India Signs MoU on Critical Minerals Cooperation

Source: PIB

Why in News?

The Ministry of Mines recently signed a **Memorandum of Understanding (MoU**) with the International Energy Agency (IEA) to strengthen cooperation in the critical minerals sector.

What is the Significance of the MoU?

- **Enhancing India's Critical Mineral Strategies:** The MoU will provide India with access to reliable data, analysis, and policy recommendations related to the critical minerals sector.
- **Aligning with Global Standards:** India will streamline its policies, regulations, and investment strategies related to critical minerals, bringing them in line with **global best practices.**
- **Capacity Building and Knowledge Exchange**: The collaboration will facilitate the exchange of technical expertise, training, and joint research between India and IEA member countries, helping India improve its capabilities in **mineral extraction, processing,** and **recycling** techniques.

What are Critical Minerals and their Importance?

- **Definition and Role:** Critical minerals are essential raw materials that are crucial for the **production of energy technologies** (like batteries, solar panels, and electric vehicles), advanced manufacturing, and national security.
    - These include minerals such as **lithium, cobalt, rare earth elements, and nickel.**
- **Strategic Importance for India:** India's energy transition to renewable sources and its push for electric mobility and green technologies depend heavily on the availability of these critical minerals.
    - The lack of sufficient domestic reserves of such minerals makes India reliant on imports, often from geopolitically sensitive regions.
- **Critical Minerals Identification:** India has **identified 30 critical minerals** based on their disruption potential, substitutability, cross-cutting usage, import reliance, and recycling rates.
    - **List**: The identified minerals include Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium, and Cadmium.
    - **States/UTs with Critical Minerals**: The states/UTs housing these minerals are Bihar, Gujarat, Jharkhand, Odisha, Tamil Nadu, Uttar Pradesh, Chhattisgarh, and Jammu and Kashmir.

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Sl. No.	Critical Mineral	Percentage (2020)	Major Import Sources (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
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

International Energy Agency (IEA)

- **Overview**: The IEA is an autonomous agency that works under the framework of the Organisation for Economic Co-operation and Development (OECD).
    - It was established to promote energy security, economic growth, and environmental sustainability.
- **Focus Areas of IEA:** The IEA focuses on energy policy, data collection, energy market analysis, and recommendations for improving energy security and sustainability.
    - It also plays a key role in managing energy crises and promoting the adoption of renewable energy.
- **Members:**
    - The IEA family is made up of **31 member countries, 13 association countries including India**, and 5 accession countries.
    - A candidate country to the IEA must be a member country of the OECD.
- **Major Publications:**
    - World Energy Outlook reports
    - India Energy Outlook Report
    - World Energy Investment Report
    - The IEA Technology Roadmap and Policy Pathway series

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims:

Q. Consider the following minerals: (2020)

1. Bentonite
2. Chromite

3. Kyanite
4. Sillimanite

In India, which of the above is/are officially designated as major minerals?

(A) 1 and 2 only

(B) 4 only

(C) 1 and 3 only

(D) 2, 3 and 4 only

Ans: D

Q2.Recently, there has been a concern over the short supply of a group of elements called 'rare earth metals'. Why? (2012)

1. China, which is the largest producer of these elements, has imposed some restrictions on their export.
2. Other than China, Australia, Canada and Chile, these elements are not found in any country.
3. Rare earth metals are essential for the manufacture of various kinds of electronic items and there is a growing demand for these elements.

Which of the statements given above is/are correct?

(A) 1 only

(B) 2 and 3 only

(C) 1 and 3 only

(D) 1, 2 and 3

Ans: C