



STRATEGY UPDATE:

Electric vehicle charging infrastructure

September 2023



Sector summary:

EV charging infrastructure

Government ambition

- > **Government has announced a ban on the sale of new petrol and diesel cars and vans from 2035**, which will drive an increase in the number of EVs on UK roads.
- > **The number of EV charge points across the UK needs to increase to meet future demand.** Government forecast a requirement of 300,000 public charge points by 2030 and over 800,000 public charge points by 2040. There are currently around 45,000 public charge points across the UK.

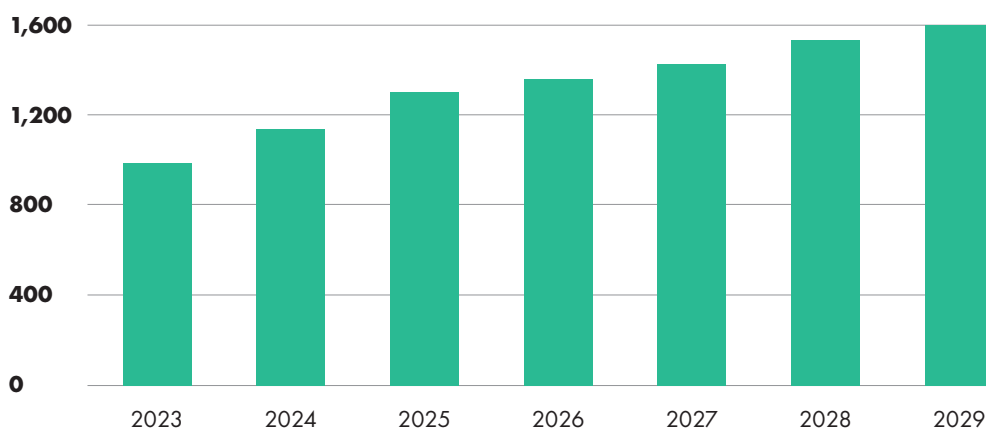
Government funding

Government grant funding programmes for public EV charging infrastructure include:

- > **£343 million Local EV Infrastructure Fund (LEVI)** – allocated to local authorities in England to spend on public charging.
- > **£950 million Rapid Charge Fund for grid upgrades** to facilitate rapid charging on the strategic road network.
- > **£30 million of Scottish Government funding via the Electric Vehicle Infrastructure Fund** for local authorities to deliver charging infrastructure.
- > **£39 million Ultra-low emission vehicle transformation fund** in Wales to deliver public charge points.

Grants for private charging (at home or workplace) are delivered through a variety of funds.

Investment need (£m)



Data note:

BloombergNEF forecast on UK EV charging investment. This is an overall investment requirement, without an assumption on the split between public and private finance.

Successfully transitioning away from internal combustion engine (ICE) vehicles towards electric vehicles (EVs) is a crucial part of the UK's Net Zero Strategy. We can play a role in accelerating the rollout of public charging infrastructure with our financing and through our local authority and our private financing functions.

In 2020, emissions from cars and vans accounted for 17% of the UK's total domestic greenhouse gas emissions.¹ The Climate Change Committee estimates surface transport greenhouse gas emissions need to fall by around 70% for the UK to achieve net zero. This requires 97% of passenger vehicle sales to be zero emission vehicles by 2030, up from 5% in 2020.²

From 2035, there will be a ban on the sale of new ICE cars and vans. This policy, together with reducing costs of owning and operating an EV has led to increasing numbers of EVs on UK roads. In July 2023 there were approximately 840,000 fully electric cars in the UK, compared to fewer than 100,000 in 2019.³

The build-out of public charging infrastructure has struggled to keep up with the rapid increase in the number of EVs. At present, there are approximately 45,000 public charge points in the UK.⁴ Over 300,000 public charge points will be needed by 2030, with over 800,000 needed by 2040.⁵ Not enough public charge points are being installed to meet this requirement. So far in 2023, an average of around 1,600 charge points have been installed per month compared to a forecast need of more than 3,250 per month.⁶

The slow build-out of public charging infrastructure will particularly affect adoption of EVs for households with no access to at-home charging, as they are reliant on the availability of public charge points.

