ACHIEVERS IAS ACADEMY

The road to e-vehicle adoption in India

GS 3, Mains: Infrastructure: Energy, Ports, Roads, Airports, Railways etc. Science and Technology-developments and their applications and effects in everyday life, Achievements of Indians in science & technology; indigenization of technology and developing new technology, Conservation, environmental pollution and degradation, environmental impact assessment.

In News: The rupee's dramatic depreciation in recent months has had an unexpected victim. The Indian electric vehicle (EV) industry has been hit hard. Companies that are in the midst of processing orders for electric cars and buses will now see their production severely affected in terms of production costs. This neatly sums up some of the challenges facing India's e-vehicle push.

Scope of e vehicles in India:

Advantages & Disadvantages of Electric Vehicles

ADVANTAGES
- Doesn't depend on fossil fuels for your commutation
- Electric vehicles are known for their always-on power delivery
- Electric vehicles are silent operators
- Running on electricity means good bye to exhaust gases. Say hello to clean air!

DISADVANTAGES
- Priced 30-40% higher than their regular counterparts
- Charging infrastructure not adequate
- Driving range offered by battery technology is not adequate
- Battery packs that power them are highly susceptible to wear & tear and expensive
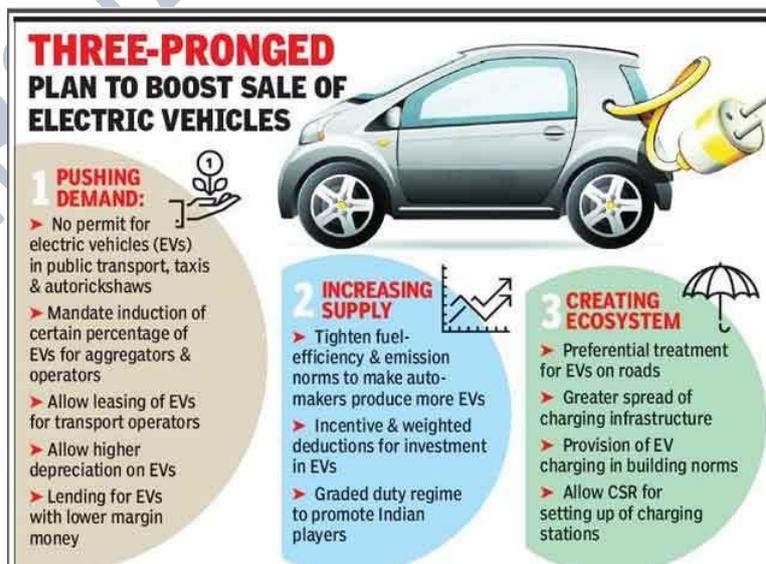
- In India, the automobile industry is one of the key sectors driving economic growth. However, it is also one of the biggest contributors of pollution, which incidentally keeps the country's capital shrouded in smog for several months every winter.
- Electric vehicles are cleaner than petroleum-fuelled vehicles and are seen as a promising solution to global warming.
- E-mobility is a nascent industry in India—and in most countries, for that matter. Capital costs are high and the payoff is uncertain.
- There has been some positive movement here this year, with the Union power ministry categorizing charging of batteries as a service, which will help charging stations operate without licences.

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Govt efforts in this regard:

- In 2012, the National Electric Mobility Mission Plan (NEMMP) 2020 was established to promote hybrid and electric vehicles. Under the NEMMP 2020, an incentive scheme, Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME), was launched in 2015 to reduce the upfront purchase price of hybrid and electric vehicles and to stimulate their early adoption.
- In May 2017, the National Institution for Transforming India outlined a vision for the transformation of mobility in the country, proposing a set of actionable and specific solutions to accelerate India's leadership in advanced mobility.
- In early 2018, the Ministry of Power launched the new National Electric Mobility Programme to focus on creating the charging infrastructure and a policy framework to set a target of more than 30% electric vehicles by 2030. The program is being implemented by Energy Efficiency Services Limited (EESL), which facilitates demand creation for electric vehicles in India by promoting public procurement.
- India is also a member of the Electric Vehicles Initiative (EVI) multi-governmental policy forum. The EVI forum was established in 2009 to accelerate the deployment of electric vehicles worldwide and facilitate exchanges between policymakers and various stakeholders.

Way forward for India:

- This lack of policy certainty spills over into perhaps the single most important element of enabling e-vehicle usage: charging infrastructure. Considering that the present fleet of Indian EVs is incapable of traversing even city distances without running out of charge, a wide network of charging stations is imminent for attracting investment.

THREE-PRONGED PLAN TO BOOST SALE OF ELECTRIC VEHICLES

1 PUSHING DEMAND:
➤ No permit for electric vehicles (EVs) in public transport, taxis & autorickshaws
➤ Mandate induction of certain percentage of EVs for aggregators & operators
➤ Allow leasing of EVs for transport operators
➤ Allow higher depreciation on EVs
➤ Lending for EVs with lower margin money

2 INCREASING SUPPLY
➤ Tighten fuel-efficiency & emission norms to make auto-makers produce more EVs
➤ Incentive & weighted deductions for investment in EVs
➤ Graded duty regime to promote Indian players

3 CREATING ECOSYSTEM
➤ Preferential treatment for EVs on roads
➤ Greater spread of charging infrastructure
➤ Provision of EV charging in building norms
➤ Allow CSR for setting up of charging stations

- Technical concerns like AC versus DC charging stations, handling of peak demand, grid stability etc. must be done.

- India does not have any known reserves of lithium and cobalt, which makes it entirely dependent on imports of lithium-ion batteries from Japan and China. It is now scrambling to

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acquire mines in Latin America and Australia. But that will not be enough. Private investment in battery manufacturing plants and developing low cost production technology is a must.

- Multiple ministries such as Road Transport and Highways, Housing and Urban Affairs, Heavy Industries, Power, New and Renewable Energy, External Affairs as well as national institutes such as NITI Aayog should work together.

(Q) Examine the challenges faced by India in the adoption of E vehicles in the country. Suggest suitable interventions.

Previous year UPSC mains questions:
- Examine the development of airports in India through joint ventures under Public – private Partnership (PPP) model. What are the challenges faced by the authorities in this regard? (2017)
- National Urban Transport Policy emphasises on 'moving people' instead of 'moving vehicles'. Discuss critically the success of the various strategies of the Government in this regard. (2014)

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