

The Systemic Impact of the Twin Digital and Green Tech Revolutions in the Indo-Pacific: Toward a New Industrial Policy Race?

Place of Many Trees

Liu Institute for Global Issues, University of British Columbia

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De-risking as the Total Solution to the Polycrisis? The case of strategic minerals

Working paper

Pascale Massot

Assistant Professor, School of Political Studies

University of Ottawa

De-risking would be in contention for the word of the year 2023. It was articulated in the context of EU Commission President von der Leyen in her March 30, 2023, speech on Eu-China relations and has since caught like wildfire.

The ruling political class in many Western countries is latching onto notions of de-risking, re-shoring and attendant notions of economic nationalism as potential “global solutions” for a broad range of profound crises, from the crisis of neoliberalism and hyperglobalization, to the geopolitical crisis/rise of China and the climate change crisis. This has crystalized in striking ways in the case of strategic metals and minerals. Indeed, the issue of strategic minerals has become a symbol and powerful rallying point in a new age of polycrisis.

The extent to which the current discourse around de-risking critical minerals supply chains in the West right now is realistic, and the extent to which such an approach can provide a “solution” to issues such as China’s position as dominant stakeholder in this area remains to be seen, however. It may be that the deeply embedded place occupied by China’s mining, refining and processing of metals and minerals in global supply chains has to be reckoned with in additional ways to the current de-risking and re-shoring paradigms.

China’s place in global critical minerals supply chains

In a forthcoming book on China’s impact on the global political economy of commodity markets (OUP, 2024), I investigate the paradox of China’s size and, at times, vulnerability towards global commodity markets, many of which involve resources towards which China is heavily import dependent. While writing the book, I was immersed in the world of tensions between China’s size and its market vulnerabilities. China has been attempting to overcome these vulnerabilities by investing in the control of upstream extraction of minerals, the midstream segments of transportation, refining and processing as well as the downstream segments of end use products.

In more ways than one, China's intense focus on reducing market vulnerabilities towards commodities, despite high levels of import dependence, has borne fruits. China now finds itself the major player in most metals and minerals markets around the world. We have by now seen many of these numbers, but they bear repeating. Via acquisitions outside its borders or domestic mining activities, China now controls 41% of the world's cobalt, 78% of the world's graphite, and 28% of global lithium mining according to recent reporting by the NYT, not to mention rare earths (Chang and Bradsher, 2023).

But where China has truly established itself as the centre of the critical metals and minerals supply chain is in the refining and processing stages. China controls 40% of global copper processing capacity, over 60% of cobalt processing capacity, and over 80% of global rare earths processing capacity (IEA, 2022).

It remains unclear to me whether the kind of funds that are being earmarked towards de-risking and re-shoring critical minerals supply chains across the Western world are likely to make a significant dent in China's overwhelming presence in global critical minerals and metals supply chains. The current discourse around de-risking and re-shoring strikes me as potentially overly optimistic. Where will the West be in 10 or 20 years if the importance of China in critical metals and minerals supply chains overall is reduced by 5%, 10% or even 20%? It seems to me that the West's (and global supply chains more generally) interdependence with China's mining, refining and processing of metals and minerals will have to be reckoned with in additional ways to the current de-risking and re-shoring paradigms.

Tension between high standards and need for minerals

The de-risking paradigm could lead to a meaningful difference in the relative importance of the Chinese economy in sectors such as critical minerals processing or green technology manufacturing. OECD economies can reshape the security, resilience, and sustainability of critical minerals supply chains, to a point. This would be a positive, because the West should play a role in the improvement of mining and supply chains sustainability (including recycling), indigenous reconciliation and inclusivity standards. This is possible inasmuch as our energy transition does require huge investments in new supply and technology.

As a recent report published by the CN Tellier Chair at uOttawa argued: "Canada has an opportunity to take the lead in the clean manufacturing space, promoting high and transparent norms and standards for environmental concerns, labour standards, and human rights, to reduce reliance on the United States and set an example for the rest of the world. With higher standards, Canada can be a leader and a competitor in the energy transition, working to build a sustainable economy." (Moulton and Xiao, 2023) The critical minerals file indeed seems like a natural fit for

Canada and the Canadian government has launched a Critical Minerals Strategy (2022). One of the objectives of the strategy is to strengthen global leadership and security, as “the concentration of critical mineral production in a few countries overseas that use non-market-based practices raises the risk of supply chain disruptions and inflated prices of key minerals and materials for Canada and its allies” (2022, p.33).

But there is an inherent tension between the reasons why Canada (and the US, Australia, etc.) has emerged to be such a conceptually attractive location for critical minerals mining and refining given the current ambitions to de-risk the West from geopolitical exposure, and the capacity for Canada (and others) to actually deliver on these ambitions to a level that would meaningfully shift dominant global trends.

The offshoring of mining and refining operations away from North America and Europe over the past decades was incentivized because of the tension between higher environmental and labour standards in Canada, the willingness to recognize indigenous rights and take into account social acceptability in the development of mining and the drive to secure minerals at higher speeds and lower cost. Re-shoring some of those activities necessarily means that we would have to deal with an intensified, visible and destructive presence of mining and refining activities, something that will not necessarily meet acceptability standards.

The history of the Horne Smelter in Rouyn-Noranda is indicative of some of the challenges that the refining industry faces in Canada. The only copper smelter in Canada, it was founded in 1927 near some of Quebec’s larger copper and gold deposits. The Horne smelter was once the world’s second largest smelter in the 1930s. The smelter saw an upgrading of its refining technology throughout the years, but interviews I’ve conducted with copper mining industry insiders indicated that the technology employed by the smelter is in important ways behind the technology employed by the new Chinese copper smelting and refining plants.

Environmental issues have plagued the smelter since at least the 1970s. Citizen groups have mobilized against sulphuric acid, sulphur dioxide and lead emissions among other things. Since the takeover of the smelter by Glencore, it has faced other environmental, health and social acceptability challenges due to arsenic emissions. The smelter and the Quebec government have been in negotiations to determine the acceptable levels of arsenic emissions. The smelter has constituted a public affairs, health and environmental headache that the provincial government and the local population living in the vicinity of the smelter have yet to resolve.

There is a certain irony in hearing outrage at the fact that the West has become too reliant on China’s mining and processing of minerals, whereas, in fact, this was a process that stretched over decades, in plain sight, and at some clear advantage to populations in the West living away from the environmental degradation caused by those activities.

This is not to say that there is not a high imperative to transform the mining industry as much as possible into a more responsible, less destructive, more respectful of indigenous rights and community preferences, in Canada and around the world. This is also not to say that Canada should not play as big a role as its population and communities will consent and push for it to play in this regard. However, it seems clear that even in the best of circumstances, the West will have to live in a world where China continues to be the major global stakeholder in almost all major metals and minerals markets around the world.

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