



Department
for Transport

Government response to the CMA's Electric vehicle charging market study

The government's response to the Competition and Markets Authority's (CMA) market study into electric vehicle charging in the UK.

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Contents

Executive summary	4
1. Introduction	7
Summary of the Competition and Markets Authority's findings	7
2. Response to Competition and Markets Authority recommendations	9
1: An ambitious national UK strategy for roll-out to 2030.	9
2: Ofgem / Uregni should use forthcoming price control reviews to strengthen DNO incentives to speed up electric vehicle charging grid connections, invest strategically in network reinforcement and lower new connection charges by removing the charge for any reinforcement costs.	10
3: Roll out the Rapid Charging Fund (RCF) quickly and use it to open competition.	11
4: Target gaps in commercial provision of on-route charging in remote areas.	12
5: Local Authorities take a more active role in planning and managing roll-out to maximise competition.	13
6: Equip and incentivise Local Authorities e.g. funding for expertise, a statutory duty	13
7: Set open data and software standards for home chargepoints.	14
8: Ensure charging becomes as simple as filling up as petrol or diesel, with a public body overseeing this.	15

Executive summary

1. We welcome the Competition and Markets Authority's report on electric vehicle charging infrastructure, *Electric vehicle charging market study: a final report*ⁱ, published in July 2021. We share the Competition and Markets Authority's commitment to ensuring the rollout of a comprehensive and competitive electric vehicle charging network which people can trust and feel confident in using, wherever they live in the UK. This is essential to our commitment to phasing out the sale of new petrol cars and vans by 2030. Since 2020, we have committed nearly £2.5 billion to support the electric vehicle infrastructure the country needs and reduce the up-front cost of new electric vehicles.
2. There has already been good progress in the rollout of electric vehicle charging infrastructure. Private domestic charging is flourishing. The Government has helped install around 200,000 domestic charging devices since 2013ⁱⁱ. Whilst at an earlier stage, there is also growing momentum in the public charging network. Over the past decade, the UK chargepoint market has matured beyond recognition and it is now one of the leading public charging networks in Europe. The number of public chargepoints has grown four-fold over the last five years. As of January 2022, there are around 29,600 public chargepoints across the country, including over 5,400 rapid chargersⁱⁱⁱ. On average, over 600 new chargers are being added to the UK's roads each month, of which over 100 are rapid. A driver is never more than 25 miles away from a rapid chargepoint anywhere along England's motorways and A roads.
3. We agree with the Competition and Markets Authority that more needs to be done to accelerate the pace of rollout across the country, to increase competition in some parts of the market, and to make the charging experience simpler for consumers. The scale of the challenge is significant. The Competition and Markets Authority report highlighted forecasts that at least 280,000 to 480,000 public chargepoints will be required by 2030. Our analysis suggests the range to be around a minimum of 300,000 to around 700,000, to achieve our ambitious carbon targets. This assumes that the ratio of public chargepoints to battery electric vehicles without off-street parking access is between 1:4, and 1:9^{iv}. Our range reflects the uncertainty around charging behaviour, mileage and changing preferences. It is essential that our approach reflects this range – we must continue to encourage innovation and be able to respond to evolving charging needs and behaviours.

