

# Ease of E-Mobility in India

## Policy Imperatives of COVID-19 on 2W, 3W, and 4W Electric Vehicles

### Abstract

The Government of India has set ambitious targets for the deployment of electric vehicles (EV) in India. It strives to achieve 30 percent of the total vehicle fleet of e-mobility in the country by 2030. However, the COVID-19 crisis has adversely affected the global economy and forced major automobile companies to put the EV projects on hold. Besides economic, there are other issues, such as disruption in the supply chain of the industry and the impact of existing FAME-II schemes.

This Policy Brief is an attempt to critically analyse the existing EV policy mechanism and suggest recommendations to facilitate the holistic development of the sector.

### Introduction

In the last decade, India, among several countries have recognised the importance of clean energy for improving the quality of life of its citizens. To this context, it has recognised that the future of clean road transportation is through EVs. In most of the large cities of India, the air quality is incredibly poor. Petrol/diesel vehicles are one of the major contributors to such pollution, and EVs can provide an answer.<sup>1</sup>

Each EV that displaces a traditional vehicle saves around 1.5 tonnes of carbon dioxide emissions per year.<sup>2</sup>

Besides the environmental benefits, EVs are more energy-efficient, provide better operational economics for consumers, and can potentially solve some of the pressing issues in the transport and energy sector. These potential outcomes of an electrified mobility landscape are depicted in Figure 1.

**Figure 1: Potential Objectives for Electric Vehicles**



AIR QUALITY



CARBON FOOTPRINT



ECONOMICS OF EV

REORIENTING MOBILITY



REORIENTING ENERGY USE



CONSUMER WELFARE

However, high capital costs, limited battery charging infrastructure are a few of the key deterrents in the adoption of EVs. The Indian government has tried to address this issue and brought several policy initiatives with specific targets to achieve. The year 2020 was pushed to be an inflection point for EVs by many industry experts and analysts.<sup>3</sup> However, the COVID-19 outbreak has put a brake on the development of the sector.

## Policy Ecosystem of EVs in India

The Central Government had launched the National Electric Mobility Mission Plan (NEMMP) in 2013 and introduced various schemes, such as FAME-I<sup>4</sup> and FAME-II<sup>5</sup>, to promote e-mobility and incentivise in making

the shift from fossil fuel-based mobility to EVs. The FAME schemes are equipped with policy instruments, such as subsidies to manufacturers and incentives for consumers through income tax deduction and road tax exemption.

In FY 2019-20, the automotive industry took a hit, as there was a major disruption in operations and sales due to the new BS-VI norms.<sup>6</sup> However, the Indian EV segment has seen significant growth of 20 percent in the FY 2019-20. Electric two-wheelers amount to almost 97 percent of total EV sales, while the sales of electric cars drop to 5.5 percent.<sup>7</sup>

This could be attributed to the uniqueness of the Indian's vehicle composition, where the two-wheelers dominate the sector.

**Table 1: EV Sales Growth in India**

Sales Performance – EV Industry				
Segment	FY 2018-19 (Units)	FY 2019-20 (Units)	Difference (Nos)	% of Change
Two Wheelers	1,26,000	1,52,000	↑26,000	↑21%
Cars	3600	3400	↓-200	↓-6%
Buses	400	600	↑200	↑50%
E-rickshaws	-	90000		
Total Units of EV	1,30,000	1,56,000	↑26,000	↑20%

Source: Society for Manufacture of Electric Vehicles<sup>8</sup>

Moving ahead, where the world has to live with the coronavirus, there is a potential to catalyse the newfound traction regarding clean air and the environment. Reorienting the mobility sector, which contributes 27 percent to the average air pollution, could be

one of the areas where effective planning and policy can yield beneficial results.

However, certain structural issues hinder the prospect of electric mobility serving these policy objectives.

## COVID-19: Structural Impact in the EV Ecosystem

The EV industry is going through challenging times, as no one knows the scale at which the global economy will slump. This crisis will have an immediate short as well as the long-term impact on the growth of the industry. The current economic situation could also increase people's aversion to new technology adoption due to uncertainties regarding public health and safety aspects around it.

Major companies, such as Suzuki, Bajaj Auto, and Piaggio have already declared that the EV projects will take a backseat as well as a considerable downsizing. The structural effect on the EV ecosystem in India, particularly after the COVID-19 necessitated lockdown are discussed here.

### 1. A high degree of dependence on China for manufacturing of EVs

The disruption in supply-chain due to the COVID-19 crisis will affect the EV sector in India, as most of the manufacturers assemble imported parts. The lockdown has created a cash crunch due to a decrease in sales and a ban on imports and export.

According to the Society of Manufacturers of Electric Vehicles (SMEV), 15 percent of dealers may go out of business, as they do not have deep pockets to survive.

### 2. Dynamic consumer behaviour in the 'new normal'

Post COVID-19, it is expected that there will be enhanced awareness about environmental concerns and sustainability amongst consumers, which will affect their purchase decisions. This will be beneficial for the EV

sector as there will be a gradual shift away from vehicles with an internal combustion engine (ICE).

Social distancing will also play a major part. Pre-crisis, the EV sector focussed more on shared mobility, such as aggregators and public transportation.<sup>9</sup> Henceforth, there will be a new normal in the way consumers commute and make transportation-related decisions, affecting the prospects of new vehicles including EVs.

