

## Insights

# EV CHARGING INFRASTRUCTURE – PROGRESS AND CHALLENGES

DIGITAL SPEAKS SERIES

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The *EV infrastructure* roll out to meet the government's 2030 target of ending sales of all new petrol and diesel cars is well underway with the private sector rolling out digital charging "at pace".

At the end of March, the government published plans to supercharge progress (more on this below) with promises to do more to encourage private investment so activity in what is already a thriving sector looks likely to intensify.

With this in mind, we thought it would be interesting to look at some common queries we receive from clients already active in this sector.

The questions span a range of legal disciplines and so this week, in the first of our blogs on this topic, we'll start by focusing on some of the general questions we are asked.

In the next blogs in the series, we will look at questions that regularly come up in the context of landlord and tenant relations, construction, projects and planning.

## QUESTION: HOW IS THE GOVERNMENT SUPPORTING THE ROLL OUT OF MORE EV CHARGING POINTS?

On 28 March 2022, the government released its *EV infrastructure strategy*, which underpins its strategy to introduce targets for sales of 'clean' vehicles from 2024 and *end sales of new petrol and diesel cars* by 2030. This strategy provides a detailed overview of what the government is already doing to support the EV roll out and also details the future measures it plans to undertake to ensure it meets the 2030 deadline.

### MORE CHARGE POINTS ARE REQUIRED TO MEET THE 2030 DEADLINE

The government estimates that there will be a need for around 300,000 public charging points (as a minimum) by 2030 (although the *Competition and Markets Authority (CMA) report* suggests forecasts of between 280,000 – 480,000 public charging points will be required).

According to government figures, there are currently around 29,600 public charging points across the country, including over 5,400 rapid charging points. On average, over 600 new chargers are being added to the UK's roads each month, of which over 100 are rapid. Statistics show that 190,000 battery-powered electric vehicles (EVs) were sold in the UK in 2021 (more than the five previous years combined, and nearly 1 in 8 of all new cars sold). Overall, it is understood that about 300,000 ultra-low emission vehicles have been registered in the UK to date.

## KEY NEW MEASURES TO INCREASE CHARGEPOINT ROLL OUT

Key measures include:

- The creation of a £1.5 billion fund to support the transition to EVs, comprising £500 million to support local authorities to plan and deliver local public charging infrastructure, including through the £450m Local EV Infrastructure (LEVI) fund.
- The creation of a £950 million Rapid Charging Fund (RCF) to support the rollout of at least 6,000 high powered charging points across England's motorways and major A-roads by 2035, by enabling electricity network infrastructure to be installed to support motorists who need to charge their vehicles away from home. This is intended to leverage private sector investment to deliver charging points on major travel routes.
- There has been a government *consultation* on minimum charging points requirements at motorway service stations and in all new buildings, resulting in *new requirements* for charging points applicable from later this year, *regulations on minimum standards for private chargepoints* sold in Great Britain from June 2022, coupled with a *consultation* on increased interoperability of and improving consumer experience of charging vehicles at, public charge points.
- Introduction of the EV chargepoint grant that provides funding of up to 75% towards the cost of installing electric vehicle smart chargepoints at domestic properties across the UK. It replaces the Electric Vehicle Homecharge Scheme (EVHS) from 1 April 2022.

## BUT CHALLENGES REMAIN...

While the *Alternative Fuels and Infrastructure Directive* (AFID), as implemented in the UK in 2018, ensured that all new charging points must offer "ad-hoc" access (backed up by £1,000 penalties per non-compliant chargepoint), EV owners still face a range of obstacles to accessing and using public EV networks. These include:

### *Accessibility and interoperability issues*

- The need to install an app to pay (rather than being able to use a contactless card).
- Not all charging networks are accessible to consumers.

- Customers have to sign up with different operators and/or electricity mobility service providers for full, roaming access to public charging points, with some chargepoint providers even locking drivers into particular chargepoint arrangements.

The holy grail of universal access to all public charging points will require much greater interoperability between charging point operator systems and mobility service providers. How far the government is intending to go to support this aim remains to be seen – we are monitoring the outcome of the latest government consultation.

## **Network connectivity issues**

Reports from the RAC Foundation and the EV Energy Taskforce highlight the impact that uneven network connectivity across the UK has on a driver's ability to access public charging points.

These reports indicate that more than 20% of A and B roads in 22 local authorities were affected by poor mobile signal, affecting the ability of a driver to charge a car (remote areas of Britain are most affected with 56% of Argyll and Bute, in Scotland, lacking sufficient connectivity for reliable charging, while Richmondshire in North Yorkshire has connectivity issues on 28% of its roads).

While wireless connection technologies using 4G, LTE and mobile networking require no additional cables and can be added to, or integrated into, EV charging points (at far lower cost than fixed-line connections), these are dependent on cellular network connectivity that may be limited in some areas, particularly rural locations.

So big strategic questions still remain as government and industry consider who will provide the communication infrastructure, who will perform the necessary system integration, and ultimately who will bear the cost of it.