4. In its report, the Competition and Markets Authority make eight recommendations. We agree with all those directed at the UK Government.
5. The recommendations cover:
6. how to develop a competitive sector while also attracting private investment to help the sector grow
 - meeting the scale of the overall challenge by delivering an ambitious national strategy and ensuring the electricity system supports roll-out
 - unlocking competition along motorways and targeting funding at gaps in remote areas
 - boosting investment and maximising competition in on-street charging making it easier for people to charge EVs.
7. We are publishing this response alongside our electric vehicle charging infrastructure strategy. In the strategy we set out our approach to ensuring that the market, supported by targeted government action, is equipped to meet the challenge. We focus on the importance of accelerating the rollout of public charging, and how increased leadership from local authorities will be crucial to achieve this. We also set out how we will support local authorities in this, and how we expect other key stakeholders to work with them. We are committed to ensuring no part of the country gets left behind, however remote the area. We will be monitoring the deployment closely and be ready to intervene where necessary.
8. We will be working with local authorities to foster increased competition in on-street charging. As part of the recently announced additional £620 million for electric vehicle transition, we will particularly focus on local on-street residential charging. To ensure that every area of country has the charging infrastructure it needs at a local level, Government has committed at least £500m to support local authorities to plan and deliver local public charging infrastructure, including through the £450m Local EV Infrastructure (LEVI) fund. This includes up to £50m to fund the staff needed in local authorities and the supporting knowledge and tools to help them succeed. As a first step, we are announcing the launch of a £10 million pilot for the LEVI fund to inform the design of the full fund. We will work closely with local authorities to target the funding, leverage significant private sector investment, and deliver a fair and equitable transition no matter where people live.
9. We are also prioritising the rollout of high powered chargepoints across the country. The £950 million Rapid Charging Fund will support the rollout of at least 6,000 high powered chargepoints across England's motorways and major A-roads by 2035, by enabling electricity network infrastructure to be installed well ahead of need. We have consulted on introducing minimum chargepoint requirements at motorway service areas, to address both actual and perceived demand. We will publish a consultation on the design of the fund and launch some pathfinder projects in due course, ahead of the full fund opening.
10. Alongside our new strategy, we are bringing forward legislation to make it easier to charge electric vehicles on the public network. This will set out our approach to opening up data, improving reliability and transparency on the public network, and making it easier for people to pay for their charge. We expect to bring in supporting

legislation soon after. We also introduced regulations in October to mandate that private (domestic and workplace) chargepoints sold in Great Britain must be smart and meet minimum device-level standards. We consulted on potential further measures to ensure all consumers can charge their vehicles safely and easily through the Future of Transport Regulatory Review. The consultation closed on 22 November and we are currently reviewing responses.

1. Introduction

The Competition and Markets Authority launched a market study into the UK's electric vehicle charging sector in December 2020. The study had two main themes:

- how to develop a competitive sector while also attracting private investment to help the sector grow
- how to ensure people using electric vehicle chargepoints have confidence that they can get the best out of the service.

The Competition and Markets Authority published a report setting out their findings and recommendations in July 2021. Based on this report they opened a competition law investigation into the supply of electric vehicle chargepoints on or near motorways. In March 2022, they published^v their decision to accept binding commitments in this case offered by Gridserve Holdings Limited, MOTO Holdings Limited, Roadchef Limited and Extra MSA Property (UK) Limited, to address competition concerns^{vi}. This is outside the scope of this response.

In this response, we set out (1) our position on the recommendations, (2) explanations for that position and, (3) what the Government plans on doing next.

Summary of the Competition and Markets Authority's findings

There is a need for a mix of different types of charging across the UK.

Some parts of the sector are developing relatively well: e.g. rapid charging at destinations; home charging and workplace charging.

Others need more intervention to unlock investment and competition, particularly on rapid charging along motorways, remote locations, and on-street. Among their concerns, the Competition and Markets Authority raised:

- there is very limited competition along the motorways with constraints on electricity grid capacity and long-term exclusive contracts risks which prevent new entry. The Competition and Markets Authority recognised the Rapid Charging Fund as an opportunity to open up competition on these sites;
- the weak commercial case for investment in remote areas risks them being left behind;

- a risk of very slow rollout of on-street charging and local monopolies arising. The Competition and Markets Authority found local authorities to have a crucial role in addressing this but needed further support themselves.

They also identified ways in which people's experience of using the public charging network could and should be improved, particularly in relation to locating working chargepoints, comparing costs and payment methods. The Competition and Markets Authority also outlined potential future risks in relation to bundling and subscriptions as these become more common.

