

Prospects and Challenges of Indonesia's Sustainable Economy amidst Global Dynamics: A Case Study on Critical Minerals

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Background

Economic decarbonization and a just energy transition are crucial policies that Indonesia must pursue to achieve its two important targets: the Golden Indonesia Vision and Net Zero Emissions. However, the growing trend of unilateral trade policies, including trade restrictions and discriminatory subsidies, further complicates the energy transition process. For example, the strategic competition in electric vehicle production between the US and China escalated in mid-2024 with the US tariff increase of up to 100%. Looking back to 2023, global economic growth was also slow, impacted by inflation, geopolitical tensions, and climate change threats.

From the climate policy point of view, international trade and investment are strategic but rather complex aspects. On the positive side, trade can promote a low-carbon transition through technology transfer while supporting economic resilience during crises. On the downside, international trade contributes to emissions through logistics and transportation and risks carbon leakage. These challenges are likely to impact more significantly developing countries like Indonesia, where there is a limited understanding of these issues and more vulnerable macroeconomic conditions. Like its peers, Indonesia faces the pressure of balancing its ambitious climate goals with the need for economic growth and fiscal stability. These dynamics demand innovative approaches if the country is to achieve a just green transition in the face of external pressures.

One significant challenge for Indonesia in this transition is managing its critical minerals. These minerals are important for global energy transition. However, the importance of these vital commodities also made it sensitive to geopolitical risks. For instance, the supply chains of critical minerals such as copper, nickel, cobalt, and rare earth metals—which are vital for producing electric vehicle batteries—are often concentrated in specific regions like China, thereby exposing it to supply chain risks in the current climate of geopolitical rivalry.

Such geopolitical reality increases risks for countries like Indonesia. While the country is blessed with significant reserves of some of these minerals, it still has to compete for the resources, investments, and technologies needed to process them. At the same time, it faces the pressure to pay higher costs for energy transition technologies.

Externally, Indonesia's growth will likely depend on how it will fare against pressures such as the high global interest rates and China's economic slowdown. But internally, factors such as Indonesia's fiscal discipline, willingness to do economic reform—including adjusting fuel subsidies to encourage energy transition and reducing policies that incentivize fossil-based energy—and ability to sustain industrial growth will remain indispensable. This article argues that the path forward for Indonesia requires a nuanced, multi-sector strategy that integrates sustainability across governance, along with a smart and balanced trade and foreign policy to solidify Indonesia's role in the global critical minerals market. To delve into this argument, this article departs from elaborating on some of the external pressures Indonesia faces as well as some of the actions it has taken to better its position in the global green transition agenda.

Then, the article highlights Indonesia's main modality to realize the just energy transition goals in the form of its critical minerals. The article also analyzes some of the domestic issues that Indonesia must address if it were to balance its position better to both achieve its projected economic growth and realize its green transition agendas, highlighting the need especially to make more mainstream sustainability considerations in the development of its critical minerals industries. Finally, the article draws comparative lessons as well as identifies opportunities to chart the way forward for Indonesia's economy.

Indonesia amidst Global Trends in Green Trade and Investment Agenda

Records show that both global trade and investment trends in 2023 have slowed down. Success in managing geopolitical risks becomes the key to benefit from the trend of derisking or rerouting global value chains. Indonesia has yet to take advantage of this as fully as it would like, mainly due to its unfinished domestic economic reform. However, Indonesia has the potential to push for the necessary economic reform agenda, such as through utilizing “peer pressure” from members of international economic cooperation, including the Organization for Economic Cooperation and Development (OECD), which it aspires to join in the next three years.

Meanwhile, trade in environmental goods (EGs) is growing rapidly in the global market, increasing by almost 2.5-fold between 2000 and 2020.² The average annual growth of EGs exports during the period of 2013-2023 reached 4.7%, while EGs imports reached 5%.³ Although global economic conditions are still overshadowed by uncertainty, trade in environmentally friendly goods has shown promising developments throughout the past two decades. However, high tariffs and non-tariff measures (NTMs) affect EGs growth, especially in developing countries like Indonesia, which needs more facilitative trade policies to boost competitiveness.

Nonetheless, sustainable trade still looks set to be the main global source of growth and major part of trade. After all, the growth of sustainable trade and investment is higher than that of trade and investment in general. For this reason, there is a need for global initiatives and stronger international cooperation to reduce trade barriers such as tariffs in developing countries and

2 WTO, World Trade Report 2022: Climate Change and International Trade.

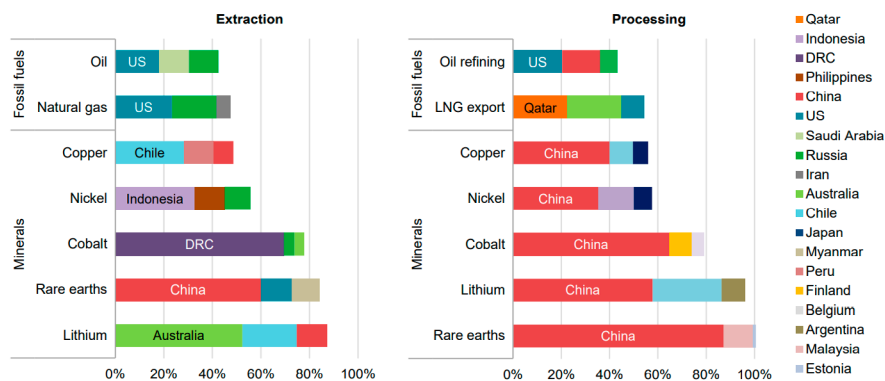
3 Environmental goods are goods related to environmental protection, including goods related to pollution management and resource management. Environmental goods also include those that are adapted to be more environmentally friendly (Trade in Environmental Goods, IMF, 2024).

