GOVERNMENT OF INDIA
MINISTRY OF HEAVY INDUSTRIES
RAJYA SABHA
UNSTARRED QUESTION NO. 103
ANSWERED ON 02.02.2024

CHALLENGES IN BATTERY TECHNOLOGY FOR ELECTRIC VEHICLES

103. DR. M. THAMBIDURAI:

Will the Minister of Heavy Industries be pleased to state:

(a) whether Government is aware that there are challenges in battery technology for Electric vehicles;

(b) if so, the details thereof;

(c) whether Government has taken initiatives to improve battery technology and eradicate the challenges for the Electric Vehicle industry, if so, the details thereof and if not, the reasons therefor; and

(d) whether Government has developed Battery Swapping Policy for increased efficiency in the EV eco-system, if so, the details thereof and if not, the reasons therefor?

ANSWER

THE MINISTER OF STATE FOR HEAVY INDUSTRIES
(SHRI KRISHAN PAL GURJAR)

(a) to (c): Yes Sir, the battery technology used in electric vehicles (EVs) is still evolving and the cost of the battery is a significant factor in the overall cost of an EV. To increase range of mobility of electric vehicles and to mitigate range anxiety, huge Research and Development is required in Advanced Cell Technology. Researchers are focusing on different type of battery technologies including Lithium, Aluminum and Sodium cell technologies.

The Government on 12th May, 2021 approved Production Linked Incentive (PLI) scheme, 'National Programme on Advanced Chemistry Cells (ACC) Battery Storage' in order to promote manufacturing in the country. The budgetary outlay of the scheme is Rs. 18,100 crores. The scheme envisages to establish a cumulative ACC battery manufacturing capacity of 50 GWh. The PLI ACC scheme, a technology agnostic scheme, has been launched to incentivize the indigenously produced advanced chemistry cell batteries irrespective of cell technology. The details of the scheme are available at https://heavyindustries.gov.in/pli-scheme-for-national-programme-on-advanced-chemistry-cell-acc-battery-storage.

(d): Yes, Sir. As per inputs received from NITI Aayog, the draft Battery-Swapping Policy was released for public consultation in 2022. The battery swapping is an alternative which involves exchanging discharged batteries for charged ones and provides flexibility to charge them separately. This de-links charging and battery usage and keeps the vehicle in operational mode with negligible downtime. Battery swapping is generally used for smaller vehicles such as 2Ws and 3Ws with smaller batteries that are easier to swap, compared to 4 wheelers. The details of draft Battery Swapping Policy are available at the website of NITI Aayog [https://www.niti.gov.in/sites/default/files/2022-04/20220420_Battery_Swapping_Policy_Draft.pdf].

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