Electric vehicle charging market study

Progress update

1 March 2021

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Introduction

1. This document provides an update to interested stakeholders on the progress of the CMA's Electric Vehicle (EV) Charging market study launched on 2 December 2020, including summarising the key themes and issues raised in the responses we received to our Invitation to Comment (ITC).

2. The CMA is carrying out a study into how competition is developing and whether there are any emerging issues that are arising in the EV charging sector. We are focusing on two themes relating to passenger EV charging at home, work and publicly across the UK:

   - First, we are considering how to develop a competitive sector whilst incentivising investment, including looking at potential barriers for businesses to enter or expand and other factors impacting competition (Theme 1).

   - Second, we are looking at how consumers will interact with this new and potentially complex sector, the possible challenges facing people when charging and what additional measures may be needed to protect consumers so that mistrust does not become a barrier to roll-out (Theme 2).

3. Further details on the market study process and its scope can be found in the ITC.

Status of the market study

4. Since launching the study, the CMA has been gathering information and discussing issues with a range of stakeholders. We have engaged with a range of key stakeholders including Chargepoint Operators (CPOs) and manufacturers, Local Authorities (LAs) from different parts of the UK, Distribution Network Operators (DNOs), EV manufacturers, motorway service area operators (MSAs), consumer and trade bodies, and think tanks. We are also engaging regularly with government and regulators including DfT, OZEV, BEIS, Ofgem, Uregni (responsible for energy regulation in Northern Ireland), Welsh Government, the Department for the Economy and the Department for Infrastructure in Northern Ireland, and Transport Scotland.

5. As part of this engagement we have spoken to stakeholders from across different parts of England, Wales, Northern Ireland, and Scotland to get an understanding of the views and challenges facing different regions. We have also engaged with other international competition authorities, in particular Netherlands, Norway and Germany.

6. We received a range of responses to our ITC from almost 60 different interested organisations, as well as [49] individual responses from EV drivers. Non-confidential versions of these responses have been published on our case page.

7. We are in the process of reviewing the information/evidence provided and carrying out analysis as set out in our ITC. We will be drawing together our initial findings and focusing on potential measures in further detail (which could include recommendations, issuing guidance or taking further steps ourselves using our other tools).

8. Our intention at this stage is to have further engagement with key stakeholders in Spring, before finalising our work and publishing our report by Autumn (in advance of our statutory deadline of 1 December 2021), though this timeframe is subject to change.

Feedback on themes and issues

9. This section sets out some of the initial issues and concerns raised by stakeholders and individuals within the two themes from our evidence gathered to date. However, we are still in the process of gathering evidence and undertaking analysis and therefore the issues set out below are illustrative based on the evidence to date. We are not at this stage taking a view or commenting on the evidence received.

10. From the evidence received so far, it appears that there are some overall issues impacting the sector but also some differences in the way that competition is developing and particular challenges arising in the provision of charging in certain settings (ie. segments). Therefore, while we will continue to look broadly at the overall EV charging sector, within Theme 1 (competition and investment) we intend to focus in more detail on the following segments:

- en-route rapid/ultra-rapid charging, in particular on motorways; and
- on-street slow/fast local charging ie. on the kerbside or in local hubs.

11. There also appear to be some issues around how consumers interact with both off-street home charging (ie on a driveway/in a garage) and public charging, which we intend to explore further under Theme 2.

Theme 1: Developing competition while incentivising investment

12. Below is a high-level summary of the views and issues on this theme which have been raised so far by stakeholders.

Backdrop to the EV charging sector and its future development

- **Evolution of competition in the sector** - many respondents were positive about the prospects for competition generally, although some challenges were highlighted and there were different views on how competition might manifest.

- **Speed/scale of roll out of public charging infrastructure and demand** – number of chargepoints is growing but there was a general recognition among respondents that significantly more will be needed. Demand for chargepoints is expected to increase significantly although currently still relatively low given the small proportion of EVs.

- **Growing private investment and developing technology** – sector is still evolving and technology/solutions developing/being tested. Currently a number of different types of CPOs, with a mix of different/new business models, some specialising in particular segments and others active across a number of segments. Overall, we were told there is relatively strong appetite for investment, although the sector is still at an early stage of growth.

- **Importance of government role in the sector** – most respondents recognised that central, devolved and local government play a critical role in the sector at this early stage, including through public funding, particularly where the commercial case is more limited (eg rural/remote areas or to alleviate substantial barriers like network capacity).

- **Electricity network capacity** – we were told that increasing take-up of EVs is likely to create additional load on local energy networks. Therefore respondents told us that it is important to enable charging infrastructure (such as smart charging and vehicle to grid) which provides flexibility and enables cost-effective management of these networks.

Key challenges

13. A number of broad issues have been raised by respondents relating to competition and investment in the sector which have implications for its development including:

    - **Electricity network connections, expansion and reinforcement** (cost/process/variation/visibility);

    - **Interaction with LAs** (mixed expertise/interest, varied approaches, lack of clarity over role, issues concerning 'street clutter' and possible tension with other policy priorities, expectations over ability/timeframe to generate revenue);

- **Planning permission/wayleave agreements complexity and site availability** as well as length of time it takes to negotiate these matters;
- **Significant capital investment** required to enter and expand at scale which takes time to recoup; and
- **Lack of coordination** amongst LAs/DNOs/businesses for infrastructure locally and strategic oversight nationally.