non-tariffs in developed countries. Especially with how strategic competition has encouraged more unilateral policies, slowing down global economic decarbonization programs.

Rising strategic competition between the US and China as well as ongoing global conflicts, like the Russia-Ukraine War and the tensions in the Middle East, have all contributed to global instability. Despite this, international organizations remain optimistic about Indonesia's growth potential. The numbers are, in fact, supportive of this outlook. While global foreign investment showed a declining trend in 2023, Indonesia continues as one of the main investment destinations in ASEAN. But Indonesia cannot become complacent. External pressures, such as high interest rates and China's economic slowdown, mean Indonesia must implement critical economic reforms, including adjustments to fuel subsidies, to accelerate its energy transition. Indonesia should also optimize its investment potential, e.g., in the energy transition sector while considering sustainable downstream policies as well as emphasizing the importance of diversification.

A key area of focus for Indonesia would be to observe the surge in subsidies for green technologies, which has reshaped the global trade landscape. In response to the US Inflation Reduction Act and the EU Green Deal, countries are increasingly offering incentives for green production, driving competition in areas like electric vehicles and renewable energy. Meanwhile, China continues to dominate the supply of critical minerals for these industries (Figure 1). As the US and EU seek to reduce their reliance on China, developing countries face mounting challenges—not only in attracting investment but also in dealing with higher costs for energy transition products due to fragmented global supply chains.

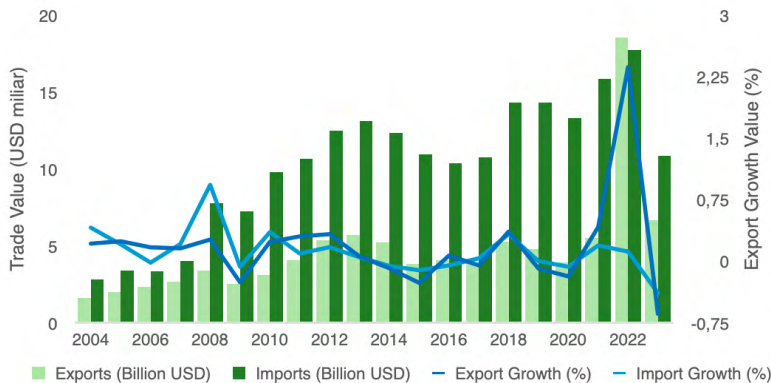
Figure 1. Extraction Concentration and Critical Mineral Processes



Source: IEA (2022)

Indonesia needs a more facilitative trade policy to enhance its competitiveness in sustainable trade. Indonesia’s trade in environmental goods (EGs) is growing, with an average annual growth of exports of 1.4% and an annual growth of imports of 2.8% over the period of 2013 and 2023 (Figure 2). With imports increasing faster than exports, Indonesia must maximize the production of environmental goods that have the potential for export.

Figure 2. Total Trade of Environmental Goods (EGs) in Indonesia 2004 – 2023 (in USD billion)

