

Empirical Study

Charging Behaviour and Electricity Preference of Electric Vehicle Users

R&D Department

Juice Technology AG, Cham, Switzerland

15. October 2020

Summary

The survey describes the charging behaviour and preference of electricity origin of battery electric vehicle users based on data from a survey. A total of 576 electric vehicle users were interviewed. The results of the survey prove that, in opposite to the original mix of energy, EV-car drivers care about using clean power for their cars. In spite in the classic German energy mix only 28% comes from renewable sources, for charging at home 70% of the energy comes from 100% clean renewable resources. 30% have even invested in their own photovoltaics. And, most important: Half of the driven kilometres are charged at home.

With that in mind, it is not surprising that 85% consider the access to real-time produced clean energy as very important or rather important. In average, the respondents are willing to pay at least 3 cents more per kilowatt hour for that benefit.

Method:	Quantitative online survey in German language using a multiple choice questionnaire between 12.10.2020 and 14.10.2020. The questions are reproduced in the text.
Respondents:	Users of electric vehicles (EV)
Origin of Respondents:	82% Germany, 12% Switzerland, 6% Austria
Total number of interviewees:	5'154
Response:	576 answers (11.2 %)
Evaluation:	Simple descriptive statistics

1. Introduction

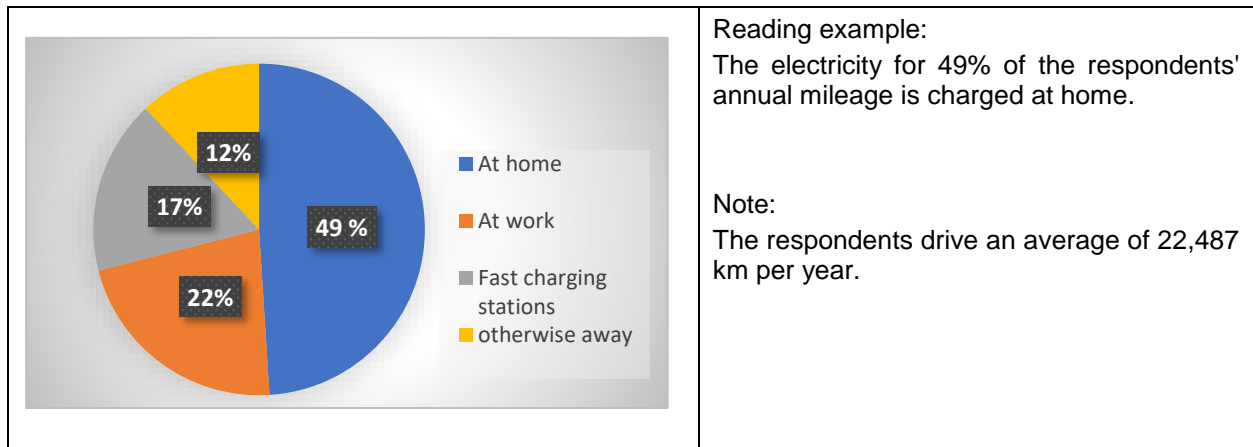
The leading Swiss manufacturer of charging stations, Juice Technology AG, initiated a survey in order to better understand the energy mix used by their customers in Germany, Switzerland and Austria. Mainly in Germany EVs are under suspicion to have a bigger footprint than combustion engine cars because of the origin of their electric energy.

More than 5000 customers of Juice charging stations (mobile and fixed mounted AC stations as well as DC fast chargers) have been questioned.

