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Critical Allies and Core Geopolitics in Minerals Trade: Devising a Strategy for India

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The shifting geopolitical landscape and the increased demand for critical minerals in the efforts towards green transition have underscored the need to build predictable and resilient mineral supply chains. With the fundamental idea of strengthening economic resilience and ensuring security of supply, countries are increasingly resorting to reshoring, friend-shoring and nearshoring policies in critical minerals trade. Against this backdrop, this article summarizes WTO rules governing international trade in critical minerals and examines emerging international legal trends shaping trade and supply chains in critical minerals. It offers recommendations for devising India's strategy for critical minerals taking into account the security of supply, international trade rules and other commercial considerations.

Keywords: critical minerals, supply chains, international trade, WTO, India

1 Introduction

In today's highly interdependent world economy, geo-politics and geo-economics have become increasingly intertwined. A series of crises including the COVID-19 pandemic, conflict in Ukraine, intensification of rivalry between the United States (US) and China, have caused disruptions in global supply chains. In response, reshoring, nearshoring and friend-shoring policies designed to increase economic resilience have become popular policy prescriptions. These policies are driving the relation between states in several sectors today. One such sector is that of critical minerals, also termed as critical raw materials generally, which is the focus of this present article.

Achieving net zero carbon emissions as part of the green transition will require countries to sustainably use critical raw materials necessary for the production of renewable technologies. The International Energy Agency has estimated that the demand for lithium will rise by forty-two times, graphite by twenty-five times, cobalt by twenty-five times, magnesium by twenty-one times, and nickel by nineteen times by the end of the next decade.[1] Critical raw materials form key inputs in a wide range of commercial and industrial products such as electric vehicles, military technology and green energy infrastructure. Their availability and affordability will determine the pace of energy transition.

The production and processing of critical raw materials is highly concentrated in a handful of countries, particularly China. Refining capacity for rare earths is also heavily concentrated in China.[2] In order to diversify and secure their sources of supply, a number of countries are taking proactive measures in the form of delineating national strategies and forming partnerships with like-minded countries.

The specific raw materials that are regarded as 'critical' differ from country to country, reflecting differences in industrial and development needs and national priorities. For instance, the United Kingdom has identified eighteen minerals as critical based on the likelihood and economic vulnerability to supply chain disruption.[3] On the basis of economic importance and supply risk, the European Union (EU) has identified thirty-four critical raw materials that it considers indispensable for a wide range of strategic sectors.[4] Similarly, Canada has identified thirty-

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1 International Energy Agency, *The Role of Critical Minerals in Clean Energy Transitions* (IEA, Paris 2021), https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions (accessed 9 Dec. 2023).

2 *China targets Rare Earth Export Curbs to Hobble US Defence Industry* (Financial Times 15 Feb. 2021).

3 P. A. J. Lusty, R. A. Shaw, A. G. Gunn & N. E. Idoine, UK criticality assessment of technology critical minerals and metals. *British Geological Survey Commissioned Report*, CR/21/120 (2021).

4 *See* European Commission, *Internal Market, Industry, Entrepreneurship and SMEs, Critical Raw Materials,* https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials_en (accessed 9 Dec. 2023).

one minerals and metals in its list, Australia has identified thirty, and the US has identified fifty, in the past few years.[5]

India finds itself in the midst of this race for key minerals and the attempt to reshape global supply chains through friend-shoring and nearshoring. As of 2020, India was completely reliant on imports for lithium, cobalt, nickel, vanadium and other minerals from countries including China, Russia, Chile, Netherlands, Indonesia.[6] In a report published in 2023, India identified as 'critical' those minerals which are 'essential for economic development and national security' and whose lack of availability or concentration of existence, extraction or processing in few geographical locations may lead to supply chain vulnerability and disruption.[7] Based on this, India has identified a total of thirty minerals to be most critical. While this is a welcome step, there is a need for developing a comprehensive, holistic, modern and forward looking long-term strategy for India in this sector.

In light of this background, this article aims to recommend ways in which India could calibrate its approach towards critical minerals by taking into account the security of supply, international trade rules and other commercial considerations. Following this brief introduction, part 2 examines the treatment of critical minerals under multilateral trading rules. This is followed by an overview of the emerging international legal trends in the critical minerals sector in part 3. Drawing lessons from these different approaches and taking into consideration India's interests, part 4 recommends ways in which India could develop its policy on critical minerals. Part 5 concludes.

2 WTO RULES RELEVANT TO CRITICAL MINERALS

Under the multilateral trading system, all products including critical raw materials are subject to the rules and disciplines of the WTO covered agreements. The elimination of discriminatory treatment in international trade relations is one of the core values of the WTO. In this regard, the Most Favoured Nation clause (MFN) embodied in Article I of the General Agreement on Tariffs and Trade 1994 (GATT 1994) outlaws discrimination among like products originating in or destined for different countries. The National Treatment obligation in Article III of the GATT 1994 prohibits discriminatory treatment of imported products as compared to 'like' domestic products. Trade in critical minerals is subject to these provisions.

