

Sent via email only to [EVCharging@cma.gov.uk](mailto:EVCharging@cma.gov.uk)

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### Energy UK views on competition in the EV charging sector

I am writing on behalf of the Energy UK Electric Vehicle Working Group to input into the Competition and Market Authority's Market Study into the UK EV charging sector. The key points are:

- Despite the attention EV charging gets – especially in light of the Government's recent announcements – **EV charging is a nascent sector in the UK**. It is evolving and growing rapidly. As such overly prescriptive or restrictive interventions must be avoided to maintain the technical and business model innovation that will benefit customers.
- Energy UK believes the private sector is best placed to fund, deliver and operate EV charging in the UK. **Public subsidy can however be important where it is not commercially viable to invest but there is an unmet need**. EV charging in these instances represents a public good. There can also be a useful coordinating role for the public sector, for instance through local area energy planning.
- The **maturity and level of competition varies significantly** across the different market segments. Home and off-street charging is well established and competitive which is also largely true for workplace and destination charging. On-street charging is very nascent however and for en-route charging, while there are many market participants, there is not always much competition at any given location, although this is changing.
- **Barriers to entry and expansion are overall relatively low**, as seen by the large number of market participants and new entrants, and the low market shares of each participant.
- **Energy UK does not believe a market investigation reference is necessary**, given the level of activity and competition in the sector; its infancy and that there does not appear to be any widespread customer detriment issues.
- **The CMA should await the outcome of the Government's work on the consumer experience of public charging** before intervening or suggesting major policy changes.

Please see in the appendix below for further detail on these points.

If you have any questions please do not hesitate to get in touch.

Joseph Cosier

Policy Manager  
Energy UK  
[redacted]  
26 Finsbury Square (1st Floor)  
London  
EC2A 1DS

#### Energy UK

26 Finsbury Square  
London EC2A 1DS

T 020 7930 9390  
[www.energy-uk.org.uk](http://www.energy-uk.org.uk)  
t @EnergyUKcomms

## Appendix

### **Introduction to Energy UK**

Energy UK is the leading trade association for the GB energy industry with a membership of over 100 suppliers, generators, and stakeholders with a business interest in the production and supply of electricity and gas for domestic and business consumers.

Energy UK members are very active in the electric vehicle (EV) space, offering EV tariffs, smart charging and vehicle to grid, leasing EVs either directly or in partnership with other companies, and installing and operating chargepoints in homes, businesses and in the public domain. As such we hope our input to this market study is useful.

### **Theme 1**

#### **1. How is the EV charging sector developing and how will technological or other developments (for example smart technologies) impact sector development and competition?**

As noted in the invitation to comment document, the UK EV charging sector is a rapidly growing and evolving sector. There has been significant investment over the last few years with standards improving as a result of this and of the increased competition. Public charging in the UK to date has been funded and delivered by the private sector for the most part, unlike in some other markets, highlighting the sector's willingness to invest and grow.

The EV charging sector has seen significant innovation occurring across the range of segments in the scope of this study. In the home charging sector for instance smart charging technologies are being combined with dynamic energy tariffs and other energy assets to cut costs for customers and improve the user experience. This will continue unless hampered by overly restrictive regulation or policy. Similarly, technology for on-street charging and charging hubs is improving rapidly, although the business case for both segments is not yet fully established.

Continued innovation will improve competition and support the growth of the sector. It must therefore be a key priority for policy makers and industry participants.

#### **2. How well is competition between EV charging providers working at present in the different sector segments and what are the key risks to effective competition (including any emerging competition concerns)?**

The level of maturity and competition varies across the different sector segments:

- Home and off-street charging: there is a significant amount of competition and this segment is the most established. The main risk to effective competition in the future is overly prescriptive or UK-specific device standards that deter international manufacturers or providers from participating in the UK market.
- On-street charging: this is a very nascent market with relatively few providers active in this space as the business case for private investment is challenging. As such it is difficult to currently assess the level of competition.
- Workplace: there is a strong level of competition in this segment, which is supported by the fact that businesses are likely to consider the full costs and benefits of different providers.