2. Results

2.1 Charging Behaviour

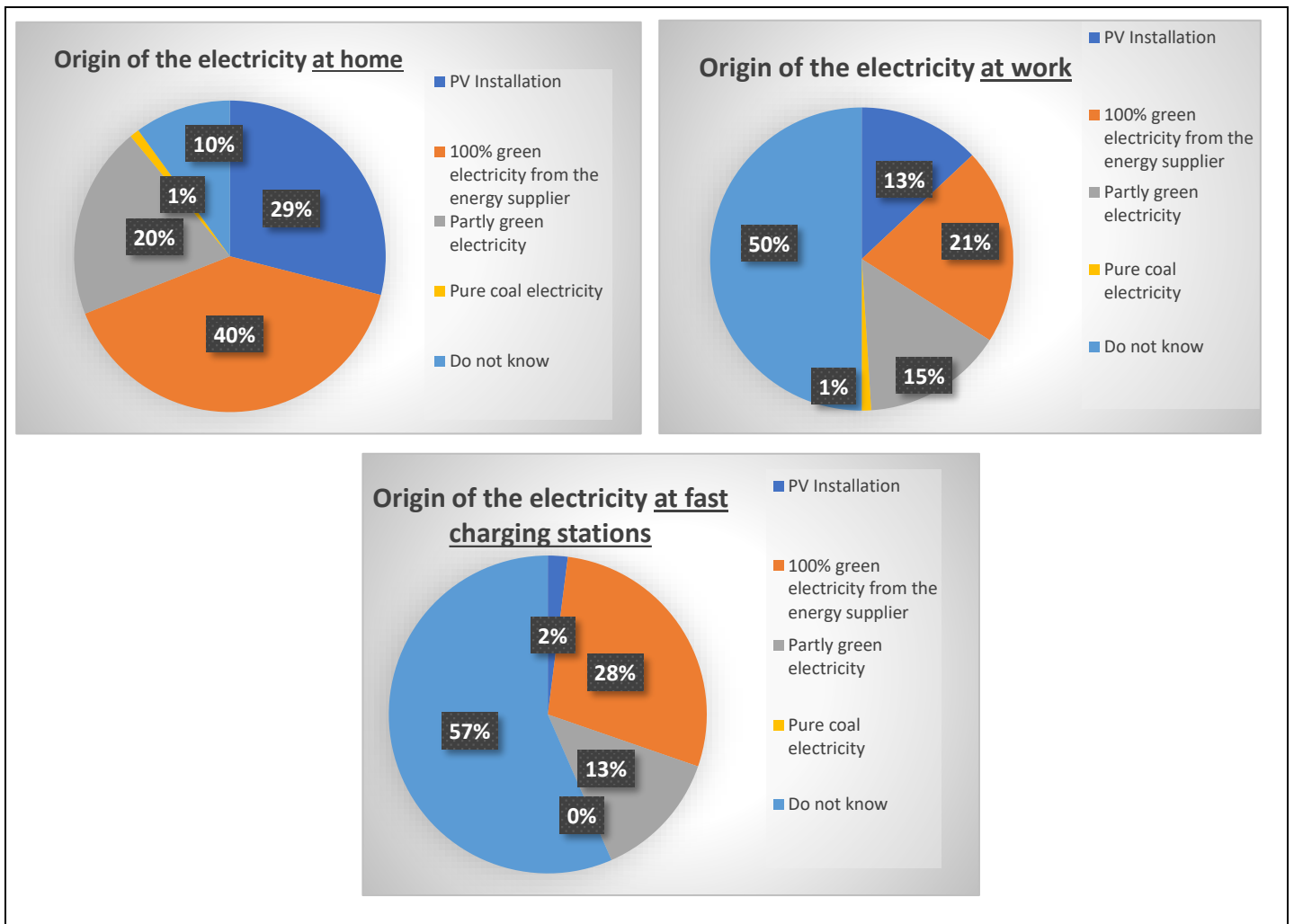
Question 4: Where do you charge your electric vehicle?



Almost three quarter of the driven kilometres are charged at home or at work. The origin of the energy at these two places is key.