Most of the trade interventions with respect to critical raw materials are in the form of export restrictions and prohibitions. According to the OECD, in the last decade, the global incidence of export restrictions on critical raw materials has increased more than five-fold.[8] In fact, around 30% of global exports of critical raw materials by value were subject to restrictions in 2022, up from just 5% in 2019.[9]

In general, quantitative export restrictions are banned by Article XI of the GATT 1994, although there are a number of exceptions within this and other provisions of the GATT. Article XI further clarifies that a restriction can be 'made effective through quotas, import or export licences or other measures'. This wide ambit ensures that an export restriction cannot be used to affect trade flows indiscriminately.

An exception to the general prohibition on export restrictions is the ability to temporarily impose such restrictions in case a WTO Member experiences critical shortage of a foodstuff or any other essential product.[10] Members can also resort to the General Exceptions in Article XX of the GATT 1994 to apply export prohibitions where it is necessary to protect human, animal or plant life or health, or where it relates to conservation of exhaustible natural resources, or where necessary to secure compliance with laws that are otherwise not inconsistent with WTO norms, among others.[11] These exceptions have often been invoked in cases of export restrictions on critical raw materials.

Apart from export prohibitions and restrictions, WTO Members have commonly resorted to export taxes to indirectly restrict exports of critical minerals.[12] The growing use of export taxes indicates the conscious desire of Members to exploit the lacuna in WTO law on this issue. Export taxes are not directly regulated by the GATT 1994. Article XI of the GATT 1994 entitled 'General Elimination of Quantitative Restrictions' exempts 'duties, taxes, or other charges' from its coverage. Cognizant of

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[5] *See* The Government of Canada, The Canadian Critical Minerals Strategy, 2022; Department of Industry, Science and Resources, Australian Government, Updates to Australia's Critical Minerals List (16 Dec. 2023); U.S., Geological Survey, Department of the Interior, 2022 Final List of Critical Minerals.

[6] Australian Trade and Investment Commission, 'Unlocking Australia – India Critical Minerals Partnership Potential' (Jul. 2021).

[7] Critical Minerals for India, *Report of the Committee on Identification of Critical Minerals* Ministry of Mines (Jun. 2023).

[8] Przemyslaw Kowalski & Clarisse Legendre, *Raw materials critical for the green transition: Production, International Trade and Export Restrictions* OECD Trade Policy Papers (Apr. 2023) (hereinafter "OECD Trade Policy Paper").

[9] S.J. Evenett & J. Fritz, *The Global Trade Alert database handbook* (2020), manuscript, version dated 26 Oct. 2022, www.globaltradealert.org/data_extraction (accessed 8 Dec. 2023).

[10] Article XI:2(a), General Agreement on Tariffs and Trade 1994 (hereinafter "GATT 1994").

[11] Article XX, GATT 1994.

[12] OECD Trade Policy Paper, at 43–45.

this gap, WTO Members negotiated a specific clause with China in its Protocol of Accession whereby China agreed to eliminate 'all taxes and charges applied to exports unless specifically provided for in Annex 6' of the Protocol – which contains the maximum export duties applicable on eighty products.[13]

Using the above-mentioned flexibilities, WTO Members can and have attempted to justify discriminatory (and more favourable) treatment of critical raw materials, but they have largely been unsuccessful. For instance, the *China-Raw Materials* dispute sheds light on the extent to which a WTO Member, when exploiting their natural resources, can give priority to the needs of their domestic markets. In 2009, the US, Mexico and the EU claimed that China's export restrictions on key natural resources were diminishing the access of foreign downstream firms and customers.[14] China claimed that the measures relieved critical shortages of products that were essential to it. In this regard, both the panel and the Appellate Body found that the relevant raw materials were 'essential' to China but the export restrictions were neither 'temporary' nor did they prevent or relieve a 'critical shortage' within the meaning of Article XI of the GATT 1994.[15]

Following the Appellate Body ruling in this case, the EU, Japan and the United States launched a new dispute (*China – Rare Earths*) against China's export quotas on rare earths, tungsten and molybdenum. China sought to defend these measures under Article XX(g) of the GATT 1994. However, China's measure were found to be violative of Article XI of the GATT 1994, and could not be justified as relating to the conservation of exhaustible natural resources.[16]

A more recent example of a WTO dispute relating to raw materials is the challenge by the EU against Indonesia's measures prohibiting the export of nickel ore and requiring domestic processing of nickel ore.[17] Similar to the earlier disputes, Indonesia was unable to convince the panel that its measures were temporary in nature and used to relieve critical shortages in nickel ore, and that the measures were in furtherance of environmental laws that were themselves not inconsistent with the GATT 1994.[18]

Overall, the experience of WTO dispute settlement shows that attempts to accord special treatment to critical raw materials on account of their significance to national interests and priorities have been largely unsuccessful. Panels and the Appellate Body have treated disputes relating to critical raw materials like any other. Interestingly, in the past, GATT Contracting Parties and subsequently the WTO Members have resisted negotiating an agreement on export licensing, fearing the potential repercussions on their sovereignty over natural resources.[19] Today, major trading powers are pursuing critical minerals policy through bilateral and plurilateral arrangements, outside the WTO framework. Given the indispensable nature of critical raw materials, countries are looking to build 'resilience' and 'economic security' through friend-shoring and nearshoring policies highlighting the growing importance of diplomatic relations over trade and economic considerations.