## **Unequal distribution of charging points**

There is also regional inequality of distribution of charging points.

The CMA response to the government consultation stated that there needs to be a suitable mix of different types of charging spread across the UK, to encourage EV take-up and commented on the existing postcode lottery affecting access to suitable charging. It noted that, outside London, there are only 1,000 on-street chargers (out of 5,700). Some areas are at risk of getting left behind – for example, the number of total chargepoints per head in Yorkshire and the Humber is a quarter of those in London.

## **QUESTION: WHAT COMMERCIAL ISSUES ARISE IN THE CONTEXT OF EV CHARGING POINTS?**

The funding and deployment of EV charging points raise interesting commercial issues.

## FUNDING THE CHARGE POINTS

For site owners now subject to the new regulations on minimum standards for private charge points (discussed above), consideration will inevitably turn to the funding of the necessary charging points.

We have worked with clients assessing different funding models, with some site owners opting to pay a management fee to a chargepoint operator rather than funding the purchase of the charging infrastructure outright.

Developers now obliged to meet new government requirements prescribing the number of charging points will therefore need to consider if they will fund the significant capital expenditure involved or will require the supplier to make the investment, in return for management fees. We have also seen some property owners obtain sponsorship for their onsite charging facilities, which may be an option to explore for certain locations.

## FOSTERING COMPETITION BETWEEN PROVIDERS VS PRIVATE SECTOR INVESTMENT

The policy to foster competition between providers while also encouraging private sector investment has also had an impact on the EV charging sector.

In consequence, the CMA launched a market study into the EV sector as a whole in 2020, *issuing a report* in July 2021.

Subsequently, it has obtained firm commitments from a major chargepoint operator in Great Britain (Gridserve, owner of The Electric Highway) not to enforce exclusive rights:

- in contracts with Extra, MOTO or Roadchef, after November 2026, which currently cover around two-thirds of motorway service areas in the UK (this reduces the length of the exclusive rights in the current contracts with MOTO by around two years and Roadchef by around four years, with the contract with the third operator, Extra due to end in 2026); and
- at any Extra, MOTO or Roadchef sites that are granted funding under the government's RCF.

This means that, in such cases, competitor chargepoint operators will be allowed to install charge points regardless of the exclusivity provisions in The Electric Highway's contracts. These commitments aim to strike a balance between encouraging investment in the roll out of charging infrastructure without creating barriers to new market entrants.

They must also be seen in the context of the government's RCF, which is specifically intended to encourage the installation of charge points at motorway service areas, but it is expected to only be available for sites with more than one chargepoint operator. Without the commitments, Gridserve would have retained exclusivity at the vast majority of motorway service areas and wide take-up of the RCF would not have been possible.

## SEMICONDUCTOR ISSUES REMAIN

The continuing semiconductor supply chain issues we have seen since the onset of COVID affecting manufacture of EV may also impact faster roll out of more EV charging points, as most charging points also rely on semiconductor technology.

## SHARING OF PERSONAL DATA

It is also clear that, particularly with the push to ensure interoperability and better overall user experience, more personal data will inevitably be shared across charging networks. This is most likely to consist of data relating to a charging session (location, duration, start and end time) that could be used to pinpoint a driver's location and daily routine with a great degree of accuracy.

Systems integration will therefore require suitable protections to be built into charging networks to protect user personal data. Site owners must therefore consider how drivers' personal data should be collected, shared and protected in compliance with data privacy laws.

Significant amounts of non-personal data will also be collected (such as energy dispensed, charging port ID number, total fees associated with each charging session, pricing policy applied, power cycle patterns, current and voltage) and there is a tension between sharing this between chargepoint operators and risking economic and competitive disadvantage to users.

EU moves to encourage increased sharing of industrial and non personal data (set out in the proposed EU Data Act) may force these data sets to be made available to all market players – at present there are no UK initiatives to replicate the EU's Data Act, but we may see sector-driven data sharing initiatives in the UK.

The government's *EV Infrastructure Strategy* foresees new legislation being published in summer 2022 to improve user experience of public chargepoints, as part of which, government will work with industry to open data so that drivers can access real time information about chargepoints across the public network, rely on the public charging network, compare prices and can pay for their charging easily, whoever the chargepoint provider, as well as introducing payment roaming across the public chargepoint network.

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## RELATED CAPABILITIES

- Electric Vehicles & Charging Infrastructure

## MEET THE TEAM



**Marcus Pearl**

London

[marcus.pearl@bclplaw.com](mailto:marcus.pearl@bclplaw.com)

+44 (0) 20 3400 4757



**Richard Shaw**

London

[richard.shaw@bclplaw.com](mailto:richard.shaw@bclplaw.com)

+44 (0) 20 3400 4154



**Anna Blest**

London

[anna.blest@bclplaw.com](mailto:anna.blest@bclplaw.com)

+44 (0) 20 3400 4475

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