INCREASING THE CHARGING INFRASTRUCTURE ACROSS THE UK

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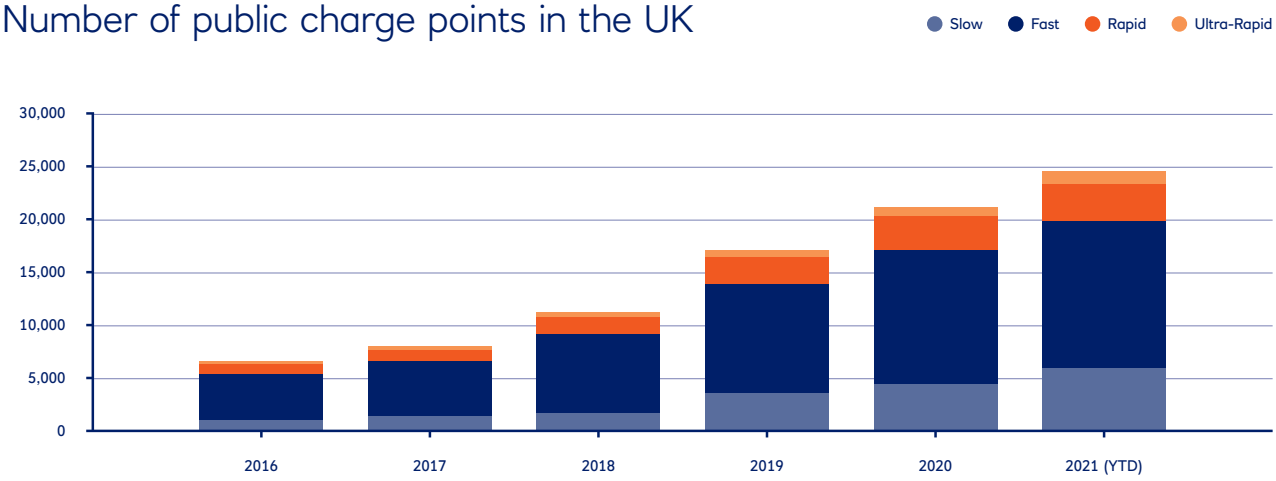
Electric cars need charging, which means we'll need more charge points over the next decade. We're already on the way, with more charge points being installed by the month. Plus, this growth is set to accelerate in the years ahead, with the charge points themselves also becoming faster.

Since September 2021, the UK's public charging network consists of about 26,000 devices, with a total of over 41,000 connectors. This represents a 270% increase over the past five years.

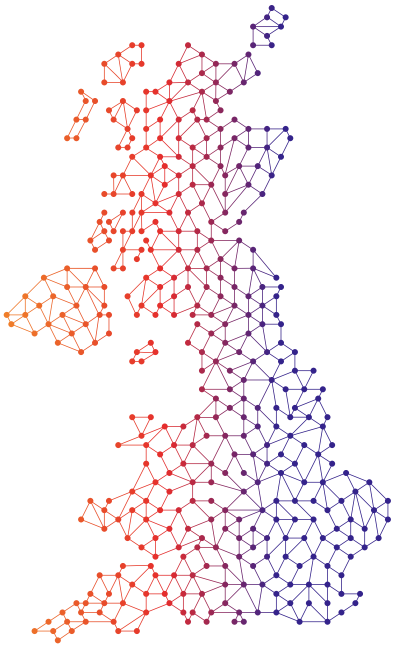
What's more, over 4,500 of today's public charge points are either rapid or ultra-rapid chargers. That means they can charge a vehicle to 80% in 25 to 40 minutes, or even quicker. That's another 365% growth over the past five years.

Number of public charge points in the UK



Source: Zap Map

That's just the public charging network. Supermarkets are installing an increasing number of charge points, as are motorway service stations. Many of these charge points can be easily accessed through contactless cards or apps, and paid for either by subscription or pay-as-you-go. There is also an ever-growing private charging network, where workplaces are installing charge points for employees, or individuals are installing them at home.



