

PRESS RELEASE
May 22, 2024

India's efforts to step up domestic production of critical minerals remain crucial for our energy security: ICRA

- *The quantity and quality of domestic lithium resources discovered so far is significantly inferior to other world class deposits in key producing regions*
- *Given India's scarce primary resources of critical minerals, investing in circular supply chains remains important for raw material security and reduction of imports*

According to ICRA's three-part series on the critical minerals sector, the preliminary stage of exploration for most of the domestic blocks that are currently being auctioned, suggests that their commercialisation and associated benefits are unlikely to fully accrue in the current decade ending 2030. Therefore, India's downstream manufacturing facilities are likely to remain exposed to potential future supply shocks of critical minerals in the intervening years.

India's lack of reserves of critical minerals necessary for the green transition has resulted in 100% import dependence for minerals like lithium, cobalt, and nickel. Therefore, the Government of India (GoI) has recently started the process of auctioning 38 blocks of critical minerals. Moreover, with the risk profile of exploration activities being significantly higher for deep-seated/ critical minerals over surficial or bulk minerals, the GoI introduced the auction of 'Exploration Licence' to enable a more attractive risk-return framework for bringing specialised overseas mining companies.

The transformation of energy systems from increasing energy density to increasing mineral intensity is an irreversible process for meeting India's 2070 net zero commitments. The accelerated pace of adoption of green technologies like electric vehicles, renewable energy (solar and wind), and green hydrogen in the post-Covid era is expected to result in a surge in demand for critical minerals, which would entail significantly greater number of domestic mines to support the green economy of the future. Therefore, the global energy policy priority has been gradually shifting from fuel/energy security earlier to mineral security now.

Commenting on the industry trends, **Girishkumar Kadam, Senior Vice-President & Group Head, Corporate Sector Ratings, ICRA** said: *"Global deposits of critical minerals are more concentrated than most industrial minerals, fossil fuels, and hydrocarbons. Additionally, China dominates the processing and refining of critical minerals, controlling between 65%-100% of the global capacity to make battery grade lithium, cobalt, manganese, and graphite. Therefore, critical mineral global supply chains remain exposed to supply shocks from key producing/ processing regions, which in turn results in elevated price volatility. Consequently, countries are increasingly looking at ways to increase self-sufficiency and reduce import dependence. In that context, India's efforts to step up domestic production of critical minerals remains crucial for our energy security."*

"However, given the preliminary stage of exploration for most of the domestic blocks being currently auctioned, their commercialisation and associated benefits are unlikely to fully accrue in the current decade ending 2030. Therefore, India's downstream manufacturing facilities remain exposed to potential future supply shocks of critical minerals in the interim period," **said Kadam.**

The grades of materials used in green technologies are significantly higher than their conventional industrial uses, requiring specialised knowhow in mineral processing and refining technologies. With China gaining a significant lead in this area, developed economies, like the US and the European Union, are increasingly looking at rebuilding critical mineral supply chains nearer to shore. While the GoI has outlined ~30% of the overall allocation to the Production Linked Incentive (PLI) scheme to green energy technologies like solar PV, battery, and green hydrogen,

however, such incentives are missing in the area of exploration, mining, and processing of critical minerals where India’s domestic capabilities are at a nascent stage. Therefore, there is a requirement for incentivising domestic capability in critical mineral processing technologies like beneficiation and leaching.

Commenting on this trend, **Kadam said:** *“The Government is auctioning two lithium blocks in the ongoing auctions. The one in Jammu & Kashmir has clay deposits. While the technology for extracting lithium from hard-rock and brine deposits has matured, the same for extracting lithium from clay deposits remains untested globally. Given these challenges, the J&K lithium block received less than three bids, resulting in a re-auction of the block. On the other hand, the lithium block being auctioned in Katghora, Chhattisgarh is a hard rock deposit. The ore here belongs to a broader class of lithium-bearing minerals named lepidolite. China is a large producer of lithium from lepidolite ores. Therefore, competition to acquire the Katghora mine is likely to be much higher compared to the J&K block. However, given the inferior grade of explored domestic ores, advancement in mineral beneficiation/ processing technology remains critical for commercialisation of domestic critical mineral resources”.*

Apart from developing domestic critical mineral resources, the GoI is parallelly looking at acquiring overseas assets from key resource-rich regions like South America, Australia, and Africa as an alternate measure to ensure mineral security. Khanij Bidesh India Limited, a joint venture of PSUs NALCO, Hindustan Copper, and Mineral Exploration Company, recently became the first domestic player to acquire overseas lithium brine assets in Argentina.

“Apart from Argentina, India is actively scouting for acquiring critical mineral assets in Chile, Australia, and several African nations including Zambia, Namibia, Congo, Ghana, and Mozambique. Moreover, to strengthen the critical mineral supply chain, India recently became the fourteenth member, and the only developing country of the US-led Mineral Security Partnership, a block consisting of large buyers and sellers of critical minerals. To supplement India’s scarce domestic primary resources of critical minerals, through policy interventions like the Battery Waste Management Rules, the Government has been laying emphasis on investing in circular supply chains. However, India has had limited success in material recycling of even bulk materials. Therefore, developing the necessary infrastructure for achieving the GoI’s stiff critical mineral recycling targets remains to be seen,” **Kadam added.**

[Click here to access our previous press releases on the sector](#)

For further information, please contact:

Media Contacts:

Naznin Prodhani

Head - Group Corporate
Communications & Media Relations
ICRA Ltd
Tel: + (91 124) 4545300,
Dir - 4545860
Email:
naznin.prodhani@icraindia.com

Shivendra Singh

Deputy Manager - Media &
Communications
ICRA Ltd
Tel: +91- 9892875193
Email:
shivendra.singh@icraindia.com
[m](#)

© Copyright, 2024 ICRA Limited. All Rights Reserved.

All information contained herein has been obtained by ICRA from sources believed by it to be accurate and reliable. Although reasonable care has been taken to ensure that the information herein is true, such information is provided 'as is' without any warranty of any kind, and ICRA in particular, makes no representation or warranty, express or implied, as to the accuracy, timeliness or completeness of any such information. Also, ICRA or any of its group companies, while publishing or otherwise disseminating other reports may have presented data, analyses and/or opinions that may be inconsistent with the data, analyses and/or opinions presented in this publication. All information contained herein must be construed solely as

statements of opinion, and ICRA shall not be liable for any losses incurred by users from any use of this publication or its contents.

Disclaimer:

This Press Release is being transmitted to you for the sole purpose of dissemination through your newspaper/magazine/agency. The Press Release may be used by you in full or in part without changing the meaning or context thereof, but with due credit to ICRA Limited. However, ICRA Limited alone has the sole right of distribution of its Press Releases for consideration or otherwise through any media including, but not limited to, websites and portals.

About ICRA Limited:

ICRA Limited was set up in 1991 by leading financial/investment institutions, commercial banks and financial services companies as an independent and professional investment Information and Credit Rating Agency. Today, ICRA and its subsidiaries together form the ICRA Group of Companies (Group ICRA). ICRA is a Public Limited Company, with its shares listed on the Bombay Stock Exchange and the National Stock Exchange. The international Credit Rating Agency Moody's Investors Service is ICRA's largest shareholder.



Click on the icon to visit our social media profiles.