A lack of public charging infrastructure could lead to a vicious circle whereby consumers only purchase an EV when there are sufficient public charge points; however, until there are enough EVs on the road there is insufficient demand for the rollout of a comprehensive network of charge points to be privately financed.

The EV charging market has several segments, each with its own financing challenges. The location and dwell time of vehicles govern the speed and type of charge points needed. Faster charge points are more costly for consumers because they are typically more expensive to buy and install. The market falls into two overarching categories:

- > **Private charging** includes at-home and workplace charging and is normally slower and cheaper for consumers. This type of charging is funded by households and businesses. We do not currently see a role for the Bank supporting private charging.
- > **Public charging** refers to charge points that are publicly available for any EV to use, including hub, on-street, destination, and en route charging, each of which performs a different function. Public charging will be the focus of our support for the sector.

¹ [Department for Transport, 'Transport and Environment Statistics 2022' \(2022\)](#)

² [Climate Change Committee, 'Sixth Carbon Budget' \(2020\)](#)





³ [ZapMap 'EV market stats' \(2023\)](#)

⁴ [Department for Transport, 'Electric vehicle charging device statistics: January 2023' \(2023\)](#)

⁵ [Department for Transport, 'UK electric vehicle infrastructure strategy' \(2022\)](#)

⁶ [ZapMap, 'Mid-year statistics for charge point installations' \(2023\)](#)

Breakdown of private markets for public EV charging market

	 En route charging	 Destination charging	 Public on-street residential charging	 Hub charging
Speed	Rapid to ultra-rapid (>50kW - >100kW)	Various, though typically slower than en route charging	Various, typically slower (<22kW)	Rapid and ultra-rapid (>50kW)
Location	Areas of high traffic volumes, such as motorway service stations and on the strategic road network.	Mixed, including retail centres, restaurants, leisure centres, tourism destinations, car parks and hotels.	Residential streets, in lampposts, by dedicated EV parking bays, via pop-up charge points	Dedicated purpose-built EV charging sites
Typical Use	Charge points for drivers to quickly charge their vehicles during longer-distance journeys in areas with high volumes of traffic	Charging while an EV owner is visiting a destination or location.	Publicly available residential charge points for EV owners who do not have access to their own off-street charging facilities.	A site with many charge points which EV owners visit specifically to charge their vehicle quickly.

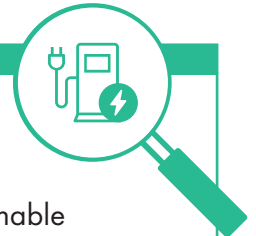
Local authorities

Local authorities have an important role in the provision of EV charge points. We are exploring ways to support this area of the market and are currently working with several local authorities to explore how we can support the financing and deployment of charging infrastructure in their local area.

The level of local authority involvement in charge point provision depends on local circumstances, for example, the nature of housing stock and whether it is in a rural or urban area. Some local authorities have adopted an “owner-operator” model, whereas others have adopted concession arrangements with commercial charge point operators.

The extent of local authority funding and intervention typically reflects the extent to which public charge points can be operated on a commercial basis or whether the local authority wants to secure provision of charge points for specific market segments, such as for residents without off-street parking or charge points for private hire vehicles, taxis, commercial vehicles and car clubs.

OUR ROLE SO FAR:



Gridserve

In July 2023, we provided £45 million in senior debt to support Gridserve, a sustainable electric vehicle charge point operator, with the roll-out of EV charging infrastructure across motorway service areas in the UK.

Our financing was part of a £300 million committed Capex facility to support investment in around 2,000 ultra-rapid (up to 350kW) charging points as part of Gridserve’s wider roll out to increase availability at motorway service areas nationwide. This represents the largest debt raise for a privately-owned charge point operator.