3 Emerging international legal trends governing critical minerals trade

Countries are using various fora to address issues related to critical minerals supply and long term access. In particular, there is a rise in friend-shoring and nearshoring trends through instruments such as Free Trade Agreements (FTAs), bilateral agreements on specific sectors, plurilateral arrangements, memorandums of understanding, among others. This part of the article highlights some of the emerging legal trends in the critical minerals space through the use of these instruments to provide a holistic understanding of the various approaches adopted by countries today.

3.1 *Free Trade Agreements*

Although the international engagement and collaboration in the critical minerals sector has increased in the past few years, certain countries had anticipated the criticality of access to and supply of essential industrial raw materials, including minerals, as far back as late-2000s.

In 2008, the EU Commission introduced a 'Raw Materials Initiative' which noted that the EU was highly dependent on imports of, inter alia, 'high-tech' metals

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[13] *See* Protocol on the Accession of the People's Republic of China, WTO Doc. WT/L/432, 23 Nov. 2001; Also *see* Panel Reports, *China-Measures Related to the Exportation of Various Raw Materials*, WT/DS394/R, WT/DS395/R, WT/DS398/R, adopted 22 Feb. 2012, para. 7.105 (hereinafter "*China-Raw Materials*"), where the panel held that China's use of export taxes on raw materials was inconsistent with its commitments under its Protocol of Accession.

[14] The commodities subject to restraint were certain forms of bauxite, coke, fluorspar, magnesium, manganese, phosphate (yellow phosphorus), silicon metal, silicon carbide, and zinc.

[15] Panel Report, *China-Raw Materials*, paras 7.340–7.346 and 7.351; Appellate Body Report, *China-Measures Related to the Exportation of Various Raw Materials*, WT/DS394/AB/R, WT/DS395/AB/R, WT/DS398/AB/R, adopted 22 Feb. 2012, para. 344.

[16] *See* generally Panel Report and Appellate Body Reports, *China-Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum*, WT/DS431; WT/DS432; WT/DS433, adopted 29 Aug. 2014. *See also* L. Choukroune & J. J. Nedumpara, *International Economic Law* 386–388 (1st edn., Cambridge University Press 2021).

[17] *See* Panel Report, *Indonesia – Measures relating to Raw Materials*, WT/DS592/R, circulated 30 Nov. 2022 (hereinafter "*Indonesia-Raw Materials*").

[18] Panel Report, *Indonesia-Raw Materials*, paras 8.1–8.4. The panel report in this dispute is currently under appeal.

[19] *See* P. C. Mavroidis, *Trade in Goods* 388 (2d edn., Oxford University Press 2012).

such as cobalt, platinum, rare earths, and titanium which were increasingly essential to the development of technologically sophisticated products.[20] Securing reliable and undistorted access to raw materials was recognized as an important factor for the EU's competitiveness.[21] The Commission then recommended promoting enhanced international cooperation with the view to prioritizing the access to primary and secondary raw materials through trade and investment policy. A range of actions were recommended including promoting new rules and agreements on sustainable access to raw materials; working towards the elimination of trade distorting measures taken by third countries in all areas relevant to the access to raw material and acting against the protectionist use of export restrictions by third countries; addressing and offsetting effects of dual-pricing policies in these products and applying the EU's competition rules in cases of anti-competitive agreements or market concentration, etc.[22]

The Raw Materials Initiative was the first indication of the EU's long-term strategy for critical minerals which provided an important insight into the approach that the EU was going to adopt for trade and investment in critical raw materials in the future. This approach was subsequently crystalized in a 2015 Communication of the EU Commission regarding the EU's strategy for FTAs, wherein the Commission recognized the importance of 'securing access to energy and raw materials' as a trade policy objective.[23] As a result of this, all of the EU's FTAs negotiations post 2015 include a chapter on 'Energy and Raw Materials' (ERM).[24]

The 'raw materials' in the EU's ERM chapter refers to a wide range of industrial inputs, including minerals under HS Chapters 25 and 26.[25] The focus of ERM chapters in EU's FTAs is to facilitate trade and investment in the area of raw materials and improve environmental sustainability in these areas. The EU's FTA approach is ambitious and entails legally binding obligations that aim to: (1) remove barriers to trade in raw materials; (2) facilitate investment in the exploration and production of raw materials; (3) ensure a level playing field in the access to raw materials; and (4) improve environmental sustainability. These FTAs ensure access to raw materials by developing rules such as prohibition of import and export monopolies and export pricing (or dual pricing) policies for raw materials.[26] This is in addition to the EU's longstanding policy of prohibiting the use of export taxes and controlling exports.[27] On the investment facilitation side, the ERM chapter provides for non-discriminatory and objective-criteria based grant of authorization for exploration or production of raw materials.

The ERM chapter presents an interesting template for bilateral engagement in this sector. It addresses issues specific to the ERM sector in a vertical chapter that covers all key trade and investment facilitation matters. The proposed commitments appear to be aimed at filling the gaps in multilateral trading rules, in a bid to build a critical mass of like-minded partners that agree to a higher standard of trade disciplines in this sector.

