₹1,500 cr incentive scheme in the works for recycling critical minerals

Midwest Advanced Materials to produce rare earth magnets amid supply curbs from China

PUJA DAS
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Following the disruption in the supply of rare earth or permanent magnets after China's notification on April 4, the mines ministry is planning to introduce a ₹1,500 crore incentive scheme to recycle critical minerals, according to a top official.

In parallel, Midwest Advanced Materials (MAM), a Hyderabad-based company that specialises in researching and developing advanced materials and rare earth magnets, is in discussion with the Non-Ferrous Materials Technology Development Centre (NFTDC), Hyderabad, to acquire its technology for extracting and processing rare earth magnets, the official stated.

The incentive scheme for recycling will focus on critical minerals such as neodymium (a rare-earth element from the lanthanide series), copper, lithium, nickel, and cobalt, and will be part of the National Critical Mineral Mission (NCMM), announced in January.

"What we aim to do is incentivise the recycling of critical minerals. Rare earth magnets are included among these critical minerals. Recycling and retrieving old permanent magnets is challenging, but if someone wants to recycle neodymium, one of the four rare earths, we will provide incentives," the official said, adding, "The scheme is in its final stage and will seek cabinet approval soon." This initiative has been designed to attract more companies to set up operations in India and ensure that processing occurs domestically. The official noted: "If we throw away a lot of these batteries, we can extract lithium from them. Companies already collect used batteries through scrap dealers, crush them, and extract lithium for resale. However, these companies argue that it is not viable due to regulatory and environmental constraints. We are offering incentives to encourage more companies to engage in this process."

At present, several companies in India, including Attero Recycling, Lohum Cleantech, Gravita India Ltd, Umicore, Glencore, Li-Cycle Corporation, and RecycLiCo Battery Materials Inc are extracting lithium from used batteries. However, the government wants to increase the number of firms up to 100 from current 10-12. Currently, there is no scrap duty imposed on this process.

"A significant amount of scrap comes from abroad. With the incentive scheme, we can enhance recycling efforts. This approach accelerates the availability of critical minerals, while mining can be time-consuming," the official stated. Queries sent to the secretary and spokesperson for the mines ministry and MAM remain unanswered till the time of going to press.

Regarding the extraction and processing of rare earth magnets, the official said, "MAM has acquired the technology developed by the NFTDC, Hyderabad. The technology is being commercialised. In six months, we will be able to produce permanent magnets in India. However, the challenge is that automobile companies cannot afford to wait, and even if MAM succeeds, China could undermine their business by offering lower prices."

Currently, IREL (India), formerly known as Indian Rare Earths Ltd, is the sole producer of rare earth elements in India and has a lengthy production timeline. India has auctioned two rare earth mines.

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Govt may amend laws to let firms explore critical minerals overseas

India is planning to amend the Mines and Minerals (Development and Regulation) Amendment Act 2023 to specify the use of funds, currently earmarked at ₹5,600 crore, for exploring critical mineral mines overseas, according to a top official.

The proposed amendments also aim to introduce a tailings policy and modify the royalty structure to facilitate the extraction of critical minerals from waste materials, the official added. These changes are expected to advance the National Critical Minerals Mission (NCMM), which focuses on securing supplies of these strategically important minerals for commercial use. The NCMM has an allocated budget of ₹16,300 crore over seven years, from FY25 to FY31, with an additional ₹18,000 crore expected to be invested by Central Public Sector Enterprises.

The NCMM also includes initiatives to promote the recovery of critical minerals from tailings through various technologies. "Critical minerals require certain amendments in the act. We will make some amendments to the monsoon session," the official quoted above said. "If you are mining manganese, you can extract cobalt out of the dump. If you are mining bauxite from red mud, you can extract gallium. Basically, we want to incentivise people to extract all these critical minerals that are associated with bulk minerals. For that, we will have to bring a royalty structure which is attractive," he said.

Queries sent to the mines ministry remained unanswered at press time.

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