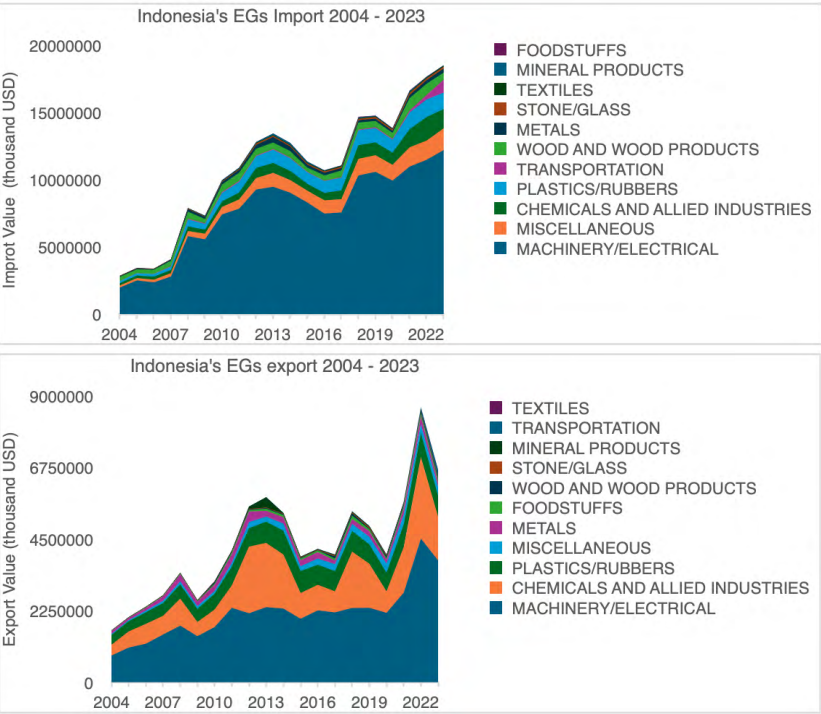


Source: IMF, Team of Writers

In 2023, Indonesia’s exports and imports of environmental goods were around 2.6% and 4.9% of Indonesia’s total exports and imports, respectively. Compared to neighboring countries, Indonesia’s imports, and exports of EGs are relatively low and is growing at a slower rate. High import tariffs, averaging 7.3%, hindered trade expansion. Reducing these tariffs and adopting more facilitative policies could help accelerate decarbonization and the energy transition.

The composition of Indonesia’s EG imports and exports indicates the magnitude of intra-industry trade and strong dominance in certain industrial sectors (Figure 3). However, EG exports from the mineral industry have declined, on average, by 23% p.a. over the last 10 years. This is different from Indonesia’s general export profile, which is increasingly dependent on commodity exports.

Figure 3. Imports and Exports of EGs by Categories of Goods in Indonesia 2004 – 2023



Source: Trade Map, Team of Writers

To boost its standing in the global economic decarbonization and just energy transition trend, Indonesia has embarked on developing several regulations and rules related to green trade and investment. The first policy to highlight is the *Local Content Requirement (Tingkat Komponen Dalam Negeri/TKDN) policy*. This article argues that Indonesia's Local Content Requirement (TKDN) regulation, aimed at increasing domestic value-added jobs, has not been effective in reducing the demand for imported input products, which are essential for the competitiveness of the Indonesian manufacturing sector. In fact, Indonesia still relies heavily on imported goods for decarbonization and energy transition. For the country, the restrictive nature of TKDN has limited its access to technology and knowledge, harming its competitiveness. A CSIS study also shows a negative correlation between increasing local content level requirement (TKDN) and productivity, output, exports, labor—, and added value of manufacturing companies in Indonesia.⁴ Considering the importance of participation in the global value chain and ease of import for investors, this article argues that the TKDN regulations should be reformed and aligned with trade and industrial policies.

Second is the *carbon pricing policy*. Indonesia's Enhanced Nationally Determined Contribution (NDC) commits to reducing greenhouse gas emissions by 31.89% unconditionally by 2030. In support of this, the government introduced carbon pricing mechanisms, including emission trading and carbon taxes, through Presidential Regulation No. 98/2021. However, the low price of carbon credits—currently IDR58.800 (USD 3.8)—and delays in implementing the carbon tax have weakened the incentive for companies to reduce emissions. To effectively promote low-carbon technologies and encourage emission cuts, higher carbon prices and the timely implementation of a carbon pricing mechanism are critical.

4 CSIS Indonesia. (2023). Economic impacts of local content requirements in Indonesia. Jakarta, Indonesia. <https://csis.or.id/publication/economic-impacts-of-local-content-requirements-in-indonesia/>.

Third is the *green taxonomy*. Indonesia's green taxonomy was introduced in 2022 (THI)⁵ and updated in 2024 as the so-called Taxonomy for Indonesia's Sustainable Finance (TKBI),⁶ aligning itself with the ASEAN Taxonomy for Sustainable Finance (ASTF). TKBI provides a framework for sustainable financing but diverges from global standards by eliminating the 'red' classification, leaving only the 'green' and 'transition' categories. Such a decision has raised concerns about the risk of greenwashing, as businesses that are not fully aligned with sustainability goals could still secure funding. We argue that ensuring a robust and transparent taxonomy is crucial for driving climate action in Indonesia. In addition, there is currently no global taxonomy that includes the mining and extraction of critical minerals in its discussion. Developing countries need this classification to support realistic and gradual transition steps to net zero emissions.

These policies have been introduced to better Indonesia's image as a country that participates well in global decarbonization and a just energy transition agenda. Together, they make up Indonesia's main green trade and investment policies. These policies, aside from getting Indonesia closer to its net zero emissions goals—among others, are aimed at further integrating Indonesia's economy, as well as giving it a better and more competitive standing, vis a vis the global economy. Especially with regard to its competitiveness in the trade of environmental goods, most of all its currently most priced asset is the critical minerals.

