now the new colonialism is carried out in that way [24].'

These external factors, combined with Indonesia's domestic priorities, have shaped the country's decision to pursue an aggressive nickel downstream policy. The policy represents Indonesia's attempt to position itself strategically in the evolving global economic landscape, particularly in the context of the clean energy transition and the fourth industrial revolution.

These findings demonstrate the relevance of considering both domestic and international factors in understanding resource policies. The Indonesian case illustrates how resource-rich developing countries navigate complex economic, political, and geopolitical pressures in formulating their resource strategies. By highlighting these multifaceted influences, our analysis contributes to a more comprehensive understanding of the drivers behind Indonesia's nickel policy and similar resource policies in other developing economies.

5 Conclusion

This study has examined Indonesia's nickel downstream policy through the lens of securitization theory, revealing a complex interplay of domestic and international factors shaping the country's resource governance strategies. Our analysis demonstrates that the

policy extends beyond simple resource nationalism, encompassing economic, regime, and geopolitical security dimensions.

The securitization of nickel resources has enabled the Indonesian government to implement extraordinary measures, such as the export ban, framing them as essential for national interests (OECD, 2021). This approach has been driven by domestic pressures for economic growth and political legitimacy, as well as international factors including the global clean energy transition and geopolitical competition over critical minerals

However, this policy is not without challenges, including environmental concerns and international trade disputes. These findings highlight the need for a more nuanced understanding of resource policies in developing economies, considering the broader context of global energy transitions and shifting geopolitical dynamics.

Future research should explore the long-term implications of such securitization approaches on sustainable development and international cooperation in the critical minerals sector. This study contributes to a more comprehensive framework for analysing resource policies, with potential applications to other resource-rich developing countries navigating similar challenges.

References

1. E. Warburton, "Jokowi and the New Developmentalism," *Bulletin of Indonesian Economic Studies*, vol. 52, no. 3, pp. 297–320, Sep. 2016, doi: 10.1080/00074918.2016.1249262.
2. D. M. Flanagan, "Mineral Commodity Summaries 2024," U.S. Geological Survey, 2024. doi: 10.3133/mcs2024.
3. J. Madhumitha, "Distribution of Mine Production of Nickel Worldwide in 2022, by Country," Statista. Accessed: Jun. 30, 2024. [Online]. Available: <https://www.statista.com/statistics/603621/global-distribution-of-nickel-mine-production-by-select-country/>
4. OECD, *OECD Investment Policy Reviews: Indonesia 2020*, Organisation for Economic Co-operation and Development, 2020.
5. A. Yani, "Nickel Downstream Export Value Soars 745%," *Indonesia.go.id*. Accessed: Jul. 30, 2024. [Online]. Available: <https://indonesia.go.id/kategori/editorial/7255/nilai-ekspor-hilirisasi-nikel-melonjak-745?lang=1>
6. B. Ramdi, "Bahlil: Nickel Downstreaming Provides Tenfold Economic Added Value," *Antaraneews.com*. [Online]. Available: <https://www.antaraneews.com/berita/4226207/bahlil-hilirisasi-nikel-beri-nilai-tambah-perekonomian-10-kali-lipat>
7. R. Emmers, "Securitization," in *Contemporary Security Studies*, 5th ed., A. Collins, Ed., Oxford: Oxford University Press, 2018, pp. 173–188. doi: 10.1093/hepl/9780198804109.003.0012.
8. G. Bridge, "Energy (In)security: World-Making in an Age of Scarcity," *The Geographical Journal*, vol. 181, no. 4, pp. 328–339, Dec. 2015, doi: 10.1111/geoj.12114.
9. B. Buzan, O. Waever, and J. de Wilde, *Security: A New Framework for Analysis*, vol. 53, no. 4. Boulder, CO, and London: Lynne Rienner Publishers, 1998. doi: 10.2307/40203739.
10. E. Warburton, "In Whose Interest? Debating Resource Nationalism in Indonesia," *Kyoto Review of Southeast Asia*, no. 15, 2014. [Online]. Available: <https://kyotoreview.org/yav/in-whose-interest-debating-resource-nationalism-in-Indonesia/>
11. E. Warburton, "Nationalism, Developmentalism, and Politics in Indonesia's Mining Sector," in *Indonesia in the New World*, A. Patunru, M. Pangestu, and M. C. Basri, Eds.,

