

Visualization Tool for Electric Vehicle Charge and Range

Analysis

**Business Requirements :**

According to the report, government’s incentive schemes such as the FAME (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles) and PLI (Production Linked Incentive) schemes for advanced chemistry cells, as well as its focus on expanding the footprint of the electric charging infrastructure along with sustained increase in the petrol and diesel prices could lead to secular growth in the demand for EVs.

Charging stations are on their way to expanding and grabbing the global market in the world . The advent of charging stations is quickly becoming a game-changer in the Indian business world. It’s going to be similar to opening a petrol pump that has limitless and everlasting business coming years.

The United States and the world at large are on the cusp of a massive shift from traditional gasoline (petrol) vehicles to electric-powered ones, partly as a response to climate change. According to a recent news article, in order to meet climate commitments, including net zero carbon emissions by 2050, there will need to be a complete change to Electric Vehicles (EVs), up from 8% in 2021 to 100% in 2050.1 However, there are several barriers to further growth of the EV fleet. One of the largest is the low number of “fast-charging” stations that can rapidly recharge an EV in under a half-hour. The result is a classic “chicken-and-egg” adoption problem. Low numbers of EVs reduce the deployment of charging stations, while a low charging network density reduces the demand for EVs.2

At first, the presence of chargers might not appear to matter so much. EVs have dramatically increased in range to 250 to 350 miles per charge, and most EVs can be charged overnight at home or at work during the day. Because commuters travel 40 miles or less per day, the need for fastcharging stations would seem to be low. However, research has shown that there are numerous obstacles to overcome, such as drivers who also wish to travel long distances in one day (5% of car trips are over 100 miles), apartment dwellers who may not be able to charge at home, and owners who worry about forgetting to charge overnight.3 The result is that there are nowhere near enough fast-charging stations to accommodate the expected increase in the EV fleet. Thus, the biggest barrier according to the U.S. Department of Energy—and many other experts—is the low density of fast-charging stations.4 This situation is finally changing with increased attention toward charging stations by automakers, private network investors, and government, although to date, plans and promises have vastly exceeded action. A recent article suggests that if EV sales reach one-third of vehicles sold by 2030, there will be $600 billion of charging investment needed by 2040.5 The same article notes that reaching net zero carbon emissions by 2050 will require $1.6 trillion of EV charger investment.

This comes as the ministry of heavy industries has launched an investigation into alleged misuse of subsidies by two-wheeler EV makers. The Centre has set aside Rs 25,938 crore under the PLI scheme for automobile and auto components. It was launched in September 2021. The benefits under the PLI scheme are given to manufacturers.

“The PLI support for ACC, automobile, and auto component industry will start getting disbursed from FY24 and gain momentum in subsequent years. These will make manufacturing costs of all vehicles, including EVs, cheaper in the country,” the official aware of the matter told ET.

Around 115 companies have filed an application under the scheme. According to ET, the PLI programme has been successful in attracting proposed investments in manufacturing automobiles and components of Rs 74,850 crore, of which Rs 45,016 crore is from approved applicants under the Champion OEM Incentive Scheme.