14. Respondents also raised concerns for particular charging segments:

- **Barriers to entry/expansion in en-route charging (particularly on motorways)**, in particular the significantly higher cost of connection/network upgrades (required to install rapid and ultra-rapid chargepoints), as well as difficulties accessing motorway service areas despite interest in investing, including where there are exclusive contracts in place. There were also some concerns about the quality and reliability of the existing chargepoints in place, as well as lack of choice of different providers (either within or between motorway service areas).
- **Significant challenges regarding the provision of on-street kerbside charging** – stakeholders noted this was reliant on LAs (which face the issues raised in paragraph 18) and there were some concerns over the attractiveness of the business case for investment. Many told us that this type of charging could play an important role in the mix of charging infrastructure needed to meet future mass-market demand. Overall there were mixed views as to the challenges and desirability of this type of charging in meeting future demand (versus other forms of local charging eg. destination, local hubs, rapid charging stations).

15. Less concerns were raised about the ability for firms to offer and compete for other forms of charging such as at destinations, workplace or home charging. In home charging a number of concerns were raised about barriers to consumers shopping around and switching, and some longer-term potential issues which are set out in Theme 2 (paragraphs 18 and 20).

16. Different approaches have been taken in England and the devolved administrations:

- In England, private sector investment, with support from public funding, has led to multiple private networks emerging. There were some concerns regarding whether this would create a sufficiently comprehensive network which is user-friendly (see Theme 2).

- Scotland has taken a different approach to the roll-out of public charging through centralised funding in the form of direct grants to LAs and creation of a single chargepoint network, which in many cases offers free or subsidised charging. Whilst some recognised the benefits of this for consumers, a number also highlighted that offering free or subsidised charging has made it challenging for CPOs to enter and invest in public charging in Scotland.

- Wales and Northern Ireland are at an earlier stage in terms of roll-out but we were told they are looking at ways to increase roll-out and attract private investment while taking into account their specific needs.

Theme 2: Effective consumer interaction with the sector

17. We received a range of views about the existing and potential challenges faced by EV drivers navigating this new sector, both from consumers and organisations. There were some differences in views on the extent of the concerns, with some considering that the sector had already started to develop and improve to address these issues.

18. The following **concerns were raised by respondents relating to current challenges for EV drivers in finding, accessing and paying for public charging**:

    - **Reliability and ease of access** – concerns were raised about ongoing challenges accessing working chargepoints and that this remains a key concern for drivers.

    - **Up to date/accessible information** – although some CPOs told us that their data was ‘open’, some respondents told us there was not sufficient data available on chargepoints (eg. pricing/availability etc) particularly real-time ‘dynamic’ information.

    - **Interoperability** - there were some remaining concerns about interoperability on the public network between cars/chargepoints in terms of different connectors. Some respondents also questioned why the Tesla charging network was not accessible for use by all EV models.

    - **Pricing variations/complexity** - some potential issues raised including variations between providers/speed of charge, price disparity between home/public charging and in some cases, prices are much higher. Many respondents thought that understanding and comparing prices was complicated (different tariffs, connection fees, subscriptions etc) and that greater standardisation was needed (with widespread support for simple pence per kWh pricing).

- **Different payment methods** – many respondents raised concerns around the experience of paying due to significant variation in methods (multiple cards/apps/QR codes/some contactless but not on all chargepoints) and in some cases having to pre-register with the chargepoint provider. Contactless was seen as very beneficial/familiar by respondents although concerns were raised about the cost/feasibility of this for slower chargepoints due to lower levels of utilisation than rapid/ultra-rapid chargepoints.

- **Benefits/risks with roaming** – there were mixed views and understanding about 'roaming' (ie. ability to use different networks via one card/app). Some respondents suggested that open and easy payment methods (such as contactless/pay as you go) would be sufficient and were concerned about additional fees. Others were more supportive of roaming to make the experience smoother for drivers.

- **Lack of support for new EV drivers** – many respondents told us that understanding around EV charging (and EVs more generally) as well as the support available for consumers is still relatively limited, and many are reliant on manufacturers/car dealerships or through online forums.

19. We note that OZEV has recently published a consultation on the consumer experience at public EV chargepoints, which is also seeking views on improvements and looking at the introduction of regulations covering some of the areas and concerns flagged above. We are working closely with OZEV and others in looking at these issues and potential measures to address them.

20. Some **longer-term potential risks were also raised as the EV charging sector matures and moves towards a mass-market**:

- **Bundling and subscriptions** – respondents saw potential for greater bundling of products/services to become more commonplace (eg. buying/leasing an EV and a home chargepoint together) and use of subscriptions. There were mixed views in terms of potential benefits for consumers – but some respondents thought this could raise risks relating to lock-ins, ease of switching and transparency of pricing.

- **Interoperability** – whilst most home chargepoints are suitable for all types of cars, there are some issues around the extent to which there needs to be greater interoperability between other aspects ie. ability to switch energy tariff or software provider (for smart chargers) without needing to change your chargepoint, and some similar concerns were also raised around publicly-owned local chargepoints.

- **Pockets of concentration/limited choice** – some respondents were concerned that there could be areas where there is limited choice for consumers (with only a single provider).

21. A number of **broader concerns relating to fairness and equality of access were also raised**:

- **Disparity between those with off-street parking and those without** – many respondents raised concerns around the potential difference in ease/affordability between those who can charge their car from a home charger and those who can't, who are therefore more reliant on local public charging.

- **Provision in rural/remote/tourist areas** – some respondents raised concerns that drivers in these areas are more likely to be left behind and that targeted support may be needed to ensure there is sufficient public provision.

- **Challenges facing some vulnerable consumers** – some respondents recognised that there are some groups who will face much greater challenges using and interacting with chargepoints, in particular elderly, less 'tech savy' and disabled drivers.

Stay updated on the market study

22. To stay up to date on developments in the market study please visit the case page. If you wish to submit any information or raise any comments relevant to this work please contact EVCharging@cma.gov.uk.