

GOVERNMENT OF INDIA  
MINISTRY OF HEAVY INDUSTRIES AND PUBLIC ENTERPRISES  
DEPARTMENT OF HEAVY INDUSTRY

**RAJYA SABHA**  
**UNSTARRED QUESTION NO.672**  
**TO BE ANSWERED ON 21.12.2017**

**Research and development in battery for electric vehicles**

672. SHRI HUSAIN DALWAI:

Will the Minister of HEAVY INDUSTRIES AND PUBLIC ENTERPRISES be pleased to state:

- (a) whether the Ministry has set a sales target of 5-7 million EVs and hybrid electric vehicles annually by 2020 and if so, the details thereof;
- (b) whether a battery capacity of about 400 Gigawatt hours (GWh) each year would be required to meet this demand and if so, how the Ministry plans to meet the expected demand; and
- (c) whether the Ministry has planned to invest in battery research and development ecosystem domestically, considering that lithium is an important mineral used in production of batteries and world demand is increasing and if so, the details thereof and if not, the reasons therefor?

**ANSWER**

**MINISTER OF STATE IN THE MINISTRY OF HEAVY INDUSTRIES AND  
PUBLIC ENTERPRISES (SHRI BABUL SUPRIYO)**

**(a) & (b):** Government has formulated a Mission Plan for electric vehicles (including hybrid vehicles) viz. National Electric Mobility Mission Plan 2020 (NEMMP 2020). The NEMMP 2020 provides a road map for facilitating the manufacture and use of electric and hybrid vehicles through a series of interventions in order to support R&D in technology including battery technology, create demand for such vehicles, and to enhance manufacturing of such vehicles significantly by the year 2020. Under NEMMP, the Government has an ambitious target to achieve 6-7 million sales of hybrid and electric vehicles by 2020.

As part of the mission, Department of Heavy Industry has notified a FAME India Scheme [Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India] for implementation with effect from 1<sup>st</sup> April 2015. The scheme is proposed to be implemented over a period of 6 years till 2020, wherein it is intended to support the hybrid/electric vehicles market development and its manufacturing eco-system to achieve self-sustenance at the end of stipulated period. At present, the Phase-I of the scheme is under implementation, which was originally for a period of 2 years till 31<sup>st</sup> March 2017 but has been extended further till 31<sup>st</sup> March 2018. The scheme is being implemented through four focus areas namely Technology Development (R&D); Pilot Project; Charging Infrastructure and Demand Creation.

Department of Heavy Industry has, however, not undertaken any specific study to assess the yearly requirement of battery capacity to meet this demand.

(c): As per FAME India Scheme [Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India], specific projects received under Technology Development (R&D), including battery technology / charging infrastructure are considered & approved for funding by the Government. The list of projects approved for funding to help in development of battery technologies is given below:

S.No.	Name of the Project	Name of the Operating Agency	Grant Already released from FAME-India Scheme	Committed Expenditure
1	Technical Development Project for advanced Gen-IV Lead Acid Battery & Gen-Nickel-Zinc Battery for EVs	Non-Ferrous Materials Technology Development Centre (NFTDC), Hyderabad	Rs. 2,44,00,000/-	Rs. 1,56,00,000/-
2	Proposal received under IMPRINT initiative of MoHRD for Hierarchical Nanostructure Carbon Materials Derived from Candle Soot and Graphine for High Rate & High Performance Electrodes for Automotive Batteries and Supercapacitors [Development of Rechargeable Lithium Ion Battery]	Indian Institute of Technology, Kanpur	Rs. 61,46,000/-	---