### 3. Lack of optimal charging infrastructure and technology

The lack of charging infrastructure, in India, as compared to global standards has become a major impediment in the growth of the EV market. Issues further aggravating this are regulatory uncertainties around standards of battery charging, locations of charging stations, type of charging facilities, safety aspects of charging infrastructure, amongst others.

### Challenges in FAME-II Scheme

Despite recent policy initiatives, the Indian EV industry remains nascent. In the FY 2020s, EV sales were less than a fraction of one percent of their conventional ICE counterparts. With FAME-II, the government was slow in implementation as there was an election, which became a major hurdle. It also mandated automakers to have 50 percent local parts to claim incentives. This became a major hurdle for original equipment manufacturers (OEMs) as most of the components are imported from China.

FAME-II benefits are also not passed to E-3W that runs on lead-acid batteries. The benefits

are limited to vehicles using lithium-ion batteries. In the E-4W, currently, there are only two carmakers that are building and selling electric cars with FAME-II eligibility certificate, i.e. Mahindra and Tata Motors. Hence, the policy design, implementation, and monitoring framework also create friction for the better adoption of EVs in India.

## Recommendations

The NITI Aayog has already come out with certain recommendations for different automotive sector stakeholders. These measures include performance-based subsidies and reduced import duties on sub-components like batteries. However, in the wake of COVID-19, the government has been burdened with providing various economic stimulus packages to industries.

Having one of the highest multiplier effects on jobs and the economy, there is a need to structurally transform the automotive sector to make it more sustainable and environment-friendly in the future. Some of the recommendations in this endeavour are as follows:

- To capitalise the market opportunity of outward-flowing investments from China, there is a need to focus on creating an enabling domestic environment for the manufacturing of EV-related components. The first step to do so is investing in the research and development of indigenous technology and local skills. This will also be beneficial for consumers, as the local battery manufacturing will reduce the cost of EVs by approximately 50 percent in India.

- The scaling up of EV sales from less than 0.1 percent to 30 percent in 2030 will require a significant investment, especially post COVID-19. Also, the development of the charging infrastructure will need investments. In the face of such large credit requirements, the bond market could complement the traditional source investments. The idea of municipal and green bonds<sup>10</sup> could be piloted through the regulatory sandbox,<sup>11</sup> which could be extrapolated if it is found to be successful.
- There should be structural and regulatory reforms in the charging infrastructure space. Decentralised battery swapping could be the solution. However, standards and parameters should be set and adhered to by all battery manufacturers.<sup>12</sup> For example, OLA started its battery swapping in Gurgaon which can be extended to various parts of Delhi and Noida where e-rickshaws are plying.
- The industry can also come up with innovative financial solutions in the EV sector, such as the creation of a strategic fund for e-mobility, garnering revenue from the cess on petrol and diesel. Research shows that a 1-rupee contribution from the cess on both the petrol and diesel will amount to 12,000 crores annually, which can support the battery manufacturing companies.<sup>13</sup>

Another innovative strategy could be the monetary contributions from private sector cab aggregators for providing financial support for the development of charging stations. There are more than 100 crore rides per year by Ola and Uber and even if 5 rupees can be contributed from each ride, this will amount to 500

crores annually, which can be utilised to develop public charging infrastructure.

- In the adoption of EVs, the Norwegian success story can be taken as a model to promote zero-emission vehicles into the market. When it comes to charging infrastructure, instead of finding new empty spaces, the government and industry can work with housing cooperatives, bus depots, and other

private spaces to install more charging points outside people's homes.

Taking a cue from Norway, India could adopt policies such as zero toll and parking fees for the EVs for a certain time. It can also exempt the purchase tax on the EVs. However, this should be phased out on time as the uptake of EVs increases.

<sup>1</sup> <https://www.financialexpress.com/auto/industry/covid-19-crisis-clean-air-oil-age-india-electric-cars-evs-tata-nexon-ev-hyundai-kona-ev-mg-zs-ev/>

<sup>2</sup> <https://www.c40.org/networks/zero-emission-vehicles>

<sup>3</sup> <https://auto.economictimes.indiatimes.com/news/industry/post-covid-19-will-electric-vehicles-have-to-wait-in-india/75198159>, dated April 18, 2020

<sup>4</sup> <https://pib.gov.in/newsite/PrintRelease.aspx?relid=191377>

<sup>5</sup> <https://fame2.heavyindustry.gov.in/>

<sup>6</sup> <https://www.livemint.com/companies/news/covid-19-impact-electric-vehicle-plans-may-take-backseat-in-fy21-11587638322306.html>, dated April 23, 2020

<sup>7</sup> <https://www.financialexpress.com/auto/electric-vehicles/electric-car-sales-down-by-5-indian-ev-industry-sees-steady-growth-in-fy2019-20/1934075/>, dated April 20, 2020

<sup>8</sup> <https://www.deccanherald.com/business/electric-vehicle-sales-in-india-up-20-in-2019-20-smev-827727.html>

<sup>9</sup> <https://inc42.com/buzz/despite-fame-ii-hurdles-india-records-20-hike-in-ev-sales/>, dated April 21, 2020

<sup>10</sup> A green bond is a type of fixed-income instrument that is specifically earmarked to raise money for climate and environmental projects.

<sup>11</sup> A Regulatory sandbox is a framework set up by a regulator that allows FinTech start-ups and other innovators to conduct live experiments in a controlled environment under a regulator's supervision.

<sup>12</sup> <https://auto.economictimes.indiatimes.com/news/policy/efficiency-parameters-soon-to-aid-ev-battery-swapping/74073584>

<sup>13</sup> EY Analysis: beyond the FAME-II scheme