Australia – a global leader in the supply of critical minerals – has also opted to utilize FTAs to set bilateral disciplines on critical minerals trade. It has concluded FTAs with Japan and Korea with a dedicated chapter on mineral resources.[28] In the FTA with Japan, the chapter on 'Energy and Mineral Resources' recognizes the importance of strengthening their stable and mutually beneficial relationship in the energy and mineral resources sector.[29] It contains provisions aimed at ensuring stable supply of energy and mineral resources; discouraging the use of quantitative import or export restrictions; enhancing transparency with respect to export licensing procedures and administrations; and providing a mechanism for consultations to address any severe and sustained disruption to supply of energy and mineral resource goods. The agreement with Korea contains a largely non-binding section on energy and mineral resources that aims to provide a mechanism for cooperation in energy and mineral resource sectors. It envisages information exchange,[30] cooperative activities,[31] establishment of

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[20] *See* the Raw Materials Initiative – meeting our critical needs for growth and jobs in Europe, Communication from the Commission to the European Parliament and the Council, COM(2008) 699 dated 4 Nov. 2008, https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0699:FIN:en:PDF (accessed 3 Dec. 2023).

[21] *Ibid.*

[22] *Ibid.*, at 7.

[23] *See* Trade for All – Towards a More Responsible Trade and Investment Policy, EU Commission (Oct. 2015), https://docs.google.com/document/d/1PWlhnNAbOaXY6bp9zrwPcHsV0PUa5eSb/edit (accessed 5 Dec. 2023).

[24] *See* EU – India FTA, Initial Text Proposal by the EU on Energy and Raw Materials; EU – Australia FTA, Initial Text Proposal by the EU on Energy and Raw Materials; EU – Chile FTA, concluded chapter on Energy and Raw Materials; EU – Mexico FTA, concluded chapter on Energy and Raw Materials; EU – New Zealand FTA, concluded Ch. 13 on Energy and Raw Materials.

[25] *Ibid.*, EU – India FTA, Initial Text Proposal by the EU on Energy and Raw Materials, Annex I; EU – Australia FTA, Initial Text Proposal by the EU on Energy and Raw Materials, Annex I; EU – Chile FTA, Chapter on Energy and Raw Materials, Annex I; EU – Mexico FTA, concluded chapter on Energy and Raw Materials, Art. 2(b); EU – New Zealand FTA, concluded Ch. 13 on Energy and Raw Materials, Annex 13.

[26] *Ibid*; *See* provisions on 'Import and Export Monopolies' and 'Export Pricing'.

[27] Article 2.6, EU Canada FTA, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:22017A0114(01)#d1e873-23-1 (accessed 5 Dec. 2023).

[28] *See* Japan – Australia FTA, Ch. 8; *See also* Korea – Australia FTA, Ch. 16 Section B.

[29] Japan – Australia FTA, Art. 8.1.

[30] *See* Korea - Australia FTA, Art. 16.16.

[31] *Ibid.*, Art. 16.14.

contact points,[32] etc. Similar to the mechanism under the Japan – Australia FTA, it also provides a mechanism for consultations on severe and sustained disruption to supply of a major energy and mineral resource.[33] Australia's trade commitments do not introduce legal innovations to address concerns relating to critical minerals supply chains. Unlike the ambitious obligations proposed in the EU's ERM chapters, Australia has elected to use a more cooperative approach to critical minerals with its trading partners.

3.2 *Bilateral Initiatives*

Aside from the use of FTAs, there are other instances wherein mineral resources have been the subject matter of bilateral commitments at an international level. In March 2023, the US and Japan signed an agreement focused on strengthening and diversifying critical minerals supply chains and promoting the adoption of EV battery technologies (also known as critical minerals partnership agreement or CMPA).[34] It envisages cooperation in the area of critical minerals supply chains.[35] On the trade side, it facilitates trade in critical minerals and iterates the shared commitment to not impose export duties or quantitative restrictions on the import or export of critical minerals in accordance with Article XI:1 of GATT 1994 and accord national treatment to the critical minerals of the other Party in accordance with Article III of GATT 1994.[36] The CMPA also contains provisions that promote sustainable supply chains in critical minerals – maintaining and enforcing labour rights as well as promoting environmental protection.[37]

Further, the CMPA contains a framework for cooperating, both bilaterally and in plurilateral fora, to ensure secure, sustainable, and equitable critical minerals supply chains.[38] It stresses the importance of consulting on trade policy related to critical minerals supply chains with a wide range of stakeholders.[39] It also contains a provision on security exceptions.[40]

The US had launched discussions for a similar deal with the EU in early March of 2023.[41] The discussions aimed to help the EU and the US build secure supply chains for critical minerals for EV batteries.[42] The proposed agreement would help the EU qualify for tax credit and other subsidies under the US' Inflation Reduction Act which are offered to buyers whose vehicles contain minerals and materials sourced from countries which have an FTA with the US.[43] According to reports, the agreement between the EU and the US will likely be similar to the US – Japan CMPA.[44]

3.3 *Plurilateral Initiatives*

In addition to bilateral engagements, several plurilateral initiatives on critical minerals supply chains and trade have emerged. In May 2023, 14 countries concluded a first-of-its-kind supply chain agreement under the Indo-Pacific Economic Framework for Prosperity (IPEF).[45] The agreement strives to increase the resilience, efficiency, productivity, sustainability, transparency, diversification, security, fairness, and inclusivity of the supply chains of critical sectors and key goods in the partner countries.[46] It builds a framework for cooperation and collaboration between partner countries to improve the crisis response capabilities for supply chain disruptions, sharing information and best practices on supply chain opportunities and vulnerabilities, facilitating business matching and investments to strengthen supply chains, promoting supply

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[32] *Ibid.*, Art. 16.18.