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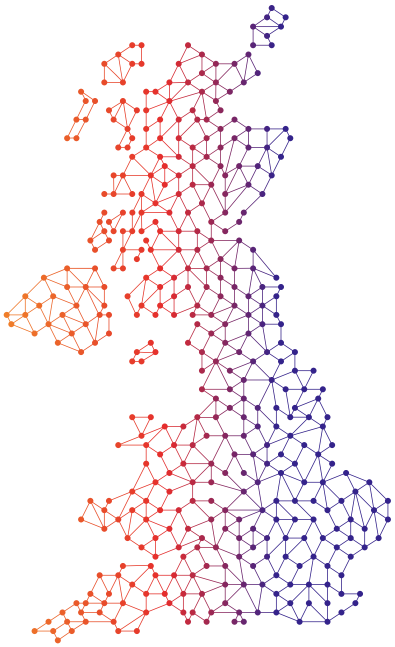
> This private charging network has had a lot of Government support. There are now a number of grants and other measures available to help reduce the costs, including:

- **The Workplace Charging Scheme (WCS).** Offers vouchers worth £350 for each of the first 40 charge points installed by an employer.
- **100% First-Year Allowance (FYA).** This applies for businesses installing charge points, and is currently scheduled to continue until 2023.

Of course, the suitability of these incentives will differ according to your drivers' or your organisation's situation, particularly when it comes to home charging. The EVHS, for example, is tremendously easy to apply for, with the application processed on the driver's behalf by the charge point installer, but the customer needs "dedicated off-street parking at their property".



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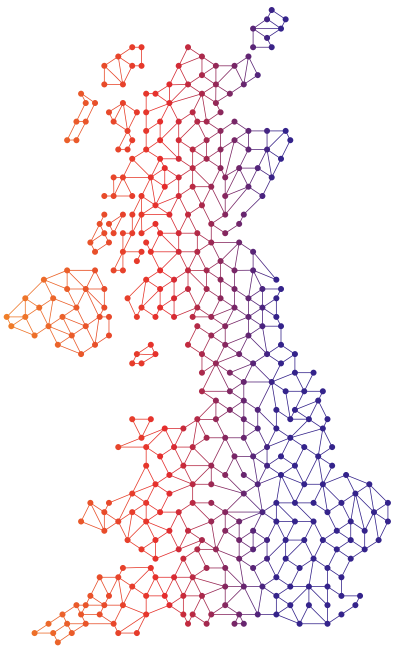
When thinking of chargers, you will need to consider if you prefer them to be "tethered" (i.e. with a cable permanently attached) or "untethered" (i.e. with the cable kept separately, most likely in the boot of the driver's vehicle.) A tethered charger is convenient and fast, while an untethered cable means you can swap the cable to suit different connectors, although the vast majority of electric cars use Type 2 connectors.

You should also think about the power output of any chargers. Alongside the rapid and ultra-rapid chargers already mentioned, there are effectively four categories of power output, affecting the speed of charging:

- **Standard/slow.** Up to 3 kilowatts (kW) of AC charge. These take around 6 to 12 hours to fully charge a Battery Electric Vehicle (BEV), or about 2 to 4 hours for a Plug-in Hybrid Electric Vehicle (PHEV).
- **Fast.** Between 7kW and 22kW (AC). They can fully charge a BEV in around 3 to 4 hours.
- **Rapid.** Between 25kW and 99kW (DC). These can fully charge a BEV in about 1 to 1.5 hours.
- **Ultra-rapid.** 100kW and over (DC). Generally, these can fully charge compatible BEVs in less than an hour.

While different homes can accommodate different power outputs, most domestic chargers now tend to sit around the 7kW or 11kW range – i.e. a fast charger. The more powerful fast charge points are more prevalent in workplaces and car parks, while rapid and ultra-rapid models are most common in motorway service stations.



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> All these options mean two things for fleets and their drivers: choice and coverage. Even without off-road parking at home, you should be able to choose an alternative way to charge your vehicle – whether that's through the public charging network or workplace. This is becoming increasingly true across the country.

