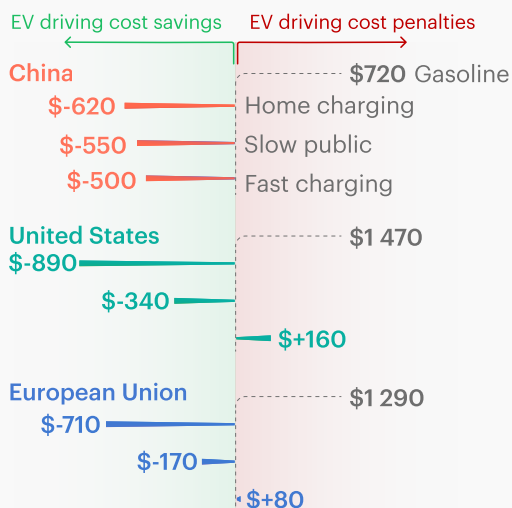


Q How important is access to home charging for electric car adoption?

**ANNUAL CAR OPERATING COSTS BY POWERTRAIN, CHARGING PROFILE, AND REGION, 2025, IN USD**



Potential electric car buyers have a number of considerations to weigh when making a purchasing decision, and the convenience and cost of charging an EV are chief among them. For those able to charge at home, these aspects are less of a concern. But for potential buyers who do not have a private parking space or cannot install a charger at their residence, EV charging prospects become more expensive – electricity prices of public slow charging can be up to 150% higher than residential electricity tariffs. This can reduce the economic incentive to switch to an electric car, although they generally remain cheaper to run than gasoline powered alternatives.

Several solutions already exist for car owners without access to home charging. In this regard, China offers a useful example: despite an EV sales share above 50% and the world’s largest electric car stock, only slightly more than half of households have access to home charging.

Most driving patterns do not require daily charging, with an average daily driving distance of 30-70 km for private cars. Even daily taxi ranges, typically around 150-250 km, are roughly half of the average on-road battery electric car range in mixed (city and highways) driving conditions.

Workplace charging is growing, offering a convenient option during workdays. Public overnight and curb side charging infrastructures are also expanding, as well as semi-private chargers, such as in parking lots. With the growing public ultra-fast charging network, compatible vehicles can recharge sufficiently in a 20-minute session to provide enough energy for several days of commuting. These chargers are increasingly available not only along highways, but also at fuel stations, supermarkets, and other retail locations, making them easy to integrate into routine activities. However, fast charging is significantly more expensive, and can completely erode the operational cost benefits of electric cars.

Governments can help narrow the gap between residential electricity prices and public charging tariffs. For example, India and Indonesia regulate the electricity price applied to public EV charging. Alternative approaches expanding access to affordable charging also require dedicated regulations. Curb side home-charging – where residents without private parking use their own residential electricity to charge an EV parked on the street via a charging cord – and peer-to-peer home-charger sharing, where residents rent out their private chargers, are two emerging options.

To provide equitable access to affordable charging for people who cannot charge at home, the rollout of public chargers near multi-family housing, workplace charging, and other low-cost charging options should be prioritised. Governments can support this by financing charger deployment in underserved areas and by establishing the regulatory frameworks needed to enable new charging models.