2. Response to Competition and Markets Authority recommendations

1: An ambitious national UK strategy for roll-out to 2030.

We agree with this recommendation. We are publishing this response to the Competition and Markets Authority alongside our electric vehicle infrastructure strategy. The strategy sets out our vision and action plan for the UK's charging infrastructure to support an accelerated transition to electric vehicles. It recognises the significant progress made in the market to date, but also the scale and pace of progress needed to ensure that the provision of charging infrastructure enables the uptake of electric vehicles over the coming years.

The infrastructure strategy outlines our policies and funding schemes to support the accelerated expansion of the charging infrastructure network and to build in competition. We recognise that there is an important role for government in supporting parts of the market where the commercial case for investment is weaker, such as on-street and for on-route charging on major roads. We are considering how to ensure our grants and funding schemes remain targeted to ensure no area gets left behind in the transition.

We share the Competition and Markets Authority's view that local government has a critical role to play in ensuring successful rollout of local charging infrastructure. We expect local highway authorities (and local councils in Northern Ireland) to take a leading role in determining the best strategic approach for chargepoint deployment in their area, to ensure all their residents can charge easily. On top of the existing grants and funding support, Government announced a further £620 million towards the electric vehicle transition as part of its Net Zero Strategy. This will have a particular focus on local on-street residential charging and plug-in vehicle grants. Combined with funding from the 2020 spending review, Government has committed £500 million to support local authorities to plan and deliver local public charging infrastructure, including through the £450m Local Electric Vehicle Infrastructure (LEVI) fund. This includes up to £50m to fund the resources needed in local authorities and the supporting knowledge and tools to help them succeed. During 2022, we will deliver a £10 million pilot of the LEVI fund to provide an early opportunity for local authorities to scale up their local charging provision and maximise the potential for private sector finance. We will use this to strengthen our support to local authorities procuring chargepoint deployment.

In addition, we will provide support and guidance to local authorities across the country to enable them to step up to this role, including training, tools, and knowledge sharing. We will help local authorities to negotiate good commercial terms, ensuring that our funding schemes provide good value for money in levelling up chargepoint provision. We will continue to support local authorities through the Local Government Support Programme. We are producing new technical guidance with the Institute of Engineering and Technology for local authorities^{vii} and we are launching a local government knowledge hub on gov.uk to make information easy to access. We will also continue to work with industry to improve training and skills in chargepoint installation and maintenance.

We agree that monitoring the roll-out will be increasingly important to understand where charging infrastructure needs to be deployed at pace, and where further intervention / support may be required. The infrastructure strategy describes how we will track progress and identify gaps in the roll-out of infrastructure, including details of the metrics we are developing to monitor chargepoint provision across the country. Government is prepared to intervene should the market not deliver infrastructure at the pace needed.

We are committed to working with the Devolved Administrations to ensure that a consistent approach is taken wherever possible. We have engaged with the Scottish and Welsh Governments as they have developed their own strategies for electric vehicle infrastructure rollout and will continue to engage with Northern Ireland as they consider their own approach. We want to ensure that the UK continues to host a world-leading charging infrastructure network to support the decarbonisation of road transport and promote connectivity across the UK.

2: Ofgem / Uregni should use forthcoming price control reviews to strengthen DNO incentives to speed up electric vehicle charging grid connections, invest strategically in network reinforcement and lower new connection charges by removing the charge for any reinforcement costs.

As energy is a devolved matter for Northern Ireland, our response is in respect to the GB energy market. We agree that network operators (Distribution Network Operators (DNOs) and transmission operators where appropriate) should be incentivised to provide efficient connections and should work collaboratively with local government to inform strategic investment in the electricity sector. We outline further thinking on this in our electric vehicle infrastructure strategy.