- Destination charging: similar to workplace charging, there is a strong level of competition in this segment, which is supported by the fact that businesses are likely to consider the full costs and benefits of different providers.
- Hubs: this is a growing segment with increased investment expected over the coming years from a variety of different providers. Existing hubs tend to have been developed in partnership or with the support of the public sector.
- En-route charging: while there are a large number of participants in this segment, meaning there is the potential for significant competition, there does not tend to be much competition at a given location. There can be a tension between exclusivity clauses at sites – which are important to make the business case and secure investment – vs. offering consumers choice between providers – which is important for competition and to drive up standards. One way to balance this is to ensure that there is competition in a given geographic area (i.e., between sites along a road) while allowing one provider exclusivity for a specific site. The Government’s Rapid Charging Fund plans and Ofgem’s reforms will be important to reduce barriers to entry and make the en-route segment more competitive. The main risks to competition here are regulatory and planning barriers, which can slow down and prevent new projects going ahead. Government is already actively considering these barriers, including land rights, planning permission and land leasing. If they are not addressed then competition will be constrained.

### **3. How can competition in the different sector segments be strengthened as the sector develops, either by building on current policies and/or through other approaches?**

Outside of home and off-street charging – which is expected to make up the majority of EV charging – there is still uncertainty around the relative importance of the different segments. It remains to be seen which segments have a viable long term business case, something which was explored by PwC in a piece of work with Energy UK<sup>1</sup>.

It will be important to avoid picking winners through policy design or regulatory intervention. There is a clear risk that well-meaning interventions in the EV charging sector at this time could inadvertently rule out certain technologies or business models, which should be avoided at all costs. Policy risk is a significant concern for many Energy UK members given the level of Government activity in the sector.

Careful policy design as part of Government’s funding announcements and Ofgem’s reforms will be key to improving competition by removing regulatory barriers and providing public subsidy where the commercial business case does not yet stack up (but where there is a clear unmet need).

### **4. What are the main existing and potential barriers to entry and expansion for EV charging providers and how can these be addressed?**

Overall the barriers to entry and expansion for EV charging are relatively low. This is reflected by the number of market participants, the number of new entrants and the level of market fragmentation, where the market leader has a 12.6% market share for public chargepoints and 17% market share for rapid chargepoints.

The picture differs slightly across the segments, with en-route and hubs both requiring more capital expenditure for equipment and grid upgrades. The Government’s Rapid Charging Fund will be important to address this barrier however there are also regulatory barriers, such as land rights, wayleaves and

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<sup>1</sup> <https://www.pwc.co.uk/power-utilities/assets/powering-ahead-ev-charging-infrastructure.pdf>

planning permission that hinders the ability for providers to roll out EV charging infrastructure and increase competition.

**5. How can chargepoints be effectively deployed to ensure there is sufficient supply to meet future demand? What factors need to be taken into account?**

The most important factor for a EV charging site's business case is utilisation, which depends on EV uptake. The single most important enabler for investment in EV charging infrastructure is therefore EV uptake and certainty around future uptake. Long term commitments from Government, such as bringing forward the phase out date for ICE vehicles, send a strong signal to industry and builds investor confidence.

While it is clear that EV charging infrastructure needs to be increased significantly over the next decade, it is also important to recognise the difference between drivers' actual vs perceived needs. Mainstream commentary of EV uptake and public surveys often cite lack of charging infrastructure as a key barrier to uptake. The UK has around 10 EVs per public chargepoint at present however, in line with the European Commission's recommended 10 EVs per chargepoint<sup>2</sup> and similar to the ratio for France and Germany.