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- 5 Otoritas Jasa Keuangan. (2022). Taksonomi Hijau Indonesia. Jakarta, Indonesia. <https://www.ojk.go.id/keuanganberkelanjutan/id/publication/detailslibrary/2352/taksonomi-hijau-indonesia-edisi-1-0-2022>
 - 6 Otoritas Jasa Keuangan. (2024). Taksonomi untuk keuangan berkelanjutan Indonesia. Jakarta, Indonesia. [https://www.ojk.go.id/id/berita-dan-kegiatan/info terkini/Documents/Pages/Taksonomi-untuk-Kuangan Berkelanjutan Indonesia/ Buku%20Taksonomi%20untuk%20 Kuangan%20Berkelanjutan%20Indonesia%20%28TKBI%29.pdf](https://www.ojk.go.id/id/berita-dan-kegiatan/info%20terkini/Documents/Pages/Taksonomi-untuk-Kuangan%20Berkelanjutan%20Indonesia/Buku%20Taksonomi%20untuk%20Kuangan%20Berkelanjutan%20Indonesia%20%28TKBI%29.pdf)

Indonesia's Critical Minerals

Critical minerals are metal and/or non-metal elements that have their own specific characteristics when compared to other resources. The Decree of the Minister of Energy and Mineral Resources No. 296.K/MB.01/MEM.B/2023 (hereinafter referred to as the *Kepmen*) defines critical minerals as “minerals that have important uses for the national economy and state defense and security; and have the potential for supply disruptions with no suitable substitutes.”⁷

Indonesia has a rich reserve of minerals. Not all of them, however, are critical minerals, according to the list in ESDM Ministerial Decree 296/2023. This section will focus on five critical minerals available in Indonesia: Nickel, Copper, Tin, Bauxite, and Cobalt. These five critical minerals are selected not only because of their significance for high-tech and renewable production but also due to their significance in determining Indonesia's relative position compared to other mineral-producing countries.

Nickel

Nickel is a critical mineral that is relatively considered as Indonesia's main modality, due to the country's nickel production capacity and reserves. Indonesia's nickel reserves constitute around 42% of the world's total nickel reserves. Referring to Table 1, Indonesia's nickel mining production had increased by 14% from 2022 to 2023. Likewise, Indonesia's contribution to the world's overall nickel production increased from 48.3% to 50% in just one year.

The question, though, is to what extent the country's nickel management is based on long-term strategies. One policy to highlight is Indonesia's decision to implement the nickel ore export ban in 2020. So far, no apparent government plan for further

7 Keputusan Menteri Energi dan Sumber Daya Mineral No 296.K/MB.01/MEM.B//2023 tentang penetapan jenis komoditas yang tergolong dalam klasifikasi mineral kritis.

action has been made to change such policy. Yet, on the flip side, Indonesia has started importing nickel ore from the Philippines to support production by domestic smelters. The average growth in nickel imports between 2019-2023 reached 47.41%. Without comprehensive planning, not only is Indonesia at risk of running out of nickel faster, but it also lowers global nickel prices due to an oversupply of nickel products.

Table 1. Mining Production of Selected Critical Minerals (Metric Ton)

Minerals	Production				Reserves	
	PI 2022	PD 2022	PI 2023	PD 2023	CI	CD
Nickel	1,580,000	3,270,000	1,800,000	3,600,000	55,000,000	130,000,000
Cobalt	9,600	197,000	17,000	230,000	500,000	11,000,000
Copper	941,000	21,900,000	840,000	22,000,000	24,000,000	1,000,000,000
Bauxite	21,000,000	400,000,000	20,000,000	400,000,000	1,000,000,000	30,000,000,000
Tin	70,000	307,000	52,000	290,000	N/A	4,300,000

Source: USGS Mineral Commodity Summaries 2024.

Notes: PI = *Produksi Indonesia* (Indonesian Production), PD = *Produksi Dunia diestimasi* (Estimated Gobal Production), CI = *Cadangan Indonesia* (Indonesian Reserves), CD = *Cadangan Dunia* (Global Reserves).

Cobalt

Cobalt is another critical mineral from which Indonesia has a relative advantage, although not as dominant as Indonesia’s hold of nickel if looking at Indonesia’s share in the global cobalt production and total reserves. Nevertheless, the trend of Indonesian cobalt production growth is relatively positive. Indonesian cobalt production is recorded to have increased by 77% in just one year, from 2022 to 2023. Accordingly, Indonesia’s contribution to global cobalt production increased from only 4.9% in 2022 to 7.4% in 2023. Per the writing of this article, Indonesia is the second largest cobalt producer in the world (5%) after the Democratic Republic of Congo, which contributes 73.9% of world cobalt production.

Bauxite

Another critical mineral that Indonesia has is bauxite. Unlike nickel and cobalt, Indonesia faces challenges in creating relative advantages in producing bauxite. First, Indonesia's bauxite production has decreased by 5% from 2022 to 2023. This may be due to how its domestic bauxite industry was unprepared for the government's policy of banning bauxite ore exports as of June 2023.⁸ Although the data only shows a decline over one year, it is enough to influence Indonesia's position to compete as one of the world's top bauxite producers. Without a well-designed policy that goes beyond mere nationalist sentiments, the competitiveness of Indonesian bauxite will continue to decline relative to the other top producers.

