



INDIAN BATTERY SECTOR ANALYSIS

November 2022



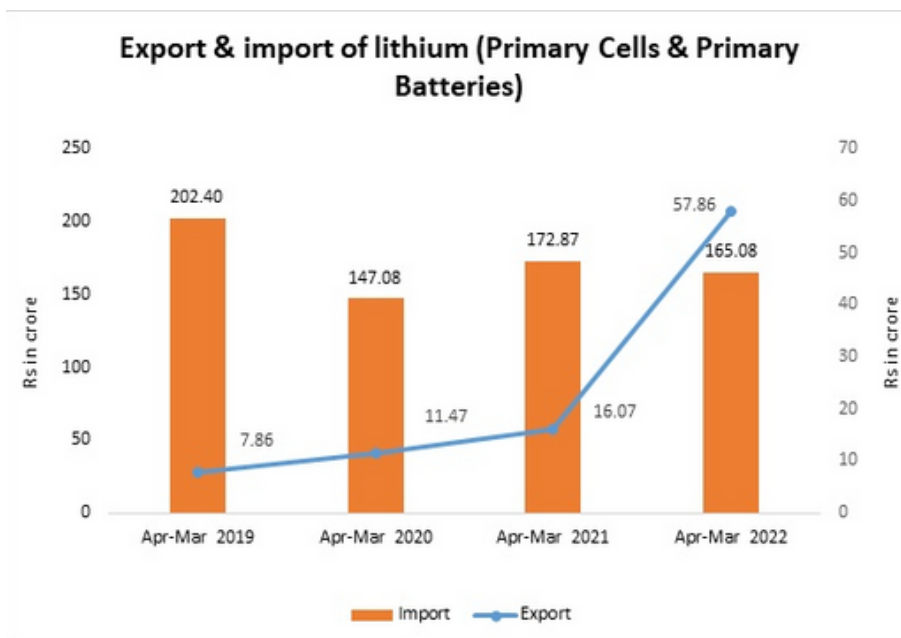
India has set the vision for battery manufacturing and compete globally with other nations in this sunrise sector. This will be favorable to electric vehicles (EV) ecosystem and energy storage market as it will support the demand for EVs and renewable and attract investment in this sector. Presently, big companies are investing in battery manufacturing in India.

Based on functionality, there are two basic types of batteries: primary batteries and secondary batteries. Primary batteries are single-use batteries because they cannot be recharged. This type of battery is thrown away after use. It is also known as non-rechargeable batteries. Secondary batteries are those batteries which can be recharged. These types of batteries are found in devices such as smartphones, electronic tablets, and automobiles.

Examples of secondary batteries include nickel-cadmium (NiCd), lead acid, and lithium ion (Li-ion) batteries. Secondary batteries are commonly known as accumulators. Lithium-ion batteries are the most popular and regularly used batteries in today's world. They are frequently used in smartphones, laptops, tablets, and other electronic devices. They have a high energy density that allows the batteries to store a significant amount of power for hours of use.

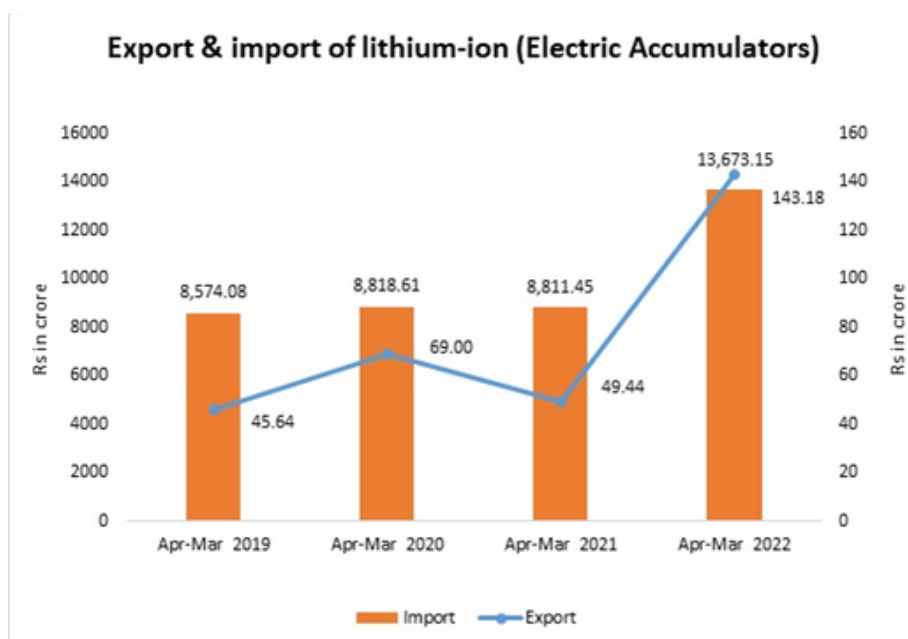
Export and Import of Lithium (Primary Cells and Primary Batteries)