As argued elsewhere in this submission, public subsidy has a role to play in supporting public charging infrastructure where there is an unmet need but it is not commercially viable to deploy. Public charging in these circumstances represents a public good however as far as possible competition should be introduced in these instances too, for instance through the tendering process. Beyond subsidy, there is an important role for public bodies to help coordinate the rollout of EV charging infrastructure. This doesn't necessarily mean picking where chargepoints should be located, which should be determined by the market, but through local area energy planning.

**6. What incentives are there for private investment in EV charging infrastructure including within the different sector segments? How might incentives need to change for the future growth of the sector and development of competition?**

Energy UK members will be able to provide detailed views on incentives, some of which may be commercially sensitive, however as explored in the PwC report cited in response to question 3 the incentives and business cases vary significantly across segments. There is an element of organic market growth to the segments: as incentives to invest increase so does competition. Pre-empting or forcing market growth where demand is very uncertain is unwise and will result in under-utilised assets.

As the CMA will be aware there are also a number of Government subsidy schemes across the different EV charging segments.

**7. What impact does public subsidy have on private investment incentives; are there any areas/gaps where public support is most likely to be needed?**

To avoid crowding out private investment, public subsidy should only be used where it is not commercially viable to invest but there is an unmet need. EV charging in these instances represents a public good. There is a careful balance between using public subsidy to support fledgling, but important sites / segments vs wasting public money on assets that will never be used.

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<https://www.transportenvironment.org/sites/te/files/publications/01%202020%20Draft%20TE%20Infrastucture%20Report%20Final.pdf>

Government has largely already recognised and is acting where Energy UK members believe subsidy is needed. These include: ultra-rapid charging – where the capital costs are high and utilization is likely to be low at first; on-street charging – where there is not currently much privately funded activity and where it is difficult to make the business case stuck up. There may also be a case for supporting the provision of charging in rural locations / seasonal hotspots – where again utilization is low.

**8. What is required in order to ensure that rural / remote communities and those without off-street parking are well served by charging infrastructure?**

In most cases for rural and remote communities the need for public charging will be lower as there is more off-street parking. However for the small minority who don't have access to off-street parking provision of charging infrastructure by the private sector will be challenging. There is likely to be a role for public subsidy in these instances.

We would point to demand-led schemes such as the one operated in Amsterdam to help coordinate provision and cater to different drivers' needs. This could be used for on-street charging in built up areas as well as rural areas.

**9. What role should local authorities play to help deliver EV charging in a way that promotes competition? What support would they need?**

Local authorities could have an important role to play in supporting the EV charging rollout. Often however, local authorities do not have the capacity or expertise to ensure optimal outcomes. There is guidance in existence that can help however local authorities are often not the best parties to fund or procure charging infrastructure, unless they have significant expertise or experience. In the past this has led to poorly maintained public chargepoints or unsuitable or poorly located infrastructure. There is also the risk that access to charging becomes a postcode lottery based on which local authority you live in. This issue is present in the ORCS program as only those local authorities with capacity to bid for funding can do so, whereas more resource constrained ones cannot.

Where local authorities do have an important role to play is helping coordinate the rollout of EV charging and ensuring that it is aligned with other local plans, such as public transport routes, new developments etc. The Energy Systems Catapult has already done a lot of thinking on this topic in the form of Local Area Energy Planning which Energy UK believes can bring local authorities and other local stakeholders together to ensure effective coordination and communication.

**10. What can be learned from the different policy approaches taken in the devolved administrations for the EV charging market's development?**

Given the proactive rollout of public chargepoints across Scotland there is a useful opportunity to understand the value for money from the different locations and the potential impact on EV uptake. The coordination between the Scottish Government and local authorities in rolling out EV charging infrastructure could offer a useful template on the rollout in England, where a much more hands-off approach has been taken. Offering free charging comes with drawbacks however as it makes organic growth of the private sector more challenging, and could therefore have longer term impacts on competition and growth in the sector.