Copper

Copper is another critical mineral in which Indonesia has a limited relative advantage in the supply chain. However, from 2022 to 2023, its copper production declined by 11%, and its position among copper producers has also dropped from the world's 5th largest producer to 6th, following Russia.⁹ Indonesia's copper reserves only make up 2% of the world's total copper reserves. If Indonesia insists on banning copper ore export, which is currently being postponed until December 31, 2024, it is almost certain that it will lose the opportunity to increase its participation in the global copper supply chain.¹⁰

8 "Ekspor Bijih Bauksit Dihentikan Mulai Juni 2023," Kompas, 22 December 2022, <https://www.kompas.id/baca/ekonomi/2022/12/22/ekspor-bijih-bauksit-dihentikan-mulai-juni-2023>. See also "Ekspor Dilarang, Produksi Bauksit Turun," Kontan Business Insight, 20 January 2024, <https://insight.kontan.co.id/news/ekspor-dilarang-produksi-bauksit-turun-drastis#:~:text=KONTAN.CO.ID%20%2D%20JAKARTA,menampung%20pasokan%20bijih%20yang%20diproduksi>

9 See USGS Mineral Commodity Summary 2024.

10 "Larangan Ekspor Tembaga Ditunda hingga 31 Desember 2024," CNN Indonesia, 3 June 2024, <https://www.cnnindonesia.com/ekonomi/20240603072131-85-1104986/larangan-ekspor-tembaga-ditunda-hingga-31-desember-2024>

Tin

The final critical mineral to highlight is Tin. In 2022, Indonesia was the second largest tin producer in the world, contributing around 22.8% of total global production. However, with the decline in domestic tin production by 26% in 2023, Indonesia's position dropped to third place with a contribution of around 17.9% of global tin production.

Indonesia's tin commodity requires special attention for at least two reasons. First, there are other countries in the region that produce tin, including Australia, Myanmar, China, Laos, Malaysia, and Vietnam, suggesting the competitive nature of the mineral production. Second, the problem of corruption in the tin trade system is significantly large and has begun to disrupt the domestic tin supply chain. A recent corruption case was reported to have cost the nation an amount of IDR300 trillion.¹¹ The competitiveness of Indonesia's tin becomes increasingly difficult to sustain amidst the rising global demand for critical minerals if the governance of the industry is marred by corruption and mismanagement.

In short, changes are needed. It is unlikely that Indonesia will gain maximum benefits from its critical minerals exploitation if the government continues to use one-size-fits-all policy instruments to regulate differing critical minerals. On the contrary, different critical minerals have different supply and demand (market) characteristics. The application of the ore export ban policy, for instance, is not suitable for bauxite, cobalt, and copper since their global value chains are geographically well distributed and, unlike nickel, Indonesia's reserves of these minerals are less than 10% of the world's reserves. We argue that the most crucial aspect for Indonesia to truly maximize the benefits of its modalities in critical minerals is to incorporate sustainability considerations in its critical mineral policies. Integrating sustainability considerations will not only push Indonesia to do the domestic reforms needed to

11 "Kerugian Negara Tembus Rp 300 Triliun, Ini 22 Tersangka Kasus 'Timah,'" CNBC Indonesia, 18 June 2024, <https://www.cnbcindonesia.com/market/20240618120144-17-547218/kerugian-negara-tembus-rp-300-triliun-ini-22-tersangka-kasus-timah>

improve local governance of minerals but also improve Indonesia's standing vis-à-vis other mineral producers. At the moment, such vision has not been truly adopted by the Indonesian government.

Solving the Domestic Homework: Improving the “Sustainability Aspects” in Indonesia’s Critical Minerals Policy

Indonesia’s trademark critical mineral policies, most of which were implemented under the government of President Joko Widodo, tend to be made to maximize Indonesia’s contribution to the end products, namely green technology products. As a consequence, they often fail to truly incorporate considerations of the importance of the sustainability of their processes (the means by which these products are made). Such a tendency has been driven by the government’s aspiration to increase Indonesia’s position in global supply chains, i.e., from being merely an exporter of raw materials to an exporter of semi-finished or finished products such as electric vehicles. The Indonesian government uses the term “down streaming” to refer to this ambition.

President Joko Widodo’s down streaming agenda is a derivative of the Mineral and Coal Mining Law (Minerba) No.4 of 2009, which aims at increasing domestic added value and also increasing investments. One of the instruments often used in the down-streaming policy is the local content requirement (TKDN), instituted through Presidential Regulation No.55 of 2019. Although “down streaming” can increase the added value of a mineral in the short term, the sustainability and environmental factors of down-streaming critical minerals in the long term must be considered more carefully.

Current problems include the lack of incentives for upstream critical mineral processing industries to adhere to climate and environmentally friendly practices. Under existing regulations, the construction of a new steam-based power plant (*Pembangkit Listrik Tenaga Uap*/PLTU) is permitted as long as it is oriented towards increasing the added value of natural resources—or so long as it

receives the label of being a part of a “national strategic project.” Such conditions reduce the incentive to use new and renewable energy sources, which tend to be more expensive than fossil-based energy in critical minerals processing.

The obligation for business actors in Special Economic Zones to prepare an Environmental Management Plan (*Perencanaan Lingkungan Hidup*/PLH), an environmental monitoring plan, and a statement of PLH commitment is also not an effective solution. This is because all costs arising from the preparation and examination of these environmental documents must be borne by business actors without assistance from the government. Consequently, it is difficult to make business actors aware of the importance of adopting climate and environmentally friendly practices in a more meaningful way and not simply fulfilling their obligations. We argue that there is a need to reassess existing policies to tailor them to the specific characteristics of each mineral. This includes providing comprehensive support for infrastructure development, enhancing access to clean energy, and investing in human resources within this sector.