Our early participation and willingness to do a larger ticket size than £45 million was an important signal of confidence to the market and helped reduce execution risk for Gridserve, supporting the crowding in of an unprecedented quantum of private finance for the sector.



Problems we want to address

Demand risk

A critical number of EVs are required to support a commercially viable EV charging market. There remains uncertainty around the speed and location of future EV take-up, and how consumer behaviour will develop when it comes to owning an EV. Historic data is limited given the nascency of the sector. This makes accurately forecasting demand for charging infrastructure difficult, and hence the commercial viability and return on upfront capital expenditure can be unclear to many investors. This has implications on the availability and cost of financing.

Nascency of sector financing

Access to debt will have a significant role in ensuring efficient financing and acceleration the roll out of public charge points. At present, debt market support for the sector remains in its infancy. It will take time for the market to develop further and for many charge point operators (CPOs) to build the credit characteristics required to access debt markets. Some larger CPOs with a strong track record of deployment into locations with good utilisation have started to unlock debt markets, accessing a deeper pool of cheaper capital to accelerate their rollout.

Beyond the larger CPOs, the market is fragmented. Many small and medium-sized CPOs are reliant on equity capital to fund rollout. Despite some raising a significant quantum of capital, equity generally has a higher cost which could impinge rollout rates, particularly when follow-on funds are needed. Some form of higher-risk debt finance earlier in the build-out phase, or additional finance for existing equity funders, could help CPOs accelerate the pace of rollout and potentially access senior debt markets sooner.

Commercially unviable public EV charging

Universal provision of public charging infrastructure across the UK road network is needed to support the transition to EVs. Some public charging infrastructure, particularly in rural areas, is unlikely to be commercially viable for some time. Local authorities will need to help deliver public charging where the market is unlikely to do so alone.

Our solution

We want to help accelerate the roll-out of public charging infrastructure across the country by increasing the depth and availability of private capital.

As the market matures and financing markets widen, we expect to shift our focus to the parts of the market that are less commercially viable, helping to ensure financing challenges do not create inequitable roll-out and/or charging deserts.

We will look to support the market in the following ways:

- > **Senior debt:** supporting the continued development of senior debt markets, helping reduce execution risk for CPOs and providing market confidence. We anticipate more senior debt deals coming to the market over the next few years.
- > **Direct equity:** where market failures or deal-specific constraints exist, we can look to invest directly in businesses with viable business cases.
- > **Between equity and senior debt:** we want to work with CPOs that face a challenge moving from raising equity to raising senior debt or are otherwise constrained in their capital deployment until a greater track record has been established. We have seen examples where equity capital is close to full deployment, or higher-cost equity is constraining CPOs' rollout ambitions. Where the track record and/or scale of CPOs is insufficient to support a senior debt raise in the market, we can consider a bespoke solution alongside existing or new equity investors where a strong business case exists.

Across our private products, our indicative minimum ticket size is £25 million.

- > **Equity funds:** We support CPOs through our existing equity funds, the Charging Infrastructure Investment Fund ([CIIF](#)), managed by Zouk Capital, and the Octopus Sustainable Infrastructure Fund ([OSIF](#)), managed by Octopus Investments. Both funds aim to crowd-in private capital to support the expansion of public EV charge points. Projects interested in learning more about these funds can contact us or the funds directly.

We will also look to **work with local authorities** to deliver public charging infrastructure or charging at depots for their own electric vehicle fleet. We currently lend to local authorities at gilts +40bps. Our lending can be used to help government grant funding go further. For example, we have partnered with the Local Electric Vehicle Infrastructure (LEVI) Fund so local authorities applying for grants can automatically apply for our lending to meet any funding gap. By layering our lending on top of LEVI grants, local authorities can undertake larger projects that benefit from economies of scale, achieving greater value for money and return on investment.

Our **local authority advisory service** can also help local authorities leverage private investment from public grant funding and develop wider commercial strategies for charging infrastructure.

For our local authority lending, our minimum ticket size is £5 million.

Get in touch

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