



Lithium

Why in News

Various **provinces of Argentina are building mining logistics** nodes and access roads, lowering tax rates and rationalizing rules for the sector **to attract investment in the Lithium metal.**

- Rising global lithium demand and surging prices have drawn increased interest in the so-called **'lithium triangle'** that spans parts of **Argentina, Bolivia and Chile.**
- Lithium has become the new **'white gold'** as the demand for high performing **rechargeable batteries** is rising.



Key Points



▪ Properties of Lithium:

- It 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**.
 - The **alkali metals** consist of the chemical elements lithium, sodium, potassium, rubidium, caesium, and francium. Together with hydrogen they constitute group 1, which lies in the s-block of the periodic table.
 - **Rare Metals (RM)** include Niobium (Nb), Tantalum (Ta), Lithium (Li), Beryllium (Be), Cesium (Cs) etc. and Rare Earths (RE) include Lanthanum (La) to Lutetium (Lu) besides Scandium (Sc) and Yttrium (Y).
 - These metals are **strategic in nature with wide application in the nuclear and other high tech industries** such as electronics, telecommunication, information technology, space, defense etc.

▪ Uses:

- 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.

▪ Countries with Largest Reserves:

- Chile > Australia > Argentina

▪ Lithium in India:

- Researchers at the Atomic Minerals Directorate (under India's Atomic Energy Commission) have estimated lithium reserves of **14,100 tonnes in a small patch of land surveyed in [Southern Karnataka's Mandya district](#)** recently.

- Also to be **India's first ever Lithium deposit site found**.

▪ Other Potential Sites in India:

- The major **mica belts in Rajasthan, Bihar, and Andhra Pradesh**.
- **Pegmatite** (igneous rocks) **belts in Odisha and Chhattisgarh**.
- Brines of **Sambhar and Pachpadra** in Rajasthan, and **Rann of Kachchh** in Gujarat.

▪ Related Government Initiative:

- India, through a newly state-owned company **Khanij Bidesh India Ltd**, had signed an agreement with an Argentinian firm to **jointly prospect lithium in Argentina**.

- Khanij Bidesh India Ltd has a **specific mandate to acquire strategic mineral assets such as lithium and cobalt** abroad.

- **Lithium Production in Stars:**

- Scientists from the Indian Institute of Astrophysics (IIA) have provided evidence for the first time that **Lithium (Li) production** is common among low mass Sun-like stars during their Helium (He) core burning phase.

Source: IE

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