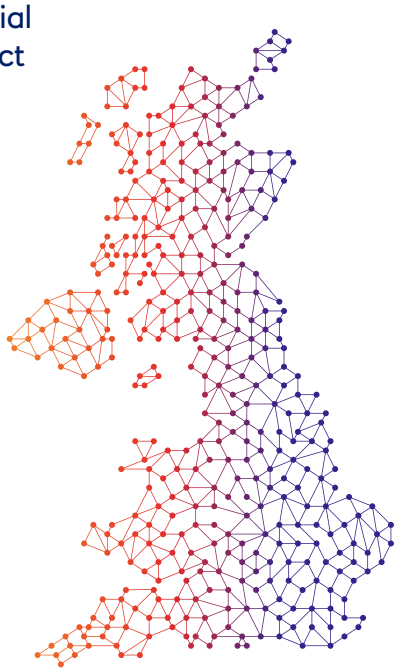
The coverage isn't perfect. Looking through Zap Map at public charge points around the UK, there are noticeable gaps, particularly in the Scottish highlands. If you are travelling in these areas, you should make sure you know the route and where potential charging stops are along the way. You could also shift focus to vehicles with higher driving ranges, or even PHEVs that have a back-up petrol or diesel engine.

Most EVs now have a driving range that is more than sufficient for most journeys. A real-world range of 150 to 200 miles for an EV is now pretty standard, while some new models of electric vehicle, such as the Tesla Model 3 Long-Range, can go up to or even beyond 300 miles. This means that the Scottish highlands are still manageable, especially if you charge your vehicle overnight.

However, Scotland themselves is rolling out charging points so that they are second to London across the whole of the UK with 47 devices for every 100,000. In comparison, London has 83 per 100,000 people, and the UK average is 36 per 100,000 people. This has been made possible by projects such as PACE, which has had £5.3 million of Scottish Government funding. Transport Scotland is also working to fund zero-emission car clubs with housing associations and other community groups too, investing over £918,000 and providing access to modern zero-emission vehicles while reducing the need for personal car ownership. Plus, Lake District National Park has installed a network of 28 electric vehicle charging points across its locations for public use, as well as to charge their own BMW i3s.

The Government is planning for more public charge points. The 'Green Industrial Revolution' plan announced by Boris Johnson at the end 2020 earmarked £1.3 billion to "accelerate the roll out of charging infrastructure". There is a particular emphasis on both rapid charge points alongside major roads and on-street charge points near homes and workplaces. This comes on top of previous pledges in the 2019 Conservative manifesto "to ensure that everyone is within 30 miles of a rapid electric vehicle charging station".

All the while, charging technology is likely to improve, bringing down the duration it takes to charge a vehicle. The Government's 'Green Industrial Revolution' plan also sets a "target milestone" of 2030, when "we expect the network of charge points… to be more extensive with 2,500 high powered charge points that can charge your car so it can drive over 100 miles, all in the time it takes to have a cup of coffee". In March 2022, the Government confirmed in its EC Infrastructure Strategy, outlining £1.6 billion pounds of total investment, a £450 million fund for EV hubs and on-street charging and 300,000 public chargers by 2030. That's almost five times the number of fuel pumps available today.



About the contributor

Tash Turner,
Fleet Consultant

Specialisms:

- Financial modelling
- Total Cost of Ownership
- Fleet Optimisation
- Mobility

Tash has over 12 years' industry experience, including previous roles in Strategic Account Management at KINTO UK and Venson Automotive, working with a variety of private, public and not for profit businesses with both car and van fleets varying from 50 – 5,000 vehicles.

Tash has a wealth of experience and a proven ability in working in partnership with customers to identify cost-saving opportunities, share best practice and advise on future strategic fleet decisions. She has considerable experience working with businesses to identify the most suitable funding methodologies as well as enabling and supporting the creation of robust, adaptable and suitable fleet polices, including integration of alternative fuels and Total Cost of Ownership (TCO).

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