[33] *Ibid.*, Art. 16.17.

[34] *See* Agreement between the Government of the United States of America and the Government of Japan on Strengthening Critical Minerals Supply Chains, https://ustr.gov/sites/default/files/2023-03/US%20Japan%20Critical%20Minerals%20Agreement%202023%2003%2028.pdf (accessed 7 Dec. 2023). It builds on the US – Japan Trade Agreement of 2019, the US – Japan Partnership on Trade formed in 2021 and the Mineral Security Partnership established in 2022 to facilitate trade, promote fair competition and market-oriented conditions for trade in critical minerals.

[35] *Ibid.*, Art. 5.9.

[36] *Ibid.*, Art. 3.

[37] *Ibid.*, Arts 4–5.

[38] *Ibid.*, Art. 7.

[39] *Ibid.*, Art. 6.

[40] *Ibid.*, Art. 8.

[41] *See US and EU Launch new talks on Critical Minerals trade in Green tech Race*, Financial Times (11 Mar. 2023), https://www.ft.com/content/257f7d0d-cf9d-472b-9c49-e9aafa7977de(accessed 19 Sept. 2023).

[42] *Ibid.*

[43] *See* Congressional Research Service Insight, Clean Vehicle Tax Credit in the Inflation Reduction Act of 24 Aug. 2022 (2022).

[44] *See* 'US and EU Near Critical Minerals Accord to Unlock US Subsidies', Bloomberg (29 Mar. 2023), https://www.bloomberg.com/news/articles/2023-03-29/us-and-eu-near-critical-minerals-accord-to-unlock-us-subsidies#xj4y7vzkg (accessed 3 Dec. 2023).

[45] Pillar II – Supply Chains, US Department of Commerce, https://www.commerce.gov/ipef/pillar-ii(accessed 19 Oct. 2023). The initiative includes Australia, Brunei Darussalam, Fiji, India, Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand, the United States, and Viet Nam.

[46] *Ibid.*

chain resilience in critical sectors and key goods, and promoting labour rights and workforce development across IPEF supply chains.[47]

The Mineral Security Partnership (MSP) is another US-led plurilateral initiative that extends diplomatic and financial support for developing critical mineral supply chains in a manner that promotes high environmental, social, and governance (ESG) standards in the mineral sector.[48] Direct and project-focused partnerships and support would address a key challenge in critical minerals supply chains, that is, increasing investments to accelerate diversification of supply chains. The MSP support for minerals projects will be guided by certain principles for responsible critical minerals supply chains such as responsible stewardship of natural environment, consultative and participatory process for acquisition of land, meaningful engagement and transparent communication with communities and safe, fair, inclusive and ethical conditions at workplace.[49]

In November 2023, the EU reached a provisional agreement on a Critical Raw Materials Act aimed at increasing and diversifying the EU's critical raw material supply.[50] As a part of this effort, the EU is expected to launch a 'Critical Raw Materials Club' to bring together resource-rich and resource-consuming countries to cooperate on strengthening global supply chains. It will promote sustainable investments across the critical raw materials value chain and support local economic development.[51] Another initiative involves the Quad countries – the US, Australia, Japan and India – who are mapping critical minerals capacity and vulnerabilities in global semiconductor supply chains as part of the recently established Critical and Emerging Technologies Working Group.[52] Yet another collaborative effort is the Supply Chain Resilience Initiative by Australia, India and Japan which aims to promote measures such as trade and investment diversification, and may also extend to the critical raw materials sector.[53]

The developing bilateral and plurilateral trends indicate a clear shift away from comprehensive FTAs as understood under Article XXIV of the GATT 1994 and an increasing recourse to standalone sectoral agreements and arrangements. These address standards and regulations in the critical minerals or raw materials sector and do not pursue market access or tariff liberalization. In fact, the trend indicates an interest in facilitating investments and addressing concerns pertaining to environmental sustainability and labour standards. These agreements admittedly look to reorganize supply chains and trade channels in a bid to ensure security, predictability and resilience in critical minerals trade. In practice, these developments are prompting friend-shoring and nearshoring of supply chains.

4 Devising a policy strategy for India on critical minerals

The mining industry forms one of the core sectors of the Indian economy. India has vast resources of numerous metallic and non-metallic minerals, such as iron ore, bauxite, chromium, manganese ore, rare earths and mineral salts.[54] Yet India has a critical dependence on imports for a range of key minerals[55]:

Table 1 The Net Import Reliance for Critical Minerals of India (2020)

Sl. No.	*Critical Minerals*	*Percentage (2020)*	*Major Import Source (2020)*
1.	Lithium	100%	Chile, Russia, China, Ireland, Belgium
2.	Cobalt	100%	China, Belgium, Netherlands, US, Japan
3.	Nickel	100%	Sweden, China, Indonesia, Japan, Philippines
4.	Vanadium	100%	Kuwait, Germany, South Africa, Brazil, Thailand

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47 Press Statement on Indo-Pacific Economic Framework for Prosperity Meetings in San Francisco, Press Information Bureau (16 Nov. 2023), https://static.pib.gov.in/WriteReadData/specificdocs/documents/2023/nov/doc20231117271001.pdf (accessed 29 Nov. 2023).