Export of Lithium (Primary Cells and Primary Batteries) witnessed increasing trend in the last 4 fiscal years, with export jumping over around four fold in the period of April-March 2022 at Rs 57.86 crore as against Rs 16.07 crore in April-March 2021 and it was Rs 11.47 crore in April-March 2020. On the other hand, import of Lithium (Primary Cells and Primary Batteries) declined 4.51% in April-March 2022 at Rs 165.08 crore as compared to Rs 172.87 crore in April-March 2021.



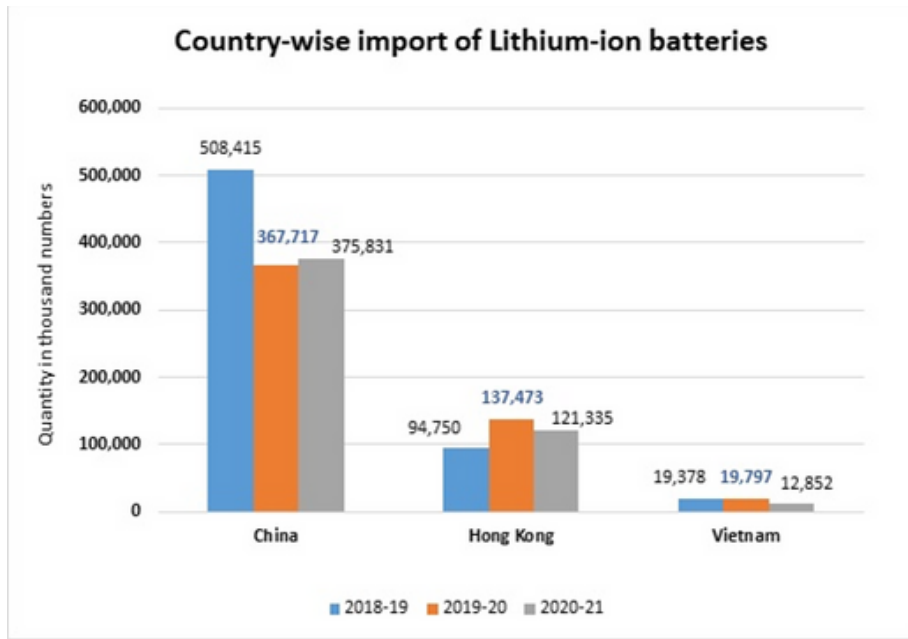
Export and Import of Lithium-ion (Electric Accumulators)

Both export and import of Lithium-ion (Electric Accumulators) witnessed rise in April-March 2022. Export surged around three fold to Rs 143.18 crore in April-March 2022 as compared to Rs 49.44 crore in April-March 2021, while import of Lithium-ion (Electric Accumulators) jumped 55.17% to Rs 13,673.15 crore in April-March 2022 as compared to Rs 8,811.45 crore in April-March 2021.



Country-wise import of Lithium-ion

India imports Lithium-ion batteries from China, Hong Kong, Vietnam, Malaysia, Korea RP, USA, Taiwan and many more. The country is among the largest importers of Li-ion batteries in the world. China, Hong Kong and Vietnam are the leading sources of imports of lithium-ion batteries, with share of 72.73%, 23.48% and 2.49% respectively in the total import of Lithium-ion batteries. China exported 3,75,831 thousand quantity of lithium-ion batteries to India in 2020-21 as against 3,67,717 thousand in 2019-20, an increase of 2.21%. However, import of lithium-ion batteries from Hong Kong and Vietnam declined to 1,21,335 thousand and 12,852 thousand in 2020-21 as against 1,37,473 thousand and 19,797 thousand in 2019-20, respectively.



