



Sent by email to consumerofferconsult@olev.gov.uk

Office for Low Emission Vehicles
Great Minster House
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Dear Rachel,

Improving the consumer experience of using Chargepoints

Feedback on Debit/credit card payment

- 1.** We agree that debit/credit card payment for public EV charging should be a minimum requirement for any deployment of public EV charging infra-structure to ensure that any EV driver can charge their vehicle at any public charging point and pay for it without the need to register and be a member of a particular EV charging network.
- 2.** However, we do not anticipate this to be the primary means to pay for EV charging nor will it be likely that the tariff payable by debit/credit card will be the cheapest.
- 3.** This is due to the nature of the addressable EV charging market where most of the charging need will be provided at home or at work and hence there is much less of a dependency on the provision of a central charging infrastructure equivalent to today's petrol stations.
- 4.** With the majority of vehicles having a relatively low utilisation rate of approximately 25 miles per day and, hence are stationary for most of the time, there is ample opportunity to provide the majority of the charging need with low cost, low power charging stations at home off-street, residential on-street and workplace charging.
- 5.** An anonymous EV charging transaction (paid by credit/debit card) does not contribute any useful data to enable more sophisticated charging services and forecast planning which would enable better value to the consumer. We therefore anticipate that EV drivers will sign up to EV charging networks not relying on the use of debit/credit card payment at the charging point in order to benefit from cheaper charging and other associated energy services, for example flexible demand response.



6. We agree that a roaming solution has the potential to create additional benefits for the customer, however there is less of an incentive to do so if the common denominator to pay at any public charging point is the debit/credit card.
7. We would suggest that the most important factor for a good EV charging experience is to ensure that the customer has all the relevant information (including clear pricing information) in an easy to use plain English format to make an informed purchase decision. Having said this, this may however still leave a significant level of complexity and effort should be undertaken to define this as part of real-life use cases.

Feedback on Data Availability

8. We agree that data availability is a key enabler for the transition to electric vehicles which is important for
 - a. Delivering a seamless EV driver experience
 - b. Optimal provision of the electricity supply for EV charging
 - c. Optimal provision of an integrated multi-modal transport system
 - d. Inclusion of over 39 million EVs for the provision of geographic distributed energy storage
 - e. The provision of future EV charging needs in the context of connected autonomous vehicles are likely to have significant different charging needs.
9. Although there is a need for some static data such as clear sign posting of EV charging bays, expectations are that there will be a significant amount of dynamic data relevant to the provision of EV charging e.g. electricity pricing, consumption data and supply constraints. The consumer needs to have the information provided to them in a clear format to enable them to make an informed choice.
10. It should be noted that EV charging infra-structure operates in a very different way to the known concept of petrol station:
 - a. EV charging is often a compound of two consumer needs
 - i. The need to park the vehicle
 - ii. The need to charge the vehicle
 - b. The pricing of the electricity supply and parking are subject to asset utilisation.
 - c. It is suggested that a more detailed analysis is needed that drives industry consensus, best practice and standardisation in the context of use cases that describe how the customer will utilise the provision of public EV charging services and payment thereof.



- d. It is suggested that one can expect a range of new charging technologies that will enable a very different provision of public charging services that may be more scalable and shift more of the addressable market (electrified vehicle miles) to public charging solutions for example:
 - i. Dynamic wireless charging (charge while you drive)
 - ii. Battery Swap, charge to full in under 5 minutes for any size of battery (alternative battery ownership model)

Feedback on Reliability

- 11. We agree, for public EV charging to be acceptable to the EV driver it needs to be safe, with clear instructions and be reliable.
- 12. For business to provide safe and reliable public EV charging it needs to be commercially viable.
- 13. Support for the right technology choices and scalable business models is essential, in other words this needs to be reflected in standardisation and regulation. This includes guidance on technology choices for use cases in the public EV charging context that are inherent safe, protected from physical abuse, protected from cyber-attacks, resilient to wear and tear, highly automated and limited street furniture that may pose a hazard.

Feedback on Pricing Transparency

- 14. We fully agree that transparency on pricing is key for an acceptable EV user charging experience, but we would caution that public EV charging has very little in common how current petrol pumps work and that a harmonised pricing scheme is yet to be developed.
- 15. Things to note:
 - a. The price of electricity varies significantly during the day and can be supplied not just from the electricity grid but also onsite electricity generation and storage.
 - b. There are many opportunities for bundled tariffs where the supplier provides not just public EV Charging. Clear explanation for the consumer is essential.
 - c. While the consumer may wish to purchase electricity to meet the transport need, the consumer may also wish to sell electricity as part of the EV parc being utilised as a super large energy storage asset.
 - d. In the context of a digitally integrated EV charging infra-structure different service providers may provide charging services based on different business models utilising the same physical assets:
 - i. The anticipated electricity demand for a vehicle across its life-time may be sold as part of the vehicle purchase. No subsequent billing at the charging point required.



- ii. Battery Swap, the vehicle and the battery are decoupled business models and the battery supplier/owner may recover the costs through a rental agreement.
 - iii. In the context of vehicle leasing, the vehicle may be supplied inclusive of EV charging.
16. It is suggested to be mindful, that the phase out of fossil fuel vehicles and the transition to electric vehicles is not a like for like replacement but an opportunity for new business models that may have preference with the consumer once these are understood.

How is Gemserv enabling the market to transition rapidly and smoothly to electric vehicles and support the UK government in achieving the net zero commitment with the blessing of the consumer?

17. Gemserv provides strategic insights, consultancy and digital services to drive an evidence-based transition to electric vehicles that will be workable for everyone, safe, commercially viable and embraced by the consumer. We do this for the UK and global markets to ensure that the arising opportunities from global trends and innovation deliver value to consumers and generate new business as part of a prosperous low carbon society.
18. Gemserv will be launching the digital enabled Electric Vehicle Governance Framework (Paladin - EVGF) in July 2020 to support industry with standards, regulations, best practice relevant to the product and services needed in the UK and globally.

Yours sincerely,

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Head of Electric & Autonomous Vehicles

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