48 Mineral Security Partnership, U.S. Department of State, https://www.state.gov/minerals-security-partnership/ (accessed 4 Dec. 2023).

49 Minerals Security Partnership (MSP) Principles for Responsible Critical Mineral Supply Chains, U.S. Department of State, https://www.state.gov/wp-content/uploads/2023/02/MSP-Principles-for-Responsible-Critical-Mineral-Supply-Chains-Accessible.pdf (accessed 4 Dec. 2023).

50 *See* Infographic – An EU Critical Raw Materials Act for the future of EU supply chains, EU Council, https://www.consilium.europa.eu/en/infographics/critical-raw-materials/ (accessed 13 Dec. 2023).

51 Théo Bourgery-Gonse, *EU unveils Critical Raw Materials Act, aiming to lessen dependence on China*, Euractive (16 Mar. 2023), https://www.euractiv.com/section/economy-jobs/news/eu-unveils-critical-raw-materials-act-aiming-to-lessen-dependence-on-china/ (accessed 5 Dec. 2023).

52 *See* 'Fact Sheet: Quad Summit', White House, 12 Mar. 2021; Also *see* Denham Sadler, *Quad Countries Finish Mapping Critical Minerals Vulnerabilities*, InnovationAus.com (25 May 2022).

53 Australian Government, *Joint Statement on the Supply Chain Resilience Initiative by Australian, Indian and Japanese Trade Ministers* (15 Mar. 2022).

54 National Mineral Scenario, Ministry of Mines, Government of India, available at, https://mines.gov.in/webportal/nationalmineralscenario (accessed 17 October 2023).

55 Critical Minerals for India – Report of the Committee on Identification of Critical Minerals, Jun. 2023, Ministry of Mines, Government of India available at, https://mines.gov.in/admin/storage/app/uploads/649d4212cceb01688027666.pdf (accessed 8 Nov. 2023).

Sl. No.	*Critical Minerals*	*Percentage (2020)*	*Major Import Source (2020)*
5.	Niobium	100%	Brazil, Australia, Canada, South Africa, Indonesia
6.	Germanium	100%	China, South Africa, Australia, France, US
7.	Rhenium	100%	Russia, UK, Netherlands, South Africa, China
8.	Beryllium	100%	Russia, UK, Netherlands, South Africa, China
9.	Tantalum	100%	Australia, Indonesia, South Africa, Malaysia, US
10.	Strontium	100%	China, US, Russia, Estonia, Slovenia
11.	Zirconium (zircon)	80%	Australia, Indonesia, South Africa, Malaysia, US
12.	Graphite (natural)	60%	China, Madagascar, Mozambique, Vietnam, Tanzania
13.	Manganese	50%	South Africa, Gabon, Australia, Brazil, China
14.	Chromium	2.5%	South Africa, Mozambique, Oman, Switzerland, Turkey
15.	Silicon	<1%	China, Malaysia, Norway, Bhutan, Netherlands

Source: A report on 'Unlocking Australia-India Critical Minerals Partnership Potential' by Australian Trade and Investment Commission (Jul. 2021).

The estimated value of mineral production for the period 2022–2023 was INR 100,709 crore.[56] Mining and quarrying sector contributes around 2.5% of India's Gross Domestic Product (GDP) and hence is critical to India's economic and developmental aspirations.[57]

India's internal policy on minerals has traditionally only focused on maximizing the extraction and beneficiation of mineral resources and scaling up exploration and prospecting through environmentally sustainable mining practices and modern mining technologies.[58] Inward investment and technology flows were encouraged and were to be facilitated through an improved regulatory environment.[59] The strategy prioritized fundamentals such as the development of proper inventory of resources and reserves, mining tenement registry and mineral atlas. Securing access to critical minerals did not feature prominently in the strategy.

India's latest mineral policy also focuses on conservation and environmentally sustainable mineral development, improving efficiency and productivity of mining operations through technological upgradation.[60] This 2019 policy focus is circumscribed by the objective to promote domestic industry, reduce import dependence and feed into the 'Make in India' initiative. There is a special thrust on infrastructure development through financial incentives. Importantly, it introduces 'mineral security' as a strategic issue and gives attention to the need for ensuring long-term mineral security through securing access to sufficient, reliable, affordable, and sustainable supplies of minerals.[61]

The COVID-19 pandemic and geopolitical conflicts in Europe and the Middle East have severely disrupted important supply chains and revealed key vulnerabilities. India has taken an important first step in 2023 by identifying a list of minerals that it considers 'critical' and amending domestic legislations to facilitate the auction of mining leases to increase exploration and mining of critical minerals.[62] However, the broader existing national policy on mineral security is no longer sufficient. The rapidly shifting geopolitical landscape and heightened concerns regarding resilient and stable supply of these essential resources warrants a much more comprehensive and far-sighted vision and strategy. It is critical to not only identify short-term, medium-term and long-term interests in this sector but also map supply chain risks.

While developing a policy on critical minerals, India should be mindful of global developments in this sector, some of which are highlighted in part 3 of this article. A coherent strategy that addresses both domestic concerns and improves international engagement is essential.

