



Electric Vehicle To Overtake Petrol: Fixing the Plug-In Hybrid Loophole

Environment-conscious buyers will drive the modern capitalist society, and the switch to **Electric Vehicles** (EV) is a pilot episode of this development. The concept of sustainable development has gained paramount importance over the past decade in light of global warming catastrophes. Most businesses rely on sustainable methods to carry out operations. Reducing the carbon footprint has become a part of the primary objective for companies. Switching to a better fuel alternative is the easiest step towards sustainability, and many people are making a move with EVs. Let's take a deep dive into **electric vehicles** and how they are overtaking traditional engines.

What is an Electric Vehicle?

Electric Vehicles or EVs are a term for vehicles powered through electricity, either wholly or partially. It has an electric motor instead of an internal combustion engine. The contemporary EVs are fuelled using lithium-ion batteries, which boast of longevity in performance. Traditionally, EVs were mainly powered using lead-acid or nickel-metal hydride batteries. However, there were some limitations which modern lithium-ion batteries have addressed. The maintenance cost for [electric vehicles](#) is relatively low compared to diesel/petrol-operated ones. In addition to this, charging the EV is much cheaper than buying **petrol** or **diesel** to run your vehicle.

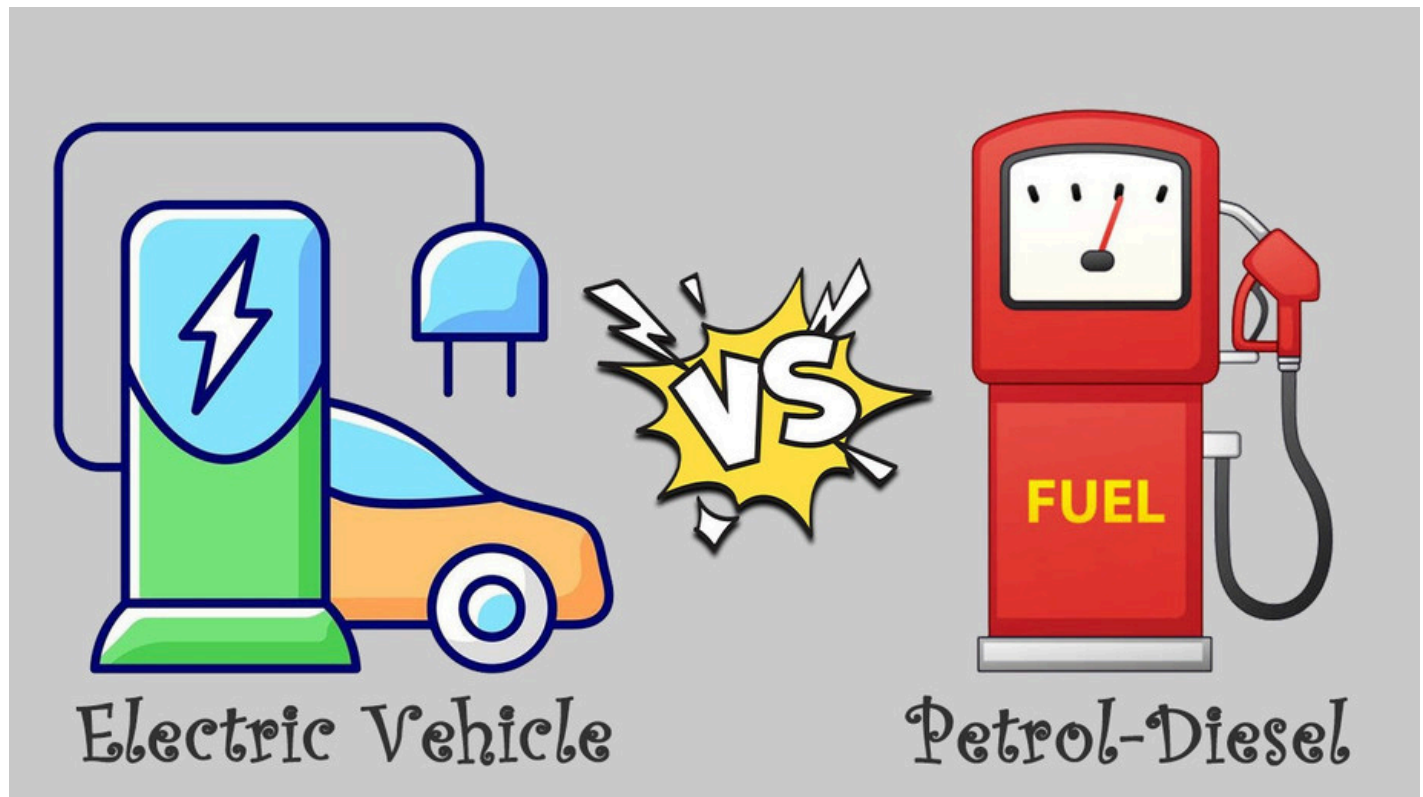
Types of EVs

Electric vehicles are broadly categorised under two types, Battery **Electric Vehicles** (BEV) and Plug-in Hybrid Electric Vehicles (PHEV). Let's take a quick look into both these variants.