- Singapore: ISEAS–Yusof Ishak Institute, 2019, pp. 90–108. doi: 10.1355/9789814818230-011.
12. E. Warburton, *Our Resources, Our Rules: A Political Economy of Resource Nationalism in Indonesia*, Australian National University, 2018. doi: 10.25911/5d67b49938e3a.
 13. I. G. W. Wicaksana, "Economic Nationalism for Political Legitimacy in Indonesia," *Journal of International Relations and Development*, vol. 24, no. 1, pp. 27–50, Mar. 2021, doi: 10.1057/s41268-019-00182-8.
 14. R. B. Santosa, D. F. Moenardy, R. Muttaqin, and D. Saputera, "No Title," *Indonesian Perspective*, vol. 8, no. 1, pp. 154–179, 2023.
 15. J. D. Wilson, *International Resource Politics in the Asia-Pacific: The Political Economy of Conflict and Cooperation*, Cheltenham, UK: Edward Elgar Publishing, 2017.
 16. A. O'Neill, "Indonesia: Growth Rate of the Real Gross Domestic Product (GDP) from 2019 to 2029 (Compared to the Previous Year)," Statista, 2024. [Online]. Available: <https://www.statista.com/statistics/320068/gross-domestic-product-gdp-growth-rate-in-indonesia/>
 17. J. Anwar, "Speech of the President of the Republic of Indonesia at the Annual Session of the People's Consultative Assembly, August 16, 2023," Secretariat of the Cabinet of the Republic of Indonesia. Accessed: Jul. 30, 2023. [Online]. Available: <https://setkab.go.id/pidato-presiden-ri-pada-sidang-tahunan-mpr-ri-dan-sidang-bersama-dpr-ri-dan-dpd-ri-dalam-rangka-hut-ke-78-proklamasi-kemerdekaan-ri-digedung-nusantara-mpr-dpr-dpd-ri-senayan-provinsi-dki-jakarta/>
 18. Presidential Office of the Republic of Indonesia, "President Jokowi: Nickel Downstreaming and Natural Resources as the Key to National Economic Growth." Accessed: Sep. 25, 2024. [Online]. Available: <https://www.presidentri.go.id/foto/presiden-jokowi-hilirisasi-nikel-dan-sumber-daya-alam-jadi-kunci-peningkatan-ekonomi-nasional/>
 19. M. Ericsson and O. Löf, "Mining's Contribution to National Economies Between 1996 and 2016," *Mineral Economics*, vol. 32, no. 2, pp. 223–250, Jul. 2019, doi: 10.1007/s13563-019-00191-6.
 20. M. D. Bazilian, "The Mineral Foundation of the Energy Transition," *The Extractive Industries and Society*, vol. 5, no. 1, pp. 93–97, Jan. 2018, doi: 10.1016/j.exis.2017.12.002.
 21. S. H. Ali et al., "Mineral Supply for Sustainable Development Requires Resource Governance," *Nature*, vol. 543, no. 7645, pp. 367–372, Mar. 2017, doi: 10.1038/nature21359.
 22. P. Lani, "Indonesia Should Dictate Global Prices of Nickel, Coal: Minister Bahlil," *Tempo*.
 23. S. Anggun, "Indonesia Lost WTO Dispute, Minister of Trade Zulhas Prepares This Strategy," Ministry of Trade of the Republic of Indonesia. Accessed: Jul. 30, 2024. [Online]. Available: <https://www.kemendag.go.id/berita/pojok-media/ri-kalah-gugatan-di-wto-mendag-zulhas-siapkan-jurus-ini>
 24. R. R. Ramli and A. M. Pratama, "IMF Requests Indonesia to Lift Nickel Export Ban, Coordinating Minister Airlangga: New Colonialism is Being Carried Out That Way," *Kompas*, Jun. 27, 2023.