To mainstream sustainability in Indonesia’s critical minerals, consensus is needed from all actors along the supply chain on the urgency of implementing low-emission and environmentally friendly practices. However, this article identifies the complexity among stakeholders in achieving such a consensus. We observe that Indonesia suffers from multi-level governance challenges, including limited local government authority and fragmented law enforcement, which have hampered effective oversight and environmental protection in the mining sector.

The governance of critical minerals in Indonesia can be understood through three layers of observation. The first layer involves an observation that the so-called Indonesian government is divided between the central and the local governments.¹² The

12 In the Indonesian context, this division is important considering the mandate of the 1998 reform to redistribute the authority of the central government to regional governments at level I (provinces) and level II (cities/districts).

second layer involves the relationship and distribution of authority among ministries/institutions at the central government level. The third layer is the government's interaction with actors outside its own entities, such as companies, associations, civil society, media, educational institutions, financial institutions, legislatures, and international actors.

When it comes to the first layer, Indonesia's case presents a situation where the central government has exclusive authority over the determination of policies, standards, systems, non-tax state revenues, supervision, and evaluation. The limits to the authority of local governments in Indonesia are implemented through Law No.4 of 2009. Most of the time, such limits also affect its ability and capacity to supervise mineral mining activities that have direct environmental impacts, post-mining land reclamation and to increase community participation in environmentally friendly efforts. The accountability of decisions made to build or expand a local mineral project goes straight to the central government far away in Jakarta.

Furthermore, following the adoption of Law No.3 of 2020 and Presidential Regulation No. 55 of 2022, the central government holds full authority for critical mineral commodities in the form of metals that generally have international implications, including nickel, tin, zinc, iron, copper, aluminum, and rare earth metals. Meanwhile, the authority of the provincial government is limited only to non-metallic mineral commodities, certain types of non-metallic minerals, and rocks. This means that for some critical minerals such as barium, sulfur, feldspar, phosphorus, graphite, zirconium, and potassium, the central government shares authority with the provincial government.

On the second layer, the main problem is the lack of integration of law enforcement and implementing agencies between ministries, which causes different parts of the supply chains to have to deal with different sets of government agencies. The Mining Inspector of the Ministry of Energy and Mineral Resources is only authorized to supervise the midstream of the supply chain, between exploration activities and mineral refining outside the industrial area. A mining inspector is not authorized

to supervise the upstream or downstream sections of the supply chain. In the upstream section, the authority to examine the environmental impact analysis documents of an investment is the Environmental Feasibility Test Team of the Ministry of Environment and Forestry.

Meanwhile, at the down-stream level, the authority to supervise the mineral processing industry is the Industrial Supervisory Officer of the Ministry of Industry.¹³ The absence of an apparatus with cross-ministerial law enforcement authority has been an apparent governance issue in optimizing the implementation of the sustainability aspects of the critical mineral industry and supply chain in Indonesia.

The House of Representatives (DPR), which is tasked with overseeing ongoing law enforcement, is also hampered by the division of authority among different commissions. Minerals and industry affairs are under the responsibility of Commission VII, while trade affairs are under Commission VI, and environmental issues are under Commission IV. As one of the stakeholders, the DPR is authorized by Law No.3 of 2020 to approve the state reserve areas, provide opinions pertaining to mineral mining areas, and establish a national policy that prioritizes the supply of minerals for domestic needs. However, it is not yet known for certain how often a cross-commission meeting with discussion over the down-streaming agenda is organized.

As Law No.3 of 2020 requires foreign companies to divest their majority shares, Indonesian State-Owned Enterprises (BUMN) are intended to be the designated benefactors of this regulation. BUMNs are further given priority in terms of obtaining special mining business permits. The issue is that such regulation may also discourage foreign investors, who may see the environment as being uncompetitive to their companies. The 2023 World Competitiveness Rankings by the International Institute for Management Development (IMD) ranks Indonesia 39th for

13 “Indonesia Sustainable Trade and Investment Report 2024: Prospects and Challenges of Sustainable Economy Amidst Global Dynamics,” CSIS Indonesia, 2024

the “institutional framework” indicator of competitiveness and 46th for the “business legislation” indicator out of a total of 63 countries assessed. This implies Indonesia is yet to be among the most attractive places for investment.

On the third layer is the government’s relations with actors outside its own. Non-governmental actors—i.e., associations, civil society, think tanks and educational institutions, the media, and similar international entities—have a crucial role in ensuring that the critical mineral industries and supply chain incorporate sustainable practices by shaping public debate, grooming the necessary human resources, and enrich capacities and policy knowledge. These actors can pressure the government and mineral mining companies to adjust regulations and practices in accordance with international standards. The question is the extent to which the agendas, framing methods, and interests of these two sides can align.

To solve the issues across the layers, Indonesia can take lessons from the experiences of other countries in the way they have harmonized responsibilities between domestic stakeholders, build governance of the industry based on accountability and good governance, as well as integrate sustainability elements in their critical minerals. Furthermore, while their approaches may not necessarily be readily available for implementation in Indonesia, the latter should at least be aware of how the policies of other key international actors will shape the growth of its own critical mineral industry.