## **Theme 2**

### **1. What challenges or difficulties related to chargepoints might act as a barrier to consumers switching from a conventionally fuelled passenger vehicle to an EV and how might these be overcome?**

To give them the confidence to switch to an electric vehicle, drivers will need to find a satisfactory solution for their day-to-day charging needs.

The BEIS Public Attitude Tracker<sup>3</sup> lists recharging – including how and where to charge; lack of chargepoints and time to charge as some of the top disadvantages that current drivers perceive to EVs. Similarly, the CVEI project<sup>4</sup> found that consumers' willingness to pay for an EV increased with improved provision of public charging, highlighting that access to public charging is valued.

It should be noted however that the majority of charging events will take place at home. As most drivers have access to off-street parking this is not the biggest challenge for day-to-day use of an EV. Instead it is consumer confidence in the EV charging sector overall (in private and charging infrastructure) that is important and ensuring that the provision of public charging keeps pace with the uptake of EVs and is perceived as being extensive and accessible.

At present the UK has around 10 EVs per public chargepoint, in line with the European Commission's recommended ratio, suggesting that it is not the absolute number of chargepoints that is the issue, but instead building consumer confidence in public infrastructure and ensuring that the right type of chargepoints can be found in the right locations, as well as being highly visible.

### **2. What are the key challenges for consumers already interacting with the sector and how might these change over time as the sector grows?**

Finding out information on the whereabouts and availability of public charging infrastructure is a challenge today. Chargepoint operators are already working to improve this issue by providing this information to ZapMap, which is the go-to choice at present, however there are few alternatives to ZapMap. This has led Government to commission work examining how to make chargepoint data more accessible, which should promote innovation. The findings from this work are expected alongside the consultation on consumer experience and will be important in moving this issue forward. Energy UK supports the principle of data being "presumed open", as recommended by the Energy Data Taskforce and subsequently backed by the EV Energy Taskforce. This provision includes an important triage process to ensure that commercially sensitive data is not shared.

The quality of infrastructure, its reliability and coverage are all challenges today, which undermines confidence in public EV charging. These are improving as the sector matures however there are some growing pains and it will be important that these issues are addressed over the coming years. Energy UK supports a market-based approach but believes that Government has an important role in monitoring consumer outcomes and intervening where necessary, if the market does not correct itself on its own.

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<sup>3</sup> <https://www.gov.uk/government/publications/transport-and-transport-technology-public-attitudes-tracker>

<sup>4</sup> D5.2. Consumer uptake trial [https://www.eti.co.uk/programmes/transport-ldv/consumers-vehicles-and-energy-integration-cvei?size=10&from=0&\\_type=eti-document&publicOnly=false&query=&programmeName%5B0%5D=Transport+-LDV&projectName%5B0%5D=Consumers%2C+Vehicles+and+Energy+Integration](https://www.eti.co.uk/programmes/transport-ldv/consumers-vehicles-and-energy-integration-cvei?size=10&from=0&_type=eti-document&publicOnly=false&query=&programmeName%5B0%5D=Transport+-LDV&projectName%5B0%5D=Consumers%2C+Vehicles+and+Energy+Integration)

### **3. How do consumers decide which chargepoint services and providers to use? What information do consumers need to make this decision and at what stage in the decision-making process?**

The primary factor on which chargepoint to use is location. Drivers choose where to charge and who to charge with based on their destination. As noted by TRL, existing evidence suggests that it is most important to consumers to have “ [...] 1) access to charging at or very near to home, followed by; 2) access to charging at work, and then lastly; 3) availability of nationwide public charging infrastructure to enable long journeys [...]”<sup>5</sup>.

For public charging, consumers need to know where chargepoints are, as well as the key information on charger type, payment type, whether it is working and available etc. This static and dynamic data is important to enable consumers to make informed choices. As discussed above, extensive engagement has been undertaken on behalf of Government in 2020 to look at making chargepoint data more accessible. The outcome of this work will be important to understand how to proceed to unlock chargepoint data without compromising CPOs’ commercial data.

