



India's Battery Storage Potential: NITI Aayog

Why in News?

Recently, [NITI Aayog](#) has released a report titled “**Advanced Chemistry Cell Battery Reuse and Recycling Market in India**”, stating India's Battery demand will increase significantly by 2030.

What are the Findings of the Report?

- **Demand Projections:**
 - The total cumulative potential for battery storage in **India will be 600 GWh by 2030.**
 - Between 2010 and 2020, the **global demand for batteries grew at a compound annual growth rate (CAGR) of 25%** to reach an annual demand of about 730 GWh.
 - By 2030, the demand for batteries is expected **to grow four folds to reach an annual rate of 3,100 GWh.**
- **Current Deployment of Batteries:**
 - The current deployment of [Lithium-Ion Batteries \(LIBs\)](#) in India is **dominated by consumer electronics, which comprises smartphones, laptops, notebooks, tablets** and is further expected to grow **with the digitalisation of platforms and the integration of technology** in day-to-day life with a cumulative market of 4.5 GWh.
- **Drivers:**
 - [EVs \(Electric Vehicles\)](#) and **consumer electronics** will be the **major demand drivers** for the adoption of battery storage in India.
 - **EV sales accounted for around 10% of the LIB (0.92 GWh).**
 - The **electrification of transportation and battery energy storage in electricity grids are expected to be the key drivers** in the growth of battery demand.
- **Suggestions:**
 - A coherent regulatory framework **incentivising all stakeholders to participate in the recycling process** can help in the development of a battery recycling ecosystem in the country.

What are Lithium-ion Batteries?

- **About:**
 - It uses **an intercalated (Intercalation is the reversible inclusion or insertion of a molecule into materials with layered structures)** lithium compound as one electrode material, compared to the metallic lithium used in a non-rechargeable lithium battery.
 - The battery consists of **electrolyte, which allows for ionic movement**, and the two electrodes are the constituent components of a lithium-ion battery cell.
 - Lithium ions move from the negative electrode to the positive electrode during discharge and back when charging.
- **Lithium-ion Battery Applications:**
 - Electronic gadgets, Tele-communication, Aerospace, Industrial applications.
 - Lithium-ion battery technology has made it the favourite power source for electric and hybrid electric vehicles.

[Source: TOI](#)

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