

China-India Brief

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Guest Column

The China Factor in India's Supercharged Battery Ambitions

By Daniel Balazs and Xinyue Hu

On February 1, 2025, India's Finance Minister Nirmala Sitharaman **proposed** to **exempt** certain lithium-ion (li-ion) battery related raw materials—cobalt powder and waste, lead, zinc, among others—and equipment from customs duty. These are recent steps among a set of government-backed measures aimed at localising li-ion battery manufacturing in India. As the Indian government steps up these efforts, it has to account for

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The *China-India Brief* is a bi-monthly digest focusing on the relationship between Asia's two biggest powers. The Brief provides readers with a key summary of current news articles, reports, analyses, commentaries, and journal articles published in English on the China-India relationship. It features a Guest Column weighing in on key current issues in China-India relations.

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external dependencies. As a central player in global battery supply chains, China is a key source of battery-related raw materials, equipment, and technology for India. This means that China is simultaneously a source of opportunity and vulnerability to India's battery ambitions. To cope with this situation and pursue its state goals, India must rely on China while also reducing dependence on it.

Batteries and India's policy goals

Batteries play a key role in India's national energy transformation efforts. For instance, by 2030, India **aims** to meet half of its primary energy requirement from renewable energy sources. By 2070, the **target** for India is to be a net zero emitter. Battery making is going to be a key contributor to these commitments, as batteries are essential and widely used in clean energy technologies.

Li-ion batteries power electric vehicles (EVs) that represent a significant **portion** of EV costs. EV adoption—underpinned by li-ion batteries—would enhance India's energy security and economic development. In terms of energy security, improved EV sales in India **could** lead to more than 30 percent decrease in oil imports. In addition, the EV transition represents an economic opportunity. In 2023, there **were** approximately 40 million electric cars on the roads worldwide. By 2035, the number is **projected** to grow to 525 million, making 25 percent of vehicles electric globally by that time. Adopting a key position as a global EV supplier **could**

create jobs and support India's GDP growth.

At the same time, batteries **contribute** to the efficient use and storing of renewable energy, further supporting India's energy transition goals. In addition, batteries are crucial in other civilian and military products as well, such as **cell phones** or **drones**, offering the possibility of facilitating Indian national ambitions beyond energy transition and economic development. However, India is highly dependent on li-ion battery imports as it is not yet able to meet its demand domestically. Between FY21–22 and FY23–24, Indian li-ion battery imports **increased** by an estimated 60 percent, amounting to nearly \$3 billion. The high reliance on imports prompted India in early 2025 to identify the localisation of electric mobility-related technologies and raw materials as an **“urgent task.”**

India's industrial policy underpinning the localisation of battery production

The Indian government has policies in place to support the country's li-ion battery producing ambitions. One of the key tools on the supply side is the Production-Linked Incentive (PLI) **scheme**. This scheme represents a collection of financial inducements awarded to companies in the service of the broader goal of advancing India's self-sufficiency. In simple terms, the scheme awards companies with financial incentives after their sales of products that were manufactured in India.

The goal is to motivate companies to build up their indigenous manufacturing capacities. The scheme **includes** fourteen sectors and \$23 billion funding.

Within the PLI framework, the scheme for Advanced Chemistry Cell battery storage (PLI-ACC) relates directly to localising battery manufacturing capacity and storage. The scheme **started** in May 2021 with INR 18,100 crore (about \$2.47 billion) in funding, earmarked for the purpose of **building** 50 GWh of battery production capacity and 5 GWh of high-performance cell capacity domestically. The scheme had multiple rounds of applications from interested companies, and the awarded firms **include** Reliance New Energy Solar Limited, Ola Electric Mobility Private Limited, and Rajesh Exports Limited.

However, it is important to note that **recent reports** indicate India's government chose to let the PLI scheme lapse, meaning it will not include additional sectors or extend existing production deadlines.

At the same time, state governments have local industrial policies that **support** the indigenisation of li-ion battery production. These include capital incentives like stamp duty exemption as well as operational incentives like tax subsidy or interest subsidy on industrial research. These incentives are awarded based on criteria pertaining to the scale and local employment generation. Companies also receive waivers or exemptions if their activities are in special economic zones, domestic tariff zones, or ports. Gujarat, for instance, has **subsidised** utilities while

Telengana has offered land, power and water at a concessional rate.

