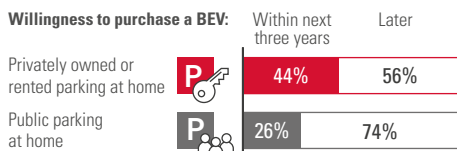




PUBLIC CHARGING INFRASTRUCTURE AS KEY DRIVER FOR E-MOBILITY

IS HOME CHARGING MAKING PUBLIC CHARGING INFRASTRUCTURE OBSOLETE?

Increasing range and decreasing cost – e-mobility is on the rise and all stakeholders expect significant sales of battery electric vehicles (BEV) in the upcoming years. According to a recent FEV Consulting survey with 1,000+ selected participants, there is a clear tendency of which customers will dominate the early market: households with a privately-owned parking space. They are in a favorable position to establish access to affordable home charging with household electricity price conditions.



In theory, public charging infrastructure should not play a major role for these households. However, to convey a sense of security or for long-distance traveling, the importance of public charging infrastructure must not be underestimated. Moreover, for all households without access to private home charging, the further expansion of public charging infrastructure is highly relevant.

50% OF ELECTRIC VEHICLE CHARGING DEMAND WILL BE COVERED AT PUBLIC CHARGING STATIONS IN 2030

Our analysis shows that nearly all consumers consider public charging as very important and are – despite having access to private home charging – willing to utilize the provided services on a regular basis.

Range anxiety is not the main reason for this behavior, as most drivers are willing to utilize their BEV to a battery capacity level between 60% and 20%. Only a small group of people like to recharge their vehicle daily.

Based on our BEV sales scenario, the demand for public charging will drastically increase. We estimate the total charging demand of passenger BEVs to climb up to 36 TWh in 2030 in the European market (1 TWh in 2018). The improved availability of public chargers will be crucial for the market success of e-mobility.

BEV DRIVERS ARE NOT WILLING TO USE EVERY PARKING STOP FOR CHARGING

Of all the places that consumers frequently visit, we found a clear distinction for which locations are preferred for recharging. Consumers acknowledge attractive charging locations by an increased willingness to pay. Two attributes which differentiate the consumer experience are power output and how easy the charging process can be integrated into the daily routine. However, customers are highly price sensitive and prefer to save money over saving time. In total, the study shows that seven location types are most attractive for electric vehicle (EV) charging – no matter if the drivers do or do not have access to private home charging. The ranking, however, slightly differs within the two groups, as well as the willingness to pay.

Consumers without a private charging device at home rate roadside charging in the direct residential neighborhood as the most important charging opportunity. On average, they are willing to pay approximately 56 €-cent/kWh for the service, while at supermarkets, for instance, they accept an average charging price of approximately 60 €-cent/kWh. Consumers with access to private home charging are more price sensitive. Their average willingness to pay is approximately 10% lower than compared to the other group. As the most important charging location, they rate conventional gas stations equipped with fast chargers.

Average accepted charging price depending on parking situation at home:



THERE IS MUCH MORE TO DO: FEV CONSULTING DEVELOPS BUSINESS MODELS FOR EV CHARGING

The attractiveness of business models is strongly influenced by customer requirements and behavior characteristics, as our analysis shows. However, running a profitable charging business is complex. Key parameters and stakeholders must be considered, namely future vehicle charging technology, owners and operators of charge points, e-mobility service providers, energy companies as well as cities and municipalities.

IF YOU ARE INTERESTED PLEASE CONTACT:



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