Companies rev up plans to augment battery storage

India to build over 145 GWh capacity to power EV revolution

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India will be building over 145 gigawatt hour (GWh) of advanced chemistry cell battery storage capacity to power the electric vehicle revolution, according to government estimates. The required investment will be around $15 billion (₹1.2 trillion).

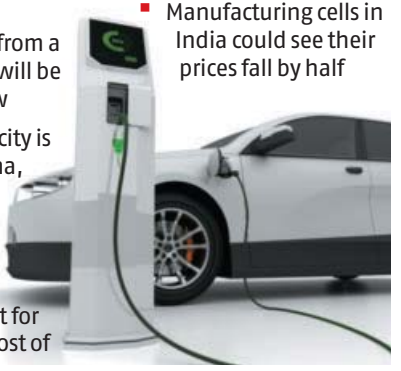
This capacity will come both through companies eligible for the production-linked incentive (PLI) scheme, which is expected to generate 50 GWh of advanced battery storage, and through commitments made by other private companies in the next two to five years to generate a further 95 GWh.

By 2030, the total required battery power will be 2,300 GWh globally, according to Bernstein estimates.

The capacity that companies are looking at is reasonably sized. The largest that is planned as of now is through the PLI scheme, where Ola Electric has committed 20 GWh of battery power. Turn to Page 6

ALL CHARGED UP

- Capacities committed will come from firms eligible for PLI as well as other players
- Largest capacity from a single company will be 20 GWh as of now
- 80% of cell capacity is produced in China, which controls capacity and price
- Lithium-ion batteries account for 40-60% of the cost of a vehicle and cells account for 70% of a battery cost
- Manufacturing cells in India could see their prices fall by half



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EVs...

But there are others too, outside the PLI scheme, such as Amara Raja, which plans to invest $1 billion, and Godi India, which has received certification from the Bureau of Standards for its lithium-ion cells, based on its own indigenous technology, to build a large manufacturing plant.

Exide has reportedly tied up with China's SVOLT for technology and is planning to invest ₹6,000 crore in a plant, with the first phase aiming for 6 GWh of capacity. Manufacturing advanced chemistry cells to power batteries is vital because they are a big impediment to the massification of the auto industry from ICE (internal combustion engine) to electric.

India imports virtually the entire cell which goes into the making of existing lithium-ion batteries. The price of these batteries is going through the roof owing to huge demand and alleged hoarding recently by Chinese firms, which dominate the business.

The problem is that 80 per cent of the cell production capacity is controlled by China and industry projections indicate it will be 70 per cent even a decade later. The other smaller suppliers include Korea and Japan. Lithium batteries account for 40-60 per cent of a vehicle's cost (depending on the vehicle) and the cells comprise 70 per cent of a battery's cost.

An Ola Electric executive said once cells start being manufactured in India, their price will fall by half, reducing the overall cost of producing electric scooters. The substantial capacity that firms have committed to build, according to electric vehicle makers, is enough to power 25 million scooters (at an average battery power of 4 kWh) even if the actual battery capacity assumed to be built in the country is a modest 100 GWh. India currently sells 7-8 million ICE scooters annually, which are expected to be replaced in toto by electric models. If one takes electric two-wheelers (an average for scooters and motorbikes is a 5 kWh battery), the battery capacity will be enough for 20 million two-wheelers, accounting for the total annual sales of two-wheelers. For cars, battery capacities vary from 15 kWh to as much as 70 kWh and above. The number of cars the battery capacity can support is therefore tough to ascertain. The government has earmarked incentives of ₹18,100 crore in the PLI scheme for three players — Ola, Reliance and Rajesh Exports — with whom it has signed an agreement to build large battery factories. Under the scheme, four companies were eligible but the fourth, Hyundai Global Motors, is being re-examined in the light of objections from Hyundai Motor Corporation that it has no links with the company.

If the former's application is rejected, sources say Reliance, which was first in the waitlist, will be able to increase its capacity from from 5 GWh to 20 GWh while Mahindra & Mahindra, which is next to Reliance on the waitlist, might become eligible for 5 GWh after not featuring on the eligibility list earlier. To gain the incentives, companies have to build factories within two years. One of the criteria for technical eligibility is who offers the highest value addition in manufacturing the batteries. Rajesh Exports has topped the charts on this, followed by Ola.

Still, the challenge is to build indigenous technology for making the batteries. ISRO had signed up companies to transfer its space grade lithium-ion technology to a non-exclusive basis to companies for use in electric mobility.

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