China's role in India's battery making ambitions

There is already a major player in the industry that India seeks to break into: China. Chinese companies have championed the use of li-ion phosphate batteries, which **are safer and cheaper**, as opposed to the lithium nickel manganese cobalt batteries popular in the West. China now dominates **70–90 percent** of the global market across all stages of the li-ion battery value chain, from mineral extraction and processing to battery manufacturing. In contrast, Japan and South Korea, once industry leaders, have seen their market shares **decline significantly**, while the United States remains in a distant fourth place.

Beijing entered the li-ion battery space much **earlier** than New Delhi. In the 1990s, many Chinese companies **relied** on contracts with Japanese and Korean suppliers due to their advanced technology and lower costs. However, in recent decades, the Chinese government has leveraged industrial policies to establish domestic and global champion companies. A key example is the "Automotive Power Battery Industry Specification Conditions," commonly referred to as the "Battery Whitelist," introduced in **2015**. This policy enables China to use its large domestic market to support the growth of national champion firms. It had reserved government subsidies primarily for domestically manufactured

batteries, **featuring** Chinese battery manufacturers such as Contemporary Amperex Technology (CATL), BYD, and Guoxuan Hi-Tech.

Consequently, new energy vehicles sold in the Chinese market were **required** to use these approved batteries to receive financial support. Foreign firms excluded from the whitelist, such as Samsung SDI, were unable to benefit from the policy. In **2017**, Samsung SDI announced the suspension of the second phase of its Xi'an power battery production base. By the time the policy was abolished in 2019, the state has effectively cultivated globally competitive firms such as **CATL** and **BYD**. Their dominance in the global market **remains** strong, with CATL maintaining its position as the world's largest power battery manufacturer in 2024, holding a 37.9 percent market share, up from 36.6 percent in 2023. Similarly, BYD's market share increased from 15.9 percent in 2023 to 17.2 percent in 2024.

Furthermore, China has incorporated the advancement of li-ion battery technology into its national economic and social development strategies, spanning from the **Sixth to the Fourteenth Five-Year Plan**. During the Thirteenth Five-Year Plan, a substantial national investment of CNY **1.844** billion was allocated to support research and development in advanced battery technologies. While the Fourteenth Five-Year Plan (2021–2025) is still in progress, estimates suggest that in **2023**, China's battery production capacity was already adequate to meet global demand.

This development has important implications for India's ambitions in battery manufacturing. First and foremost, India is **dependent** on li-ion batteries imported from China. Seventy five percent of India's li-ion battery imports **come** from China, and the country **lacks** the raw materials for large-scale production. Furthermore, India is also highly dependent on China for the imports of battery component manufacturing machinery and equipment, with imports **reaching** \$1.5 billion in 2022. This dependence could **expose** India to supply chain instability in the future if geopolitical tensions arise between the two sides.

Second, China also represents an opportunity for India's battery ambitions. In their pursuit of localising battery making technology, more and more Indian companies are **inking** licensing deals with Chinese counterparts. In 2022, India's Exide Industries **reached** such an agreement with China's SVOLT Energy Technology to **set up** a multi-gigawatt factory in India. In 2024, India's Amara Raja Energy and Mobility **concluded** a deal with China's Gotion-InoBat-Batteries, a unit of China-based Gotion High Tech Co., to license its lithium iron phosphate technology for li-ion cells.

The road ahead of India's battery ambitions

Against this backdrop, the current stage of India's battery making ambitions resembles China's position in the 1990-2015 period, characterised by a high level of external dependency. If India wants to follow through on its battery making commitments and policy goals, it must rely on China while also reducing dependence on it—much like China had to engage but also restrict foreign battery players in its development of indigenous battery making capacity. India may or may not follow the Chinese playbook going forward. Related decisions of Indian policymakers will likely be influenced by the general state of Sino-Indian relations. Disagreements between India and China **remain**, but recent diplomatic **developments** on the China-India front laid down a good **foundation** for economic cooperation between the two sides.

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