Lessons from countries such as Australia, Canada, and the United Kingdom¹⁴ indicate: (1) the importance of having a government policy that truly covers the entire supply chain—from exploration to recycling—and to facilitating intensive coordination between various stakeholders; (2) the importance of recognizing the international element of the critical mineral industry, thereby the absolute necessity to listen and attempt to adapt to the set

14 These countries were chosen considering their positions as countries that own critical minerals and are also members of the Organization for Economic Cooperation and Development (OECD).

of environmental, social, and governance values and standards agreed internationally; (3) given the strategic value of critical minerals for economic decarbonization, advanced technology, and defense capabilities, countries have begun to approach the issue from the security lens, creating a number of strategic use of trade instruments and industrial policies to attract investment into the country or diversify suppliers and markets for critical minerals, mostly through strengthening relations with like-minded countries. An awareness of these dynamics is necessary for Indonesia; (4) given the capital- and knowledge-intensive nature of the sector, there is a consensus in these countries that investment in human resources is not just necessary in the realm of natural sciences but also in social sciences, as to better inform the government with a more comprehensive policies that incorporates social, political, and environmental considerations. The state of policy development in these developed countries indicates the various barriers to entry for mineral-owning countries like Indonesia to increase their participation in the global supply chain.¹⁵

International Cooperation as the Key Path to Improve Indonesia's Critical Mineral Governance

To realize its future sustainable critical mineral governance, Indonesia cannot rely solely on domestic capabilities. Rather, we argue that international cooperation is vital to unlocking the country's true potential in the sustainable critical mineral industry and supply chain. Such cooperation could take the form of learning best practices, securing funding commitment from abroad, entering into cooperation to adopt technology, and adapting and contributing to international norms to accelerate the country's transition towards the sustainable governance of critical minerals.

15 "The Canadian Critical Minerals Strategy — From Exploration to Recycling: Powering the Green and Digital Economy for Canada and the World," Canada, (2022).

A key opportunity for Indonesia would be in securing more free trade agreements. Currently, the Indonesia-Australia Comprehensive Economic Partnership (IA-CEPA) is Indonesia's only active trade agreement that has provisions concerning the electric vehicle ecosystem as a special area of cooperation. The provision covers cooperation on battery manufacturing and critical mineral processing. We argue that the two countries have the potential to jointly become major players in the global value chain if Australia can focus on lithium, which is its comparative advantage, while Indonesia focuses on nickel.

Apart from this agreement, Indonesia has yet to systematically pursue its sustainability agenda as a key component in its trade negotiations. For the most part, Indonesia seems to rely on the demands of partner countries to include a sustainable agenda in a negotiated agreement. For example, the demand to include the sustainability aspect of critical minerals in a special section on energy and raw materials of the Indonesia-European Union Comprehensive Economic Partnership (IEU-CEPA) has been coming from the side of the EU. Likewise, the Indonesia-Canada Comprehensive Economic Partnership (IC-CEPA) negotiations also include critical minerals talking points in the environmental section, an agenda thought to be promoted by the Canadian side.

In addition to trade agreements, opportunities will also come from geo-economic initiatives such as the Mineral Security Partnership (MSP). To date, Indonesia has not officially joined the United States-led MSP and has only participated in an MSP meeting in London in October 2023.¹⁶ Going forward, permanent access to the MSP needs to be considered more seriously in order to maintain access to Western markets and investment while accelerating Indonesia's sustainability agenda.

16 "UK to host Minerals Security Partnership for first time to boost investment in critical minerals," UK Department for Business and Trade, 11 October 2023, <https://www.gov.uk/government/news/uk-to-host-minerals-security-partnership-for-first-time-to-boost-investment-in-critical-minerals>

International financial institutions also offer opportunities to promote the sustainability of the critical mineral sector. One of them is the World Bank, which launched the Climate-Smart Mining (CSM) initiative in 2019. This initiative provides funding and technical support for mineral-rich countries to ensure that the mining and processing of raw materials for climate-friendly technology continues to be carried out sustainably, though it remains limited to support of studies and roadmaps.¹⁷

These channels provide opportunities for Indonesia to better improve the sustainable governance of its critical minerals. Despite the various opportunities presented by international cooperation, there are a number of challenges that Indonesia needs to anticipate. The main challenge comes from the increasingly uncertain international conditions. The US-China rivalry is predicted to become increasingly intense following the leadership transition in the US, which many see as a turning point towards the return of inward-looking leadership and unilateral approaches from the US. As a consequence, the incentive (carrot) for global green agendas may likely be smaller than the pressure given (stick) to developing countries. The next US administration is very likely to ask Indonesia to do more to reduce the imbalance of Chinese investment in strategic sectors such as critical minerals but may provide few incentives for the country to truly make such an effort.

