



NATIONAL CRITICAL MINERALS MISSION - ECONOMY

NEWS: With the Cabinet's approval of the National Critical Minerals Mission, the government has underscored the vital role of critical minerals in the economy.

WHAT'S IN THE NEWS?

NATIONAL CRITICAL MINERALS MISSION (NCMM) APPROVED BY GOVERNMENT

Date: 29th January

Budget Allocated: Rs 16,300 crore

Objective: To promote the exploration, mining, and processing of critical minerals within India and offshore locations, ensuring a robust supply chain for strategic sectors like clean energy, electronics, defence, and agriculture.

Key Objectives of NCMM

1. Exploration and Mining:

The mission aims to intensify the exploration of critical minerals within India and in its offshore areas. This includes identifying new mineral reserves and accelerating the development of existing ones. A fast-track regulatory approval process will be established to expedite mining projects, reducing delays and bureaucratic hurdles.

2. Global Acquisition:

The government will encourage Indian public sector enterprises (PSEs) and private sector companies to acquire critical mineral assets abroad. This strategy aims to secure a steady supply of essential minerals by investing in foreign mines and forming joint ventures with resource-rich countries.

3. Stockpile Development:

To mitigate supply chain disruptions, the mission proposes the creation of a domestic stockpile of critical minerals. This reserve will act as a buffer during geopolitical tensions or global supply shortages, ensuring continuous availability for key industries.

4. Recycling and Processing:

The mission includes plans to develop guidelines for recycling critical minerals from end-of-life products, such as electronic waste and batteries. Additionally, four mineral processing parks will be established to streamline the informal recycling sector, improving efficiency and reducing environmental impact.

5. International Partnerships:

The NCMM seeks to promote Critical Minerals Partnership Agreements with resource-rich countries. It also aims to integrate chapters on critical minerals into existing bilateral trade agreements, fostering stronger economic ties and ensuring a stable supply of minerals.



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3 Li Lithium	4 Be Beryllium	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="width: 15px; height: 15px; background-color: #FFD700; border: 1px solid black;"></div> critical mineral <div style="width: 15px; height: 15px; background-color: #90EE90; border: 1px solid black;"></div> critical mineral - essential <div style="width: 15px; height: 15px; background-color: #FF6347; border: 1px solid black;"></div> critical mineral - rare earth element </div>										5 B Boron	6 C* Carbon	7 N Nitrogen	8 O Oxygen	9 F* Fluorine	10 Ne Neon																														
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* = main element of commodity deemed critical (Ba for barite, F for fluorspar, C for graphite)

Financial Allocations and Support

1. National Mineral Exploration Trust (NMET):

An additional Rs 5,600 crore has been allocated to NMET to finance risk coverage for foreign sourcing and support exploration activities outside India. This funding will help Indian companies secure mineral assets abroad and reduce dependency on imports.

2. Anusandhan National Research Foundation (ANRF):

Rs 1,000 crore will be provided by ANRF and other R&D schemes to support research and development in critical mineral exploration, processing, and recycling technologies.

3. Budgetary Support:

The mission will receive Rs 2,600 crore in direct budgetary support from the government, ensuring adequate funding for its various initiatives.

4. External Funding:

The mines ministry has proposed external funding for the NCMM through the World Bank's Resilient and Inclusive Supply-Chain Enhancement (RISE) initiative. This international support will enhance the mission's financial resources and global collaboration.

Regulatory and Legislative Changes

- **Amendment to MMDR Act:**

The Mines and Minerals (Development and Regulation) Act will be amended to enable the National Mineral Exploration Trust (NMET) to fund the proposed activities of the NCMM. This legislative change will provide a legal framework for the mission's operations and ensure smooth implementation.



India's Critical Minerals Demand and Import Dependency

1. Rising Demand:

According to a 2024 report by the Institute for Energy Economics and Financial Analysis (IEEFA), India's demand for critical minerals is expected to more than double by 2030. This surge is driven by the growth of strategic sectors such as clean energy, electronics, and defence.