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[56] *See* Monthly Summary On Minerals & Non-Ferrous Metals Feb. 2023, Ministry of Mines, Government of India, https://mines.gov.in/admin/storage/ckeditor/_for_the_Month_of_February_2023_1685539801.pdf (accessed 29 Nov. 2023).

[57] Mary Abraham, *India's Mining Sector: Towards a Sustainable and Equitable Future* (21 Feb. 2022), https://www.teriin.org/article/indias-mining-sector-towards-sustainable-and-equitable-future (accessed 2 Dec. 2023).

[58] National Mineral Policy, Ministry of Mines, Government of India (2008), https://mines.gov.in/admin/storage/app/uploads/6435293eb55611681205566.pdf (last accessed 14 Dec. 2023); National Mineral Policy, 1993, Ministry of Mines, Government of India, https://ibm.gov.in/writereaddata/files/09232015122549Mineral%20Policy%20and%20Legislation.pdf (accessed 14 Dec. 2023).

[59] *Ibid.*

[60] National Mineral Policy, Ministry of Mines, Government of India (2019), https://mines.gov.in/admin/storage/app/uploads/64352887bcfa41681205383.pdf (hereinafter "National Mineral Policy, 2019")(accessed 14 Dec. 2023).

[61] *Ibid.*, para. 6.15.

[62] Ministry of Mines, *Measures Initiated to Attain Self-reliance in Critical Minerals*, Press Information Bureau (13 Dec. 2023).

First, India's national strategy on critical minerals must primarily focus on securing reliable long-term access to key mineral resources. India is progressively moving away from greenhouse gas intensive production processes towards greener and cleaner energy sources and technologies. It has set ambitious targets for emission reductions. For instance, India plans to increase renewables capacity to 500 GW by 2030 and achieve Net Zero Emissions by 2070.[63] Critical minerals demand in India is expected to rise significantly as India accelerates its transition to green energy.

Countries like China, Russia, Australia, African and Latin American countries are leading producers and exporters of these critical minerals. It is vital to pursue external policies, including through trade and investment policies, that aid in obtaining access to these essential resources. Policy tools available for this purpose include investments in upstream mineral assets in partner countries to develop commercially robust supply chains, reduction in import and export duties, negotiating trade terms with improved market access opportunities, easing regulatory burden for businesses in this sector etc.

As a first step, in 2019 the Government of India created Khanij Bidesh India Ltd. (KABIL), a joint venture of three public sector enterprises namely, National Aluminium Company Ltd., Hindustan Copper Ltd. and Mineral Exploration and Consultancy Ltd.[64] KABIL was tasked with identifying, acquiring, developing, processing, and making commercial use of key minerals in overseas locations for use in India.[65] Since its establishment, KABIL has focused on identifying opportunities for acquisition of battery minerals like Lithium and Cobalt through project engagements in Australia and Argentina for securing long term supply of these minerals from these countries.[66]

Second, India must collaborate with like-minded trade partners to work towards building and strengthening critical minerals supply chains in a manner that serves its national objectives and priorities for economic resilience. It is important to utilize the opportunity presented by the growing use of friend-shoring and nearshoring policies to integrate into reliable value chains and strengthen trade and investment networks in this sector. To ensure resilience and minimize the effects of disruptions, crisis preparedness must be prioritized. In this context, identifying areas of dependencies and mapping risks or vulnerabilities in global value chains is important. India can harness the network of key players under the MSP and the IPEF framework to exchange information and best practices in supply chain crisis preparedness, mitigation and management.

Third, India should bolster its domestic capacity in all segments of mineral exploration and production in order to cultivate strategic self-reliance in a sustainable manner.[67] India should pay focused attention to improving geological mapping of resources and identifying resource endowments within its territory. Investments in research, development and innovation in mining technologies must be encouraged to improve mineral processing and beneficiation capacity. India must also continue streamlining and simplifying the regulatory framework to promote greater exploration and extraction activities.

This would require appropriate government intervention through the provision of subsidies and easing the administrative requirements for conducting business in India. The Minerals Policy of 2019 identifies the need to invest in the research of mining methods, mineral processing and beneficiation, development of automated equipment, deep sea mining, among others.[68] Further, the Report on Identification of Critical Minerals recommends the Centre to support the building up of new research and analytical infrastructure and administrative support to accelerate the development of critical mineral mining, processing, manufacturing, and recycling.[69] Building on these, India should devise support measures to enhance the domestic production and regulatory systems. Countries such as the EU, US, Japan and Australia are providing subsidies to local firms for the domestic production of critical minerals, development of commercially scalable technology, subsidies for investment abroad, among others.[70]

Fourth, a recalibration of trade and investment policies can play a crucial role in helping India diversify its sources and achieve security of supply of critical minerals. In the past few years, India has been a part of FTA negotiations with developed and other developing

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[63] Cabinet approves India's Updated Nationally Determined Contribution to be communicated to the United Nations Framework Convention on Climate Change, Press Information Bureau (3 Aug. 2022), https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1847812 (accessed 7 Oct. 2023).

[64] Khanij Bidesh India Limited, Ministry of Mines, Government of India, https://mines.gov.in/webportal/content/kabil (accessed 17 Dec. 2023).

