

# Kilowatt-hour fee: taxing electricity consumption in mobility

## → TAX EXEMPTION FOR ELECTRIC VEHICLE USERS: A BLESSING IN DISGUISE

The difference between internal-combustion vehicles and electric vehicles cannot be summed up by engine type alone. The difference is also tax-related, as electric vehicles do not consume fuel and are therefore not subject to taxes on petroleum products. In a country like the United States, where the revenues from the fuel tax are allocated to road network construction and maintenance, electric vehicles do not contribute to funding the road infrastructure that they use. While electricity consumption when charging a vehicle at home or in a public charging station is subject to tax, the revenue of this tax finances the use of infrastructure related to electricity generation, transmission and distribution, and not mobility.

For the moment, electric vehicles only account for a small fraction of the car fleet in circulation. They do not consume fuel and are therefore exempt from fuel taxes. As yet, their use has only led to a very slight decrease in revenues for this tax. This lack of tax is offset by other fiscal resources collected in particular from internal-combustion vehicles in circulation. In other words, a realignment mechanism of combustion vehicles to electric was implemented and the use of an electric vehicle is therefore subsidised<sup>159</sup>. This inconsistency is intentional. Tax exemption is used as an argument to promote the widespread take-up of electric vehicles. The lack of taxation aims to make electric vehicles more attractive by reducing their cost of use.

## → ELECTRICITY, AN ENERGY PRODUCT LIKE ANY OTHER?

However, as the proportion of electric vehicles in circulation increases, the tax shortfall will also grow, making the use of a charge on the use of electric vehicles inescapable. Several solutions can be considered.

One such solution would be to tax vehicle electricity consumption by importing the current fuel tax model: this would be a tax on electricity consumption (kWh fee), which considers electricity as an energy product that can be taxed like fuel. This type of instrument requires appropriate measurement infrastructure. Charging stations set up in public spaces are already applying these rates. This is in particular the case of the superchargers network rolled out by Tesla, which bills its charging service by number of kWh consumed<sup>160</sup>. However, as most electric vehicles are charged at users' homes, a meter must be installed to ascertain the quantity of energy consumed to charge the electric vehicle.

## → APPARENT LIMITATIONS

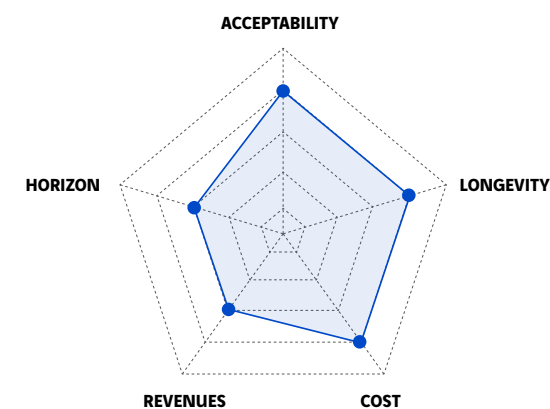
This system appears coherent when vehicles are charged using the public network of charging stations. In this case, the electricity consumption tax can be viewed as a fee for using public space during the charge time. The cost may vary in accordance with the service provided, in particular for fast recharging, which reduces vehicle downtime.

However, for home charging, the main challenge is to reduce recharge cost variability. According to time (peak or off-peak hours), location and provider, the electricity price and therefore the mobility cost may vary significantly<sup>161</sup>.

Lastly, this type of tax instrument raises a more fundamental question: how to justify a difference in the applicable prices between electricity used by a household for cooking, heating, lighting and using electronic devices and electricity used to drive an electric vehicle?



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## Who pays?



STATE



COMPANIES



TAXPAYER

## What scale of implementation?



LOCAL



NATIONAL