2. Import Dependency:

India is heavily reliant on imports for critical minerals:

- **100% Import Reliance:** Lithium, cobalt, and nickel are entirely imported, as domestic production is negligible.
- **Graphite:** India depends heavily on China for both synthetic and natural graphite.
- **Copper and Nickel:** These are primarily imported from Japan and Belgium, making India vulnerable to supply disruptions from these countries.

3. Global Supply Risks:

Key suppliers like China and Russia pose potential trade risks due to geopolitical tensions. For instance, China dominates the global supply of rare earth elements, while Russia is a major exporter of nickel and titanium.

Strategic Recommendations from IEEFA Report (2024)

1. Diversify Suppliers:

To reduce dependency on a few nations, India should explore partnerships with countries like the US (for copper), Mozambique, Madagascar, Brazil, and Tanzania (for graphite). Diversifying suppliers will enhance supply security and reduce geopolitical risks.

2. Boost Domestic Production:

Accelerating domestic mining operations is crucial, but it may take over a decade to start production. The government must focus on streamlining regulatory processes and incentivizing private sector participation in mining.

3. Enhance Recycling:

Streamlining the informal recycling sector can help recover critical minerals from end-of-life products like batteries and electronics. This will not only reduce dependency on raw material imports but also promote a circular economy.

Critical Minerals Identified by the Centre (2023)

• List of 30 Minerals:

The Centre has identified 30 critical minerals, including lithium, cobalt, nickel, graphite, tin, copper, titanium, and rare earth elements. These minerals are essential for economic development, national security, and technological advancement.



- **Importance:**

Critical minerals are vital for sectors like high-tech electronics, telecommunications, transport, and defence. For example, lithium is crucial for battery manufacturing, while rare earth elements are used in wind turbines and electric vehicles.

Significance of NCMM for India's Renewable Energy Goals

- **Renewable Energy Target:**

India has committed to achieving 500 GW of non-fossil fuel-based electricity capacity by 2030 as part of its climate goals under the Paris Agreement.

- **Current Capacity:**

As of now, India's renewable energy installed capacity stands at 201 GW, with solar energy contributing 91 GW. However, achieving the 500 GW target will require a significant increase in the production of solar panels, wind turbines, and energy storage systems, all of which depend on critical minerals.

- **Role of Critical Minerals:**

Minerals like lithium, cobalt, and nickel are essential for manufacturing batteries used in energy storage and electric vehicles. Similarly, rare earth elements are crucial for producing permanent magnets in wind turbines.

Challenges and Opportunities

1. Challenges:

- **High Import Dependency:** India's reliance on imports for critical minerals makes it vulnerable to global supply chain disruptions.
- **Long Gestation Period:** Domestic mining projects may take over a decade to become operational, delaying the availability of critical minerals.
- **Geopolitical Risks:** Dependence on countries like China and Russia poses significant trade risks due to geopolitical tensions.

2. Opportunities:

- **Self-Reliant Supply Chain:** The NCMM provides an opportunity to build a self-reliant critical minerals value chain, reducing dependency on imports.
- **International Partnerships:** Strengthening ties with resource-rich countries can enhance supply security and foster economic cooperation.
- **Recycling and Processing:** Leveraging advanced recycling technologies can help recover critical minerals from waste, promoting sustainability and reducing dependency on raw material imports.