[65] *Ibid.*

[66] Efforts for Uninterrupted Supply of Critical Minerals Enhanced Focus By GSI For Critical Mineral Exploration, Press Information Bureau (31 Jul. 2023), https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1944303 (accessed 21 Nov. 2023).

[67] *See* generally Ram Singh, *Critical Minerals: India eyes Sustainable Self-reliance, Policy Circle* (21 Aug. 2023), https://www.policycircle.org/opinion/critical-minerals-india-eyes-sustainable-self-reliance/ (accessed 11 Dec. 2023)

[68] National Mineral Policy,2019.

[69] Critical Minerals for India, *Report of the Committee on Identification of Critical Minerals*, Ministry of Mines (Jun. 2023).

[70] *See* generally, Office of Energy Efficiency and Renewable Energy, DOE Announces Funding Opportunity for Critical Materials Accelerator Projects to Advance Critical Materials Supply Chains Solutions (27 Nov. 2023).

countries such as the UK, EU, Australia, Sri Lanka, Oman and UAE. Given that India's focus is on increased integration into global value chains, India should consider a holistic trade and investment strategy in its FTA negotiations.

Taking cue from the EU – which has tailored investment access obligations in the form of positive commitments schedules and specific provisions in a dedicated chapter in its recent FTAs – India could also include investment-specific provisions for critical minerals in its FTAs.[71] Inclusion of investment protection-related provisions such as those that constrain expropriation and provide for fair and equitable treatment would also provide additional security to investors from India, and potentially facilitate substantial investment within India. India has an open and facilitative FDI policy in the mining sector which permits 100% foreign investment through the automatic route, without the need for government approval.[72] Signing investment facilitation agreements and memorandums of understanding with countries could further aid in streamlining investment procedures and create mechanisms for further cooperation.

As noted in part 3, India has already entered into multiple initiatives with countries such as Australia, US, Quad countries, and others. Future negotiations for any bilateral or plurilateral agreement should be pursued with countries that are reliable and trusted trading partners of India. In particular, India should identify countries that are rich in mineral resources, and those that are technologically advanced to pursue negotiations to further enhance critical mineral supply.

In achieving the above objectives and devising the necessary policies and measures, India should be cognizant of international trade rules. In providing support to the critical minerals sector, India should be mindful of applicable WTO disciplines such as the Agreement on Subsidies and Countervailing Measures (SCM Agreement). Subsidies that are contingent on the use of domestic goods over imported goods, for instance, are expressly prohibited by the SCM Agreement.[73] In pursuing policies to secure access to mineral resources and increasing investments through bilateral and plurilateral initiatives, it is important to be mindful of other key WTO obligations. This includes the MFN treatment as well as National Treatment obligations that proscribe differential treatment between WTO Members and between a domestic and foreign good. For instance, an initiative that includes within its ambit discriminatory market access-related obligations may result in violation of the MFN principle. In any event, trade restrictive measures such as export prohibitions should not be adopted.

5 Conclusion

India finds itself in the midst of a global polycrisis characterized by events such as the climate emergency, COVID-19 pandemic, war in Ukraine, among others, which is further complicated by changing geopolitics. The transition to a low-emission and sustainable economy has accelerated the race for access to critical minerals. The complex nature of critical mineral supply chains and concentration of resource and technology in the hands of a few key players further compounds the problem of access.

WTO principles do not constrain Members' sovereign right to decide whether to mine their natural resources, and the extent to which they wish to do so. Yet, whenever they mine, measures that impact the trade of these resources are subject to WTO norms. These norms, however, are deficient in some areas as they do not regulate measures which are majorly used in the critical minerals sector such as export taxes. Further, WTO rules do not contain strong sustainability-related norms.

To address these gaps, countries are increasingly looking beyond the multilateral trade rules towards bilateral and plurilateral arrangements and agreements. The emphasis and move towards friend-shoring is clearly visible in initiatives, such as, the MSP, IPEF, and others. While these arrangements not only address aspects such as increasing investment for mining and processing and improving coordination and crisis response among partners, they also signify conscious efforts by countries to diversify their supply chains.

Against this backdrop, India must develop a holistic strategy towards critical minerals – addressing both domestic policies and international trade. On the domestic front, India should devise a critical minerals strategy that improves domestic regulatory systems and results in improving investments for exploration and processing. While prioritizing domestic capacity and strategic self-reliance in mineral resource production, India should also work together with like-minded and reliable trading partners through FTAs and other plurilateral initiatives. The trend towards friend-shoring and nearshoring presents an opportunity for India to integrate into global value chains. Such a strategy should also respect applicable international trade rules that ensure security and predictability.

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[71] Victor Crochet & Weihuan Zhou, *Critical Insecurities? The European Union's Trade and Investment Strategy for a Stable Supply of Minerals for the green Transition*, Blog of the European Journal of International Law (23 Feb. 2023).

[72] *See* Consolidated FDI Policy, Department of Promotion of Industry and Internal Trade, Government of India (effective from 15 Oct. 2020), https://static.investindia.gov.in/2020-10/FDI-PolicyCircular-2020.pdf (accessed 12 Dec. 2023); While 100% FDI is permitted in Mining and mineral separation of titanium bearing minerals and ores, its value addition and integrated activities, Government approval is required.

[73] Article 3.1(b), Agreement on Subsidies and Countervailing Measures.