### **4. Can consumers easily understand and compare charging tariffs in this sector and what barriers, if any, do they face?**

At present there are a number of different charging tariffs, as is common with nascent markets as providers are working to understand the most attractive and compelling packages. As mainstream consumers start to use EVs we will understand their preferences better as they gravitate towards what suits their needs best. This period of experimentation is to be expected of an early market and we are already seeing standardisation across industry, either in response to anticipated Government intervention or as a response to consumer preferences.

It is useful to make the distinction here between rapid and destination charging. For en-route charging with a rapid charger, contactless payments are appropriate and popular. Tariffs in this sector are typically in a p/kWh format. For destination charging, preferences will differ and it is important to let consumer demand steer chargepoint operators’ decisions, especially given that tariff set-up may be at the request of the host. Providing there is adequate competition and consumer choice, operators will then be forced to adapt and keep pace with best practice or lose market share.

### **5. Do particular groups of consumers face additional challenges to interacting with the sector and if so, who and why? How might these be overcome?**

Please see member comments.

### **6. Are there any technological developments or tools that could support consumers to navigate the sector, for example by helping to make more informed choices?**

Even more so than the EV charging sector itself this is a nascent market. With less than 200,000 BEVs on the road and less than 400,000 plug-in vehicles overall<sup>6</sup>, information provision is growing and new tools and technologies are being brought forward. RightCharge and ZapMap for instance are early entrants but there are likely to be many more as the sector grows.

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<sup>5</sup> p15 <https://www.gov.uk/government/publications/using-behavioural-insights-to-increase-uptake-of-electric-vehicles-in-the-uk>

<sup>6</sup> <https://www.nextgreencar.com/electric-cars/statistics/>

It is in the interest of chargepoint operators, vehicle manufacturers, energy suppliers and car dealers to ensure consumers have the necessary information to make informed choices and it will be important to monitor this but we are confident that as the market grows, so will the number of tools that can be used to improve decision making.

**7. Are existing protections offered by consumer law and other measures (such as sector regulations) sufficient?**

We are not aware of widespread customer protection issues in the EV charging sector at present. While it will be important to remain vigilant should that change we caution against pre-emptive interventions based on poorly defined / evidenced issues.

As part of the work that Energy UK led for the EV Energy Taskforce we recommended a full review of customer protections in the EV charging sector. While various organisations have done work and have insights, there is overall a poor understanding with little robust evidence on the true nature of customer protections in the sector. This would therefore be a useful piece of work to undertake, for instance by Ofgem, and keep up-to-date as the sector evolves. This will enable appropriate actions to be taken swiftly as and when necessary, based on robust rather than anecdotal evidence.

**8. What, if any, open data measures are needed to support consumer interaction, such as through the growth of comparison sites and apps?**

Access to data on public chargepoints will be important to help consumers understand where they can charge and what their options are. We would point to Government's existing work on data for EV charging where this has been examined in some detail, including through detailed engagement with chargepoint operators. We would also point to the work of the Energy Data Taskforce.

Comparison sites and apps are emerging however we would again highlight that this is a nascent sector. These services are emerging and will grow as demand for information grows. Consumer pull will be an important force to encourage providers to offer accessible and useful information on EV charging options. Providing that there are low barriers to entry then consumers will be able to vote with their feet and effective comparison tools will be developed.

**9. What else is required to help ensure that the EV charging sector develops in a way that is responsive to consumer needs?**

Competition is the single most important factor to ensure that we have a responsive, consumer-focused EV charging sector.

The Government programmes and policies in progress are largely addressing the key barriers to effective competition in the EV charging sector already and the CMA will be aware that a consultation is expected shortly on the consumer experience of public charging. We would therefore caution against intervening in what is a rapidly growing, innovative and competitive sector as even well-meaning actions can have unintended consequences.