FAME – NATIONAL ELECTRONIC MOBILITY MISSION

Part of: GS-III- Economy-Automobile (PT-MAINS-PERSONALITY TEST)

Government of India notified FAME India Scheme [Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India] for implementation with effect from 1st April 2015, with the objective to support hybrid/electric vehicles market development and Manufacturing ecosystem.

Objective

The FAME India Scheme is aimed at incentivising all vehicle segments i.e. 2 Wheeler, 3 Wheeler Auto, Passenger 4 Wheeler Vehicle, Light Commercial Vehicles and Buses. The scheme covers Hybrid & Electric technologies like Mild Hybrid, Strong Hybrid, Plug in Hybrid & Battery Electric Vehicles.

- Monitoring Authority : Department of Heavy Industries
- Fame India Scheme has four focus Areas.
  - Technology development
  - Demand Creation
  - Pilot Projects
  - Charging Infrastructure
- Target: National Electric Mobility Mission Plan (NEMMP) has set a huge target to deploy 48 lakh 2W EVs and 15 lakh 4W EVs by 2020

Analysis of focus areas

- Technology development: There are two types of technology related with FAME : Battery Electric Vehicles (BEVs) and Hybrid Electric Vehicles (HEVs)

Battery Electric Vehicles (BEVs)

- India has a scarcity of lithium and will have to rely on expensive imports to sustain a growing BEV industry as the lithium is the best battery technology and delivers high energy and high power.
- Current battery technology is not mature enough to allow BEVs to compete with fossil fuel-based vehicles. As the energy efficiency capacity of BEVs is 100 times less than petrol and diesel vehicle, it provides low range per charge.
- Another technical deficiency of BEVs is that their speed and acceleration is lower than conventional fuel-based vehicles because of the low power capacity of batteries.

Hybrid Electric Vehicles (HEVs)

An HEV has a conventional internal combustion engine propulsion system plus an electric propulsion system consisting of a battery and a motor. This makes HEVs heavy and expensive. Therefore as per the current technology it can only be used in light commercial vehicle.

Steps Under FAME for technological development

- Under the FAME-India scheme, a nodal body, the DHI-DST Inter-Ministerial Technology Advisory Group (IM-TAG) on Electric Mobility has been set up.
A few long-term projects are already underway under the auto-cess funded R&D programme.

A collaborative approach between the industry and academia is envisaged, which would include government-funded as well as PPP projects.

Demand Creation

- Incentive, in the form of discount, are provided under FAME. The discount amount is about one-third of the difference between the price of an EV and a comparable petrol vehicle.

Pilot Projects

- The phase 1 of FAME provided incentive to private vehicles.
- The phase 2 of FAME will provide incentive for public transport in 10 cities. The outlay of ₹10,000 crore has been made for three years till 2022 for FAME 2 scheme. The centre has sanctioned ₹8,596 crore for incentives, of which ₹1,000 crore has been earmarked for setting up charging stations for electric vehicles in India. The government will offer incentives for electric buses, three-wheelers and four-wheelers to be used for commercial purposes. Plug-in hybrid vehicles and those with a sizeable lithium-ion battery and electric motor will also be included in the scheme and fiscal support offered depending on the size of the battery.

Steps taken by Government

- The government has to set up additional power generation infrastructure in order to make EVs more attractive.
- Upcoming smart grids in India can play a significant role in improving the charging infrastructure. Smart grids can help in optimising electricity needs at peaking demand hours for utility purpose and for BEV charging. For example Bosch has set up one such infrastructure in Germany with Mobile connectivity to provide information.

Fame-2

Electric and hybrid vehicle (xEVs) manufacturers will have to indigenise a significant portion of components to avail benefits under a revised set of rules of the phase 2 of the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles, or FAME 2 scheme. In a first, detailed localization draft guidelines have been issued by the Department of Heavy Industry (DHI) putting out a list of key components for xEV manufacturers to localise with respective deadlines to avail the scheme across all approved vehicle categories.