The current situation should not discourage the desire to carry out economic cooperation with China. Rather, it is necessary to ensure that Chinese investment in Indonesia's critical mineral sector can be in line with all environmental, social, and governance standards applicable in Western countries. If it does not have a significant impact, the alternative is to explore the possibility of two types of critical mineral supply chains. The first is a high-quality supply chain through cooperation with other East Asian countries such as South Korea and Japan. Meanwhile, for developing countries, they can still cooperate with China.

17 "Climate-Smart Mining: Minerals for Climate Action," World Bank, 26 May 2019, <https://www.worldbank.org/en/topic/extractiveindustries/brief/climate-smart-mining-minerals-for-climate-action>

The next challenge is to develop a multi-sector strategy to meet various sustainability standards in the critical minerals sector. Currently, there are many standards and guidelines that Indonesia must meet. Among others is to qualify for the Organization for Economic Co-operation and Development (OECD) membership. At the same time, Indonesia still has an obligation to fulfill the standards of the Extractive Industries Transparency Initiative (EITI) in its position as a member country. Apart from the OECD and EITI, there are also the Principles for Responsible Critical Mineral Supply Chains of the MSP¹⁸ if Indonesia wants to join the grouping.

The final challenge is the extent to which Indonesia can act as a promoter of the sustainable critical minerals agenda. As a country projected to become the fourth largest economy in the world by 2050, Indonesia has a responsibility to continue to oversee this agenda through various existing foreign policy instruments. One possible way to do this is to integrate sustainability issues into Indonesia's Development Assistance and South-South Cooperation (SSC). One relevant example is how Indonesia provided mining training to 20 participants from Afghanistan in 2019¹⁹ and 20 participants from Tanzania in 2023.²⁰ Another instrument that can be utilized is agenda setting when Indonesia leads international organizations. Despite Indonesia's success in initiating various declarations including the "Association of Southeast Asian Nations (ASEAN) Leaders' Declaration on the

18 "Minerals Security Partnership (MSP) Principles for Responsible Critical Mineral Supply Chains," US Department of State, <https://www.state.gov/wp-content/uploads/2023/02/MSP-Principles-for-Responsible-Critical-Mineral-Supply-Chains-Accessible.pdf>

19 "Coal and Mineral Mining Courses dari BDTBT untuk Afghanistan," Kementerian Energi dan Sumber Daya Mineral, 23 September 2019, <https://bdtbt.esdm.go.id/coal-and-mineral-mining-courses-dari-bdtbt-untuk-afghanistan/>

20 "Pelaku Industri Pertambangan Batubara dan Mineral Tanzania Menimba Ilmu di BPSDM ESDM," Kementerian Energi dan Sumber Daya Mineral, 2 November 2023, <https://bpsdm.esdm.go.id/posts/2023/11/02/pelaku-industri-pertambangan-batubara-dan-mineral-tanzania-menimba-ilmu-di-bpsdm-esdm/3114>

Development of Electric Vehicle Ecosystems in the Region”²¹ during its chairmanship of the organization in 2023, the real question is: What concrete plans does Indonesia have to make the region’s critical minerals sector more environmentally friendly and contribute to climate change mitigation?

Conclusion

Global economic growth faced numerous challenges, including inflation, geopolitical conflicts, and climate risks. Strategic competition, particularly among major powers, has fueled global uncertainties, impacting trade, investment, and growth. While Indonesia’s economic growth prospects remain above the world average, driven by fiscal discipline and potential economic reforms, external pressures still pose risks.

Despite reduced global foreign investment, Indonesia continues to be one of the main investment destinations in ASEAN, with potential growth in sectors like energy transition and sustainable trade. However, Indonesia lags in sustainable trade competitiveness and must adopt more facilitative trade policies and engage in international cooperation to reduce barriers and address financing disparities. Moreover, Indonesia’s efforts in sustainable finance, such as its green taxonomy and carbon pricing policies, reflect progress yet face challenges to truly make them effective.

More strategic critical minerals policies are necessary, especially those that include cross-disciplinary and global value chain considerations. As we have argued, a policy applied to certain critical minerals might not provide the same long-term maximum benefit if applied to other critical minerals. Each policy must be made and managed according to the position of Indonesia’s production of a mineral, its relative reserves, and the current

21 “ASEAN Leaders’ Declaration on Developing Regional Electric Vehicle Ecosystem,” ASEAN, https://asean.org/wp-content/uploads/2023/05/07-ASEAN-Leaders-Declaration-on-Developing-Regional-EV-Ecosystem_adopted.pdf

state of sustainable practices in the production of this mineral, especially if compared to other mineral-producing countries.

In addition, diversification of critical minerals investment partners is a necessity. This is not only to add to the array of sustainable practices that Indonesia can refer to and learn from but also to maintain market access and competitiveness of Indonesia's sustainable technology end products amidst the current geopolitical situation. To satisfy such need of diversification requires the resolution of overlapping authorities between various ministries/institutions, central and regional bodies, as well as between the government and other non-government actors. Diversification also requires the capability and commitment to enforce high environmental, social, and governance standards at all stages of the value chain.

Considering the fact that external pressure is required to encourage sustainable practices of domestic companies, Indonesia must therefore be more active in joining various initiatives that uphold sustainable mineral value chain norms and promote them through its foreign policy instruments. □