This recommendation is primarily for Ofgem to consider, but we will work with them to support their actions in this area, as set out in the Infrastructure Strategy. Ofgem recently published “Enabling the transition to electric vehicles: the regulator’s priorities for a green, fair future”^{viii}, which includes key actions for ensuring the electricity network is prepared for electric vehicle adoption and reducing barriers to network connections. The report also focuses on the priority of using smart charging to allow electric vehicles to provide

flexibility to the grid, addressed below under Recommendation 7. We welcome Ofgem's priorities, and we support the approach they have set out.

Ofgem is working to create a regulatory environment that allows network companies to invest strategically ahead of need, at least cost to consumers. Ofgem is clear that the next distribution price control, RII0 ED2, will 'support strategic investment to deliver net zero emissions targets, ensuring companies can increase capacity to support growing demand, for example providing more charge points ahead of an anticipated uptick in electric vehicle use, with appropriate protections in place for consumers'^{ix}.

As part of its Access and Forward-Looking Charging Significant Code review^x, Ofgem is considering reforms to the current charging regime. Currently, connection customers pay for a portion of any network reinforcement triggered by the new connection. Ofgem is minded to reduce barriers to network connection (such as electric vehicle chargepoints) by removing or reducing the proportion of the cost paid for by the connection consumer for the reinforcement of shared networks. Under these reforms, from 2023, the costs of network reinforcement will be spread more fairly over a wider customer base and over time, through ongoing use of system charges. The Government supports this proposal.

3: Roll out the Rapid Charging Fund (RCF) quickly and use it to open competition.

The Rapid Charging Fund (RCF) is a £950 million Government project that aims to ensure every motorway service area (MSA) and major A road service area in England has the grid capacity it needs to support the growth in electric vehicles to 2035. Installing the level of infrastructure required to meet 100% electric vehicle take up will take time, so it is important that we begin ahead of customer demand. Motorway service areas on the strategic road network have been targeted by the Rapid Charging Fund due to range anxiety being recognised as a key barrier to a first electric vehicle purchase. The fund will support private investment at strategic locations where electrical connection is expensive and not commercially viable, and the rollout of at least 6,000 high powered chargepoints across England's motorways and major A-roads by 2035.

The Rapid Charging Fund will be rolled out as quickly as possible. We have consulted on increasing minimum chargepoint requirements at motorway service areas, to address both actual and perceived demand. We will publish a consultation on the design of the fund and launch some pathfinder projects in due course, ahead of the full fund opening.

We agree that competition is an important factor in the development of the Rapid Charging Fund. It provides an opportunity to open up the market at motorway service areas as well as increasing choice of charging infrastructure available to drivers. The roll out of rapid charging is an opportunity to remove range anxiety and support long journeys for electric vehicle drivers across the road network and competition at sites will ensure the best experience for consumers. The Rapid Charging Fund will provide connections to future proof sites on the strategic road network ready for a competitive chargepoint market. The Rapid Charging Fund connections will only be open to chargepoint operators with open networks that are interoperable with all electric vehicles.

We are actively considering the principles for allocating RCF funding. These could include a requirement on applicants to ensure there is fair competition between chargepoint operators at each motorway service area site and that there is an open tender process for chargepoint service contracts to make use of Rapid Charging Fund funding. We will continue to work with the Competition and Markets Authority to inform the development of the Rapid Charging Fund.

4: Target gaps in commercial provision of on-route charging in remote areas.

We agree with this recommendation which reflects the risk of some areas being left behind. We recognise the concerns around difficulties in attracting private investment in areas of lower usage, such as remote rural areas. We are considering how to ensure our grants and funding schemes collectively provide support where it is most needed, including in remote areas. The Government has an ambitious set of funding schemes in place. Three schemes that will help to address potential gaps are the Rapid Charging Fund (RCF), the On-Street Residential Chargepoint Scheme (ORCS) and the forthcoming Local EV Infrastructure Fund.

