18– 06 – 2024

News: India's KABIL Eyes Lithium Acquisition in Australia Lithium

- Khanij Bidesh India Ltd (KABIL), a joint venture of three public sector undertakings, is working to acquire a lithium block in Australia.
- KABIL is a joint venture of National Aluminium Company Ltd (Nalco), Hindustan Copper Ltd (HCL), and Mineral Exploration and Consultancy Ltd (MECL) the Central Public Sector Enterprises (CPSEs) under the Ministry of Mines.

Lithium

- Lithium is a chemical element with the symbol Li.
- It is a soft, silvery-white metal.
- Under standard conditions, it is the lightest metal and the lightest solid element.
- It is highly reactive and flammable and must be stored in mineral oil.
- It is an alkali metal and a rare metal.
- Australia tops the production of Lithium with 42000 tonnes followed by Chile, China and Argentina.
- Lithium Triangle (Argentina, Bolivia, and Chile) countries has 54% of the Lithium reserves in the world.

- Chile individually holds the largest reserves of Lithium followed by Australia and Argentina.
- Recently, High-grade Lithium has been discovered in Nigeria.

Uses of Lithium

- Lithium metal is used to make useful alloys.
- For example, with lead to make 'white metal' bearings for motor engines, with aluminium to make aircraft parts, and with magnesium to make armour plates.
- In Thermonuclear reactions.
- To make electrochemical cells. Lithium is an important component in Electric Vehicles, Laptops etc.

Lithium in India

- India currently imports all its lithium needs.
- Recent surveys by the Atomic Minerals Directorate for Exploration and Research (AMD) have shown the presence of lithium resources in Mandya district, Karnataka.
- The survey shows presence of 1,600 tonnes of lithium resources in the igneous rocks of the Marlagalla Allapatna region of Karnataka's Mandya district.

- Recently, 5.9 million tonnes of inferred Lithium reserves were found in the Salal –Haimana area of Reasi district, Jammu & Kashmir, by the Geological Survey of India.

Lithium in Stars

- Recently, Scientists have found a clue to the mystery behind the high abundance of Lithium in some evolved stars.
- The mystery is the reason behind the high abundance of Lithium in stars, which according to predicted models must get destroyed in the hot plasma of the star.
- The research involved the investigation of lithium among red giants showed that just about 1% of sun-like red giants had a lithium-enriched surface.
- The research surveyed GALAH, a collection of about 500,000 stars named after a common Australian bird with well-determined physical and chemical properties, including lithium abundances.
- Regarding the reason for Lithium production, scientists have for the first time confirmed that all the lithium-rich stars are burning helium in their core.
- They speculated that lithium production is linked to the violent helium-core flash.

Lithium Triangle

- Lithium Triangle is an intersection of Chile, Bolivia and Argentina, known for high quality salt flats.
- Salar de Uyuni in Bolivia, Salar de Atacama in Chile and Salar de Arizaro in Argentina contains over 45%of known global lithium reserves.
- Beneath Salar de Uyuni, the world's largest salt flat lays the world's greatest lithium deposits.
- Bolivia, one of South America's poorest countries, envisions development by harvesting lithium on an industrial scale from underground saltwater brines.
- It can be mined from rock or processed from brine.
- Lithium dissolved in underground saline aquifers called "brine", pumped to surface by wells and then allowed to evaporate in vast knee-deep ponds.