

Electric vehicles: has their time come?

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Did you know that the electric vehicle (EV) was invented in the nineteenth century, around fifty years before the internal combustion equivalent? In the 1910s, a third of automobiles circulating in the US were electric. However, technological limitations and the availability of cheap fuel contributed to their decline in favour of conventional vehicles.

The electric vehicle has gained prominence following the Paris Accord on climate change. Spain has committed to cutting greenhouse gas emissions by almost 50 % over the next 15 years, and a necessary condition to achieve this is increasing the market share of EVs.

But despite the environmental benefits, the EV market is tiny. Just 3,650 electric cars were registered in Spain in 2016, 0.3 % of the total. The market share in the EU as a whole exceeded 1 %, and in Norway -the epitome of EV success- it approached 30 %.

What factors explain the low penetration of electric vehicles in Spain? The available evidence shows that the relative price is one of the main things that put buyers off. [A recent study by BBVA Research](#) shows that the cost of an EV is more than the cost of an equivalent internal combustion vehicle, even taking the lower maintenance costs and the subsidies into account. Unlike countries where electric vehicles are more common, the amount of financial incentives in Spain has been reduced, both in budgetary terms as well as with respect to the purchase price. Also, these programmes have been intermittent, which has led to uncertainty and concentrated demand into periods when subsidies are available.

As well as the cost, there are other reasons why electric vehicles are not more popular. These include the lack of a sufficiently dense infrastructure of publicly accessible charging points, performance that fails to meet drivers' needs (limited range, long charging times, etc.), the limited availability of models, fear of depreciation due to technological advances, and unawareness of the advantages of EVs. These drawbacks have not so far been offset by the advantages of EVs, such as preferential access to special lanes and exemption from paying tolls and parking fees or by potential buyers' greater environmental awareness.

What steps can be taken to speed up adoption of EVs? In view of the large number of obstacles, a comprehensive strategy is needed. To increase their cost competitiveness, it would be good to establish a multi-year incentive programme generous enough to cover the difference in cost compared to conventional vehicles. Its duration should be dependent on the attainment of a long-term objective aimed at increasing the stock of EVs.

To overcome the lack of charging infrastructure, it will be necessary not only to increase public spending, but also to encourage public-private collaboration. To do this, it is essential to simplify the red tape that companies have to go through to operate charging points and to eliminate the requirement for companies to specify their ability to sell electricity in their corporate object.

+As well as boosting the financial incentives and strengthening charging services, it would be advisable to harmonise and extend non-monetary incentives among local authorities. The provision of parking spaces for EVs and the use of public transport lanes are examples of measures adopted in many European cities. In parallel, it would be advisable to develop a strategy to increase public awareness of environmental issues and advertise the benefits of EVs.

Industry and consumer interest in EVs has increased in the past year. Expectations of greater regulatory requirements that will limit polluting emissions even further, technological advances and the support of the authorities, among other factors, have made EVs a priority for manufacturers. Furthermore, a recent survey shows that almost 70 % of adults in Spain would be interested in buying an EV, compared to 58 % in the EU as a whole. So, more than a century after they first appeared, it seems that electric vehicles' time may have come.

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