The Rapid Charging Fund aims to future-proof electrical grid capacity at every motorway service area and major A road service area across England. Other funding is available through the On-Street Residential Chargepoint Scheme (ORCS) and the Local EV Infrastructure Fund to support the rollout of public chargepoints outside of the motorway network. These funds will also help to ensure that more remote locations are future proofed. Government recently announced further funding to support local on-street charging infrastructure as part of the Net Zero Strategy (see response to recommendation 1).

The On-Street Residential Chargepoint Scheme is available to all UK local authorities to provide public charging infrastructure for their residents without access to off-street parking. Rural local authorities have benefitted from the scheme in previous years. We will continue to work closely with Energy Saving Trust, who administer the scheme, to encourage more rural local authorities to take advantage of this funding. The Local EV Infrastructure Fund will be open to all local authorities in England to develop local charging infrastructure that will be most appropriate for their residents. This could include the provision of infrastructure in remote areas, including chargepoints to support seasonal demand from tourism.

For the Rapid Charging Fund and the Local EV Infrastructure Fund, the Government will continue its data-focused and metric-orientated approach. By using metrics, we can determine where any additional areas of improvement are needed for deployment in remote areas.

5: Local Authorities take a more active role in planning and managing roll-out to maximise competition.

We agree with this recommendation. Good provision of on-street charging and other local electric vehicle charging will require active, and substantially increased, involvement from local authorities. To date, local authority engagement in electric vehicle charging infrastructure has varied significantly. Our strategy sets out our expectations for the roles and responsibilities for all local authorities (and other stakeholders) to support the roll-out of electric vehicle infrastructure. This sets the baseline for what local authorities should be doing as a minimum to ensure that their residents and communities have access to the necessary charging infrastructure. This includes developing local strategies for electric vehicle infrastructure.

We expect combined authorities and local highway authorities in England to develop local electric vehicle chargepoint strategies as an immediate priority, setting out how they will meet local charging needs at scale. We would also encourage local highway authorities in Scotland and Wales to develop local strategies, which reflect the priorities set out in the devolved administrations' own charging infrastructure strategies. In Northern Ireland, we envisage local councils being best placed to take on this role. The strategies should set out how they will meet local charging needs at scale and over time and, where possible, ahead of need and local leaders should ensure clear ownership and resourcing of delivery of EV infrastructure.

We also want local authorities to work closely with other energy and transport stakeholders. Information should be transparent between various stakeholders, enabling all local players to target any gaps in provision of local charging, and fostering competition at the local level.

We recognise that there will be variation in the approaches across local authorities given different local population needs. However, as we make clear in our strategy, local authorities need to consider how best to maximise competition in their area to ensure that their residents can access competitively priced charging and avoid locking in local monopolies. It is crucial that local authorities consider the implications of their procurement and contracting to enable fair competition and flexibility.

6: Equip and incentivise Local Authorities e.g. funding for expertise, a statutory duty

We agree that local authorities need to be equipped and incentivised to take an active role in local chargepoint deployment. They are essential, particularly in the planning of residential charging for people without off-street parking. They will need to work closely with other local stakeholders and electricity network operators to ensure that these plans are aligned with wider local transport and energy plans. This must be matched with support to develop their internal resource, capacity, and expertise.

We will provide £50 million to fund local delivery support across the country, including training, tools, and knowledge sharing. We will help local authorities to negotiate good

commercial terms, ensuring that our funding schemes provide good value for money in levelling up chargepoint provision. We have made funding available for sub-national transport bodies (in England) in 2021-22 to produce regional assessments to support energy system stakeholders and local authorities in planning infrastructure provision. We expect these assessments to be in place by the end of 2022.

We are also developing practical guidance with the Institute of Engineering & Technology (IET) for local authorities. This will cover the entire process, from procurement and installation through to operation. This will support local authorities in their decision making, helping them to consider key factors to promote competition, such as contract length and award process, and contract management (as highlighted by the Competition and Markets Authority).