Recent developments and initiatives

National Mission on Transformative Mobility and Battery Storage

The government approved setting up of a National Mission on Transformative Mobility and Battery Storage, to drive clean, connected, shared, sustainable and holistic mobility initiatives; phased Manufacturing Programme (PMP) valid for 5 years till 2024 to support setting up of a few large-scale, export-competitive integrated batteries and cell-manufacturing Giga plants in India; and creation of a PMP valid for 5 years till 2024 to localize production across the entire Electric Vehicles value chain.

The Mission will recommend and drive the strategies for transformative mobility and Phased Manufacturing Programmes for EVs, EV Components and Batteries. A Phased Manufacturing Program will be launched to localize production across the entire EV value chain. The National Mission on Transformative Mobility and Battery Storage will determine the contours of PMP, and will finalise the details of such a program.

PLI Scheme for manufacturing of advance chemistry cell to reduce import dependence on ACC Battery

The Government approved the Production Linked incentive Scheme (PLI) for manufacturing of Advance Chemistry Cell (ACC) in the country. The total outlay of the scheme is Rs.18,100 crore for five years. The scheme envisages establishing a competitive ACC battery manufacturing set up in the country (50 Giga Watt hour-GWh). Additionally, 5 GWh of niche ACC technologies is also covered under the scheme.

The scheme proposes a production linked subsidy based on applicable subsidy per KWh and percentage of value addition achieved on actual sales made by the manufacturers who set up production units. The PLI scheme will facilitate reduction of import dependence of ACC battery, which is imported presently.

Geological Survey of India takes up seven projects for lithium exploration in different states

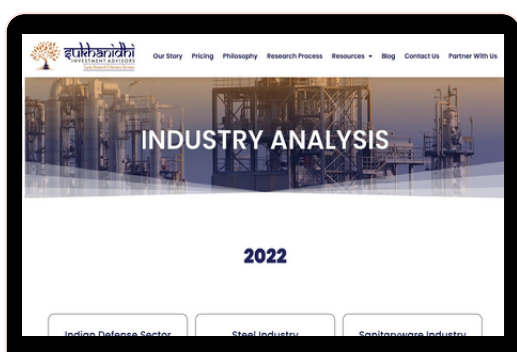
Every year, as per approved annual Field Season Programme (FSP), Geological Survey of India, an attached office of Ministry of Mines, takes up different stages of mineral exploration namely reconnaissance surveys (G4), preliminary exploration (G3) and general exploration (G2) following the guidelines of United Nations Framework Classification (UNFC) and Mineral Evidence and Mineral Content Rules (MEMC-2015) for augmenting mineral resource for various mineral commodities including lithium.

During FSP 2016-17 to FSP 2020-21, GSI carried out 14 projects on Lithium and associated elements in Bihar, Chhattisgarh, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Meghalaya, Karnataka and Rajasthan. During the present FSP 2021-22, GSI has taken up 7 projects on Lithium in Arunachal Pradesh, Andhra Pradesh, Chhattisgarh, Jharkhand, Jammu & Kashmir and Rajasthan. However, resource of lithium has not yet been augmented by GSI.

Outlook

The Indian battery sector is expected to drive due to technological advancement coupled with the surge in acceptance of electric vehicles (EVs) across the region. Additionally, the fueling demand for smart devices, coupled with the other consumer products, is one of the primary factors that is likely to drive the Indian lithium-ion batteries market at a significant growth rate. The National Mission on Transformative Mobility and Battery Storage will also drive mobility solutions that will bring in significant benefits to the battery industry, economy and also to the country.

Recent thrust for indigenization and Atmanirbhar will provide a positive outlook for the sector. Furthermore, the stringent government controls relevant to CO2 pollution along with growing need for eco-friendly solutions is expected to push the growth of the lithium-ion battery sector. ACC PLI scheme is expected to directly impact the saving to the nation on account of reduction in import of crude-oil to a significant extent and increase the share of renewable at the national grid level. However, any adverse increase in the raw material prices may lead to a compression in margins of battery makers.



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