- **Battery Electric Vehicle (BEV)**

The Battery Electric Vehicle is an entirely electric variant with a lithium-ion battery instead of a fuel tank to power the vehicle. It doesn't have an internal combustion engine and is fully dependent on the electric motor for performance. As a result, the maintenance cost of BEVs is significantly lower than traditional **petrol** vehicles or PHEVs. There are no clutches, exhaust, or spark plugs in a BEV, unlike a [diesel vehicle](#).

The sound of an electric motor is quite pleasing to the ears and doesn't create a lot of noise. The total distance that can be covered using a BEV is contingent on the range of your vehicle. Most EVs can cover a distance of around 300 KMs after they are completely charged. The charging time can vary between 30 minutes to 12 hours, depending on the vehicle and battery. Therefore, it is ideal for short rides in and around the city. However, the latest **electric cars** are equipped with regenerative braking, making them compatible even for longer distances.



- **Plug-in Hybrid Electric Vehicles (PHEV)**

The Plug-in Hybrid **Electric Vehicles** (PHEV) combine internal combustion and electric engine vehicles. It features an electric motor, an internal combustion engine, a lithium-ion battery and a fuel tank. Unlike a BEV, you will find exhausts, clutches, and spark plugs, depending on the model. However, PHEVs produce a tailpipe emission when it's not running on electricity. In addition, the driving range for PHEVs is more extended since it has a fuel tank alternative.

The cost of maintenance is higher for PHEVs as they have an internal combustion engine. The engine noise is also higher for these EV variants due to the same reason. Compared to BEVs, the PHEVs have a smaller battery pack because of the gasoline tank feature. However, PHEVs are preferred by most people because of the driving range limitations of BEVs. Unlike **petrol** pumps, electric power stations are not commonplace.

The plug-in hybrid loophole

PHEVs are considered a better alternative than BEVs in the contemporary era, given the driving range and flexibility offered. Most people are not ready to switch from a combustion engine vehicle to a totally electric one. However, they are ready to take their chances with a hybrid that allows them to fill their tank at a **petrol** station without worrying about battery failures. In addition, EV vehicles promise a lower carbon emission, and it has been a significant factor behind the increasing sales.

The environment-friendly marketing angle has worked in its favour. However, contrary to the claims of low carbon emission, the actual emissions are relatively higher than what's listed on papers. The actual CO2 emissions are 2 to 4 times higher than the official values. The broader objective of reducing the carbon footprints and decarbonising transportation will be hampered due to this loophole. The over-optimistic assumption regarding kilometres to be driven electrically (utility factor) has resulted in this failure. To address this challenge, the authorised commission has proposed new methodologies for computing utility factors.

Benefits of EV over traditional combustion engines

EVs are undoubtedly the future of transportation, and combustion engines will soon be a thing of the past. So let's take a quick dive into some significant benefits of EVs over the traditional combustion engines.

1. Cost-effective means of transport

The most critical and tangible benefit of using an EV compared to an internal combustion engine is cost savings. It is much cheaper to recharge an **electric vehicle** than to run a **petrol** or **diesel** car. The sky-high traditional fuel prices have forced people to cut down on the use of personal vehicles for commutes. Even those who are not bothered by the detrimental effects of using a combustion engine vehicle favour using an EV, given the low cost of recharging batteries compared to refuelling.

2. Low maintenance requirements and costs

Electric engine vehicles have lower moving parts. They don't feature exhaust, fuel tanks or spark plugs. Therefore, the maintenance requirements are also lower. As a result, the cost of maintenance is much less than what's required for **petrol** or **diesel** vehicles. Even without regular upkeep, you can freely use an EV to commute.

3. Environment-friendly

Internal combustion engine vehicles are responsible for adding to all kinds of pollution in the environment. EVs are much more environmentally friendly to drive than other traditional vehicles that are powered using fossil fuels. An electric motor that is at the heart of purely electric vehicles produces no carbon emissions at all. EV in India can help us achieve broader goals like sustainable development and improved climatic conditions.