We will continue to facilitate sharing of best practices between local authorities to improve awareness, understanding, and engagement with competitive approaches. We are launching a £10 million pilot of the Local EV Infrastructure Fund to test delivery mechanisms and business models in different areas and provide key learnings that will inform the full launch of the fund.

In addition to the expanded Local EV Infrastructure Fund, we will continue to provide funding support for the installation of local chargepoints through the On-Street Residential Chargepoint Scheme (ORCS). This provides government funding for on-street charging installations. In February 2021, the Secretary of State for Transport wrote to the Chief Executive Officers of all UK local authorities to raise awareness of the funding available through the On-Street Residential Chargepoint Scheme. Energy Saving Trust administer the scheme on our behalf, which includes holding regular webinar programmes for local authorities, including specific sessions for those in the devolved nations.

As part of our continued monitoring, we will track the progress of local authorities, and seek the appropriate means to provide targeted support to those which fall behind in the deployment of charging infrastructure. We have also consulted on whether there should be a statutory duty on local authorities to plan and/or provide local infrastructure in future. We are considering this as part of our wider Future of Transport Regulatory Review. The consultation for this closed on 22nd November 2021 and we are currently reviewing responses^{xi}.

7: Set open data and software standards for home chargepoints.

We welcome the Competition and Market Authority's support for our work to maximise the opportunities for a more flexible, efficient electricity system offered by smart charging. Smart charging will help reduce the need for new generation and network reinforcement to meet electric vehicle demand, whilst saving consumers money on their energy bills.

Last year we legislated to mandate that private (domestic and workplace) chargepoints sold in Great Britain must be smart and meet minimum device-level standards. This will help protect the energy system and consumers by setting minimum standards chargepoints must meet on issues including cyber security and grid stability.

We recognise that this device-level legislation is just a first step in unlocking the benefits of smart charging and driving consumer confidence in the technology. Further regulation, including potential standardisation, is needed to meet Government's policy objectives in this area. As outlined in our July 2021 smart charging consultation response, we will consult on an appropriate regulatory approach for this next phase in 2022. This next phase of regulation will take a more holistic look across a broad range of smart devices and systems, beyond electric vehicle smart chargepoints alone.

On home chargepoint data, we agree that wider sharing of such data could help facilitate the transition to a smarter energy system and support the electric vehicle transition more broadly. For example, we think electricity network operators could benefit from increased access to chargepoint data to help them plan investments in the network and to anticipate changes in demand. Greater visibility of chargepoint data may also help third parties to develop innovative flexibility services for consumers, allowing them to maximise the benefits of smart charging more easily. Data visibility will also enable competition between third parties, which will lead to more smart charging options for consumers to choose from. However, any increase in visibility must also be balanced against the need to protect consumer privacy.

The Government has powers under Section 14 of the Automated and Electric Vehicles Act to require that data from chargepoints is shared with other parties. In the 2021 smart charging consultation response, Government committed to undertaking further work to explore whether these powers should be used to improve the visibility of private electric vehicle chargepoint data for network operators and other third parties, following a call for evidence in 2019.

8: Ensure charging becomes as simple as filling up as petrol or diesel, with a public body overseeing this.

We agree with this recommendation. Charging should be a seamless experience for consumers. In the past five years, the number of public chargepoints has quadrupled. However, chargepoints can sometimes be difficult to find and may turn out to be in use or broken when a driver reaches them. These issues matter not just because current electric vehicle drivers can experience unacceptably poor service, but because they deter others from switching to an electric vehicle by contributing to 'range anxiety'.

