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In a step towards self-reliance to meet defense requirements and to cut the dependence on imports, especially from China, India is all set to produce its first lithium ion (Li-ion) battery. The Central Electrochemical Research Institute (CECRI), Karaikudi in Tamil Nadu, has set up the first indigenous Li-ion fabrication facility that has applications in defense, solar powered devices, railways and other high end usages. The facility is to start industrial level production in two months.

“It’s the first time that we will have our own technology and potential to produce Li-ion batteries domestically. This would help in cutting costs as well as our dependence on the foreign market,” professor Vijayamohan K. Pillai, CECRI Director, told IANS. CECRI is part of the Council of Scientific and Industrial Research (CSIR). “In two months we will attain capacity to produce at least 100 batteries in a day at our lab,” he added.

Over 33 billion Li-ion batteries are used globally. China, Japan, South Korea, Taiwan and some Western countries are the major manufacturers of lithium ion batteries. India has one billion users of lithium ion batteries, mostly used in mobiles and laptops. CECRI has also invited investors for mass production.

According to experts, mass production of indigenous Li-ion batteries would reduce the cost manifold as compared to the imported batteries. “Imported batteries are very expensive. The domestic programme can bring the price down”. For now, 100 percent of Li-ion batteries or cells are imported. “Some investors have already shown interest. A Canada-based NRI is willing to install a plant in India. On June 3, we have (former DRDO chief) V.K. Saraswat visiting our fabrication facility. His visit gives hope for good investments,” Pillai said.

The CECRI technology includes solution for a 400 mAh (milliampere hour) battery to power solar lanterns. The other versions have different user-end capabilities, including heating power tools and those used in firing torpedoes, for which India procures batteries from France. “The application is also for railway lighting and signalling, for which Indian Railway majorly uses lead acid batteries which are polluting. Railways also use Li-ion batteries which are imported and expensive,” Pillai said.

However, domestic manufacture of Li-ion batteries for laptops and mobile phones still seems a distant dream. “For laptops and mobiles, we have a long way to go. Although there’s a plan, we must understand that we for now don’t have that kind of expertise here and depend on China, Japan and Taiwan. They have several years’ head-start,” said Pillai.

He added that even if India produces its own Li-ion batteries for laptops and mobiles, “we will not be able to justify the cost”. Beside Li-ion, to cope with India’s ambitious clean energy programme, CECRI is also working on indigenous “zinc bromide redox flow battery”, with target capacity of 500

Watts. "This is for the grid level storage of energy harnessed from solar and wind energy. The target is 2022. However, we will have something to show by two years," said Pillai. *IANS*