2.2 Electricity Preference

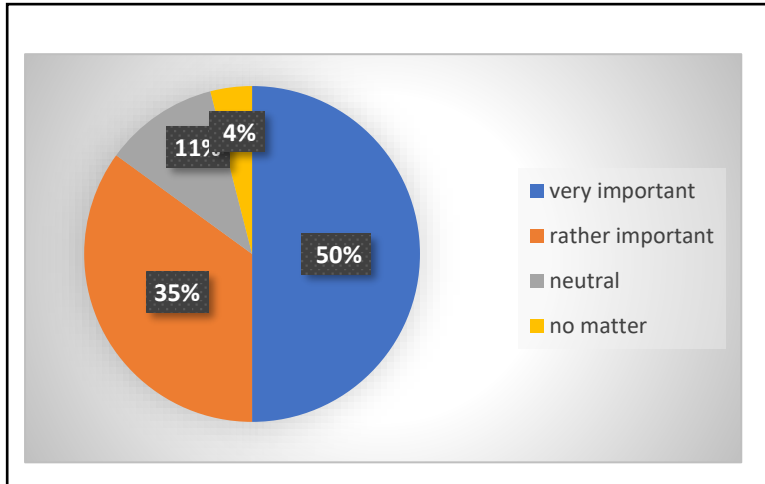
Question 5: What is the origin of the charged electricity?



While at home 70% of the charged energy are 100% clean, at work almost 50% are. As most of the respondents come from Germany, the result is amazing because in the normal German energy mix only 28%* come from renewables. Furthermore, only 1% use coal power, compared to 36%* (!) all over Germany. That proves that EV drivers obviously have or develop an enhanced awareness for environmental responsibility.

* source: <https://www.strom-magazin.de/info/stromerzeugung-in-deutschland/>

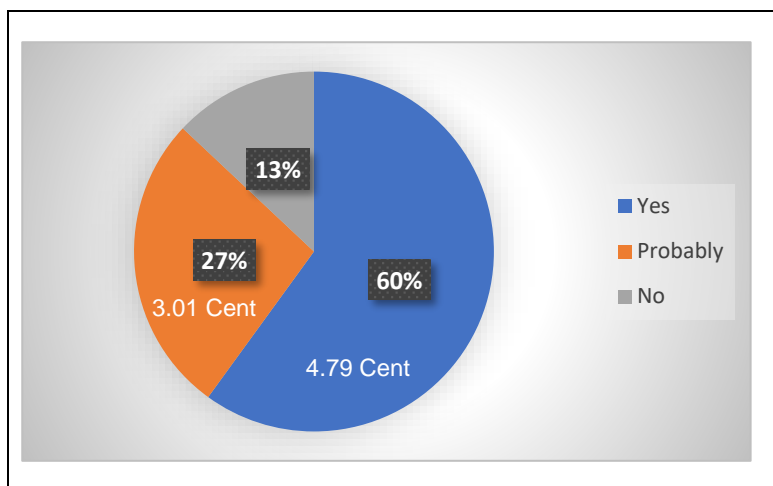
Question 6: How important is it for you to charge only clean electricity?



An overwhelming 85% say that they consider charging fully clean energy is very important or at least rather important. This underlines the conclusion that driving an EV opens people's minds for environmental matters.

Question 7: Would you be willing to pay more for clean electricity produced real time compared to the normal electricity price?

If so, by how much?



Again, 87% confess their interest not only in clean energy, but in clean energy that is produced really in the same moment they use respectively charge it into their cars. These respondents are ready to pay 3 to almost 5 cents more per kilowatt hour compared to the energy price charged by classic energy suppliers. For Germany this means that the survey participants are ready to accept at least a 10% surcharge for real time clean energy.

4. Additional Comments

The detailed answers are filed at Juice Technology AG, Schwärzen 33, CH-8185 Winkel.

Survey and study have been directed by Research & Development Department of Juice Technology AG.

Questions 1 – 3 concerned car make, average energy consumption and kilometres driven overall and were therefore not separately commented.

5. Conclusion

The results of this survey indicate the following findings:

- EV drivers use much cleaner energy for driving than the average energy consumer.
- Half of all driven kilometres are charged at home, where already today 89% of the energy are either fully or partly green.
- The coal power reproach is not applicable for EV drivers.
- EV drivers are very open minded for further improvements regarding the use of new concepts in clean energy. And they are willing to pay a premium for clean energy.

Keeping in mind that in a recent scientific study it was revealed that Juice products are a key enabler for people to decide for an EV, this study implicates that the products of Juice also support the transformation to use more green energy. Juice takes these results as a calling to enlarge their portfolio with real-time clean energy for their charging products.

* * *