The Competition and Markets Authority set out four principles for Government to consider to create a sector in which people can trust:

1. It is easy to find working chargepoints for example, people can access open data on live availability and working status and rely on minimum reliability standards
2. It is simple and quick to pay for example, no sign-ups needed, contactless bank account payment is widely available and charging networks keep up with payment technology
3. The cost of charging is clear for example, prices are presented in a simple standardised pence-per-kilowatt hour format

4. Charging is accessible and interoperable for example, all chargepoints can be used by all drivers, are not limited to a single brand of car, and follow inclusive design principles

These are consistent with the principles we set out when we consulted on measures to improve the consumer experience at public chargepoints:

- Consumers should be able to pay using a common payment method across the public charging network which should be easy to understand.
- Consumers and fleets should not have to download an app each time they reach a new chargepoint operator.
- Consumers should be able to easily locate a chargepoint that suits their needs.
- Consumers should be able to rely on the UK public charging network.
- Consumers should be able to understand the pricing offer to charge and be able to compare costs across the charging network. Prices should always be shown in p/kWh, including providing p/kWh equivalent prices for any subscriptions or bundles.

We are currently preparing the government's response with a view to publishing our final policies later in spring 2022. We intend to bring forward supporting regulations this year, as soon as possible after publishing our response. As recommended by the Competition and Markets Authority, these regulations will be overseen by a public body responsible for overseeing and monitoring industry's actions in line with our requirements. We are considering who is most appropriate at this stage of the market's development.

We recognise that there are emerging issues that may negatively affect electric vehicle consumers and that may require future intervention. We expect to review our approach by 2023 and decide at this point whether we need to change the regulatory framework further. In anticipation, we consulted through the [Future of Transport Regulatory Review consultation](#), on proposals to ensure adequate rights to redress when using public chargepoints, to promote inclusive chargepoint design so that everyone can safely and easily charge their vehicle. We will monitor whether a public body should have increased regulatory oversight of the consumer experience when using electric vehicle charging infrastructure. For example, the Competition and Markets Authority expressed some concerns about the potential implications of subscriptions and bundling models. We will continue to monitor these to ensure they bring benefits to consumers rather than problems. We will continue to review how the market develops and will be prepared to adjust any future regulations accordingly.

ⁱ <https://www.gov.uk/government/publications/electric-vehicle-charging-market-study-final-report>

ⁱⁱ <https://www.gov.uk/government/statistics/electric-vehicle-charging-device-grant-scheme-statistics-july-2021/electric-vehicle-charging-device-grant-scheme-statistics-july-2021>

ⁱⁱⁱ DfT (2022). Charging Device Statistics. Available at: <https://www.gov.uk/government/statistics/developing-faster-indicators-of-transport-activity>

^{iv} These ratios are a rough approximation of infrastructure provision levels. In addition to public chargepoints, some EV drivers without access to off-street parking will have access to workplace chargepoints, which represents a significant charging category. It is also assumed that a small portion of demand from drivers with access to off street parking is also met by public charging.

^v <https://www.gov.uk/government/news/cma-unlocks-electric-vehicle-charging-competition-for-motorway-drivers>

^{vi} <https://www.gov.uk/cma-cases/investigation-into-the-supply-of-electric-vehicle-chargepoints-on-or-near-motorways#consultation-on-commitments>

^{vii} <https://electrical.theiet.org/get-involved/consultations/electric-vehicle-charging-infrastructure-guide-for-local-authorities/>

^{viii} <https://www.ofgem.gov.uk/publications/electric-vehicles-ofgems-priorities-green-fair-future>

^{ix} Ofgem, Ofgem confirms approach to boosting green and smart investment in local grids (Dec 2020)
Available at: <https://www.ofgem.gov.uk/publications/ofgem-confirms-approach-boosting-green-and-smart-investment-local-grids>

^x Ofgem (2021) <https://www.ofgem.gov.uk/publications/access-and-forward-looking-charges-significant-code-review-consultation-minded-positions>

^{xi} <https://www.gov.uk/government/consultations/future-of-transport-regulatory-review-zero-emission-vehicles/future-of-transport-regulatory-review-zero-emission-vehicles>