Conclusion

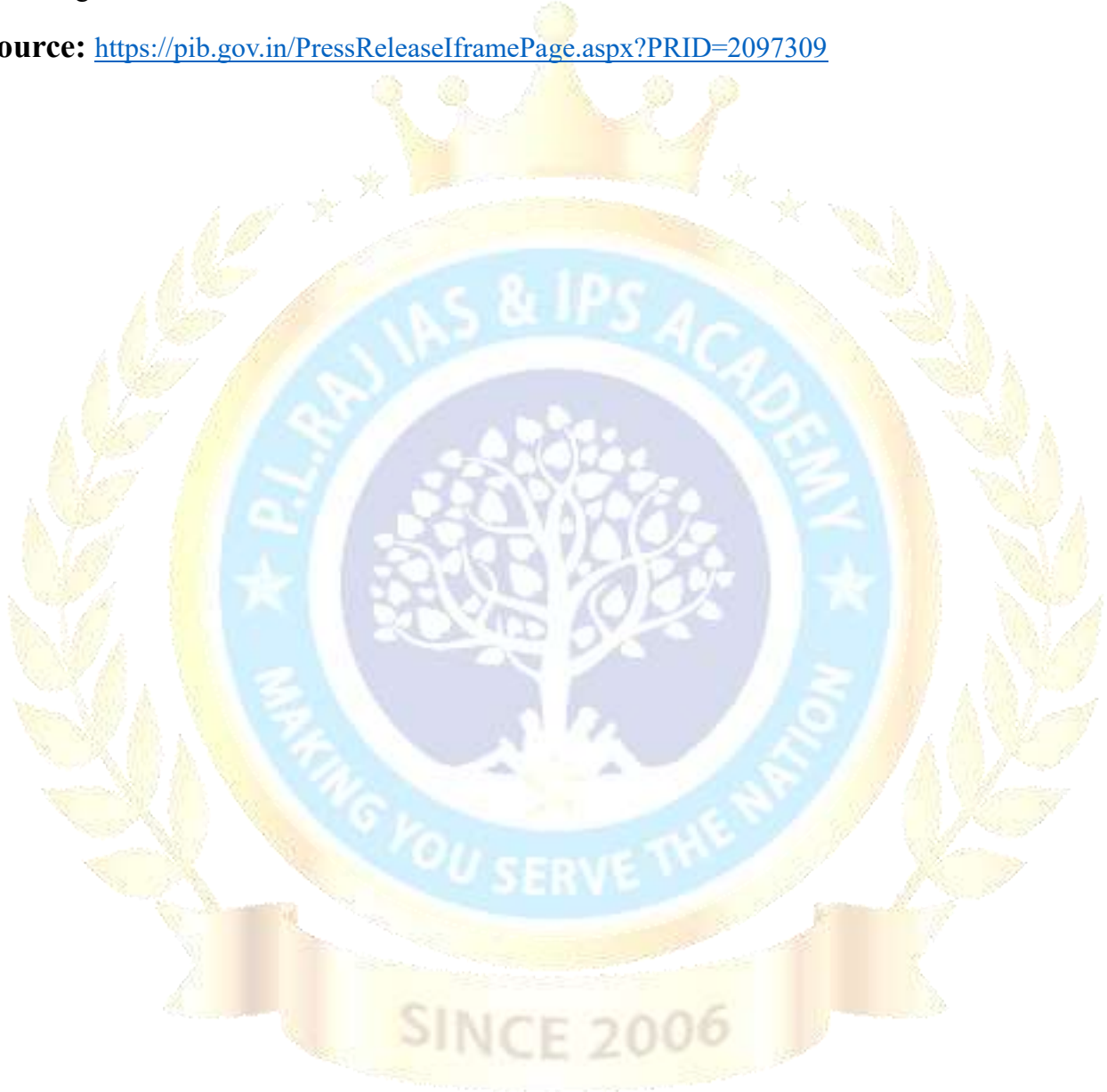


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The approval of the National Critical Minerals Mission marks a significant step toward securing India's supply of critical minerals, which are essential for its economic growth, national security, and renewable energy ambitions. By focusing on exploration, international partnerships, recycling, and regulatory reforms, the mission aims to reduce import dependency and build a resilient supply chain for the future. This initiative is crucial for achieving India's long-term goals in clean energy, technological advancement, and economic self-reliance.

Source: <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2097309>



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