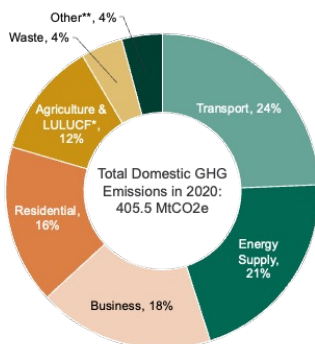


Road to Net Zero

Decarbonising your fleet
Eight questions (and answers)

Tomorrow. Together

In March 2023, the UN urged countries in the G20 to reach net zero “as close as possible to 2040”, with emerging economies encouraged to follow suit by 2050. Whether it's feasible for the UK to bring things forward is open to question but, with c.24% of the country's greenhouse gas (GHG) emissions generated from personal and business transportation, the switch to electric vehicles plays a major role in decarbonising Britain.



The impact on fleet operators

As every car or van fleet operator knows, the government plans to ban the sale of petrol or diesel only vehicles from 2030. Allowing for the fact that manufacturers will need to scale down production of ICE vehicles and switch resources into building EVs, the real-world deadline is actually much sooner. This means that we are, at most, just 2 renewal cycles away from the mandatory selection of electric or hybrid vehicles that are primarily powered by electricity generated from renewable sources.

Over half of plug-in cars are registered to businesses rather than people. In fact, research indicates that up to 62% of fleet operators expect to be fully electric within the next four years. That said, questions are still being asked about how we will power the road to net zero and whether we will have the vehicles and infrastructure in place to keep businesses moving.

Are the targets realistic and enforceable?

Plug-in EVs account for c.22% of new car registrations but less than 6% of LCVs. The government has tried to quicken the pace through a wide range of tax incentives and grants, and they remain committed to supporting the switch until such time that the rate of adoption makes such measures either unnecessary or too expensive. Hitting the target dates will, however, require something a little more robust than fiscal encouragement.

The government strategy is to create legislation in the form of a ZEV Mandate that regulates the percentage of zero-emission vehicles that manufacturers are required to sell. Manufacturers will be able to meet their obligations through a combination of vehicles sales, banked or borrowed allowances, and allowances purchased through trading.

Based on current proposals, failure to meet the requirements laid out in the scheme will result in financial penalties of £15,000 per excess vehicle in the car scheme and £18,000 per excess vehicle in the van scheme.



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Car Targets

Year	2024	2025	2026	2027	2028	2029
Target	22%	28%	33%	38%	52%	66%
Year	2030	2031	2032	2033	2034	2035
Target	80%	84%*	88%*	92%*	96%*	100%*

*Target will be set out in future legislation

Van Targets

Year	2024	2025	2026	2027	2028	2029
Target	10%	19%	22%	34%	46%	58%
Year	2030	2031	2032	2033	2034	2035
Target	70%	76%*	82%*	88%*	94%*	100%*

*Target will be legally adopted in a future policy

The government describes the targets as “ambitious but achievable” and it effectively forces manufacturers to produce zero-emission vehicles that are fit for purpose and available at a cost businesses and individual drivers are willing to pay. In essence, the EV mandate turns targets into more enforceable dates (with a little wiggle room along the way).

“the EV mandate turns targets into more enforceable dates”

Has the energy crisis changed the picture?

According to the International Monetary Fund (IMF) the UK has been particularly badly hit by the global energy crisis, in part due to our dependence on gas, which is responsible for generating around 40% of our electricity.

The huge spike in electricity prices has caused some to question whether now is the right time to switch to EVs, however we should remember that it was not so long ago that we were lamenting a fuel crisis that saw petrol and diesel surge to record levels.

The key difference now is that the UK has the opportunity to ensure energy security through large scale investment in renewables and nuclear; thereby taking control of the production and distribution of electricity and, as a result, protecting businesses and consumers from future spikes.

Whether the progress will be rapid enough to deliver on the governments claim to have "among the cheapest wholesale energy prices in Europe by 2035" remains to be seen, but future energy costs should at least be more stable and predictable.

We should also remember that despite rising electricity costs temporarily narrowing the financial gap between ICE vehicles and EVs, lower servicing requirements and a whole raft of tax incentives still mean that, as far as whole life costs are concerned, most EVs work out cheaper than their ICE equivalents.

"despite rising electricity costs.... most EVs work out cheaper than their ICE equivalents"


Do we have enough public chargepoints?

Research shows that despite significant investment in the charging infrastructure by both the private and public sector, almost two thirds (63%) of businesses are worried about accessing the public charging points needed to keep their fleet moving. And, with just one new charger being installed for every 28 electric cars hitting the roads, serious questions are being asked about whether the charging infrastructure rollout is keeping pace with the rate of adoption.

Huw Merriman, Minister of State for Transport, has said that there will be "at least 300,000 public chargepoints by 2030. This sounds like a big number, but it's actually at the low end of the government's predicted need of between 280,000 and 480,000 units and, based on the current growth rate in EVs, this means the UK will have a ratio of 54 vehicles for every public charger by 2030.

It's worth bearing in mind that, when the European Union developed the Alternative Fuel Infrastructure Directive (AFID) back in 2014, the recommendation was for countries to reach 10 electric light-duty vehicles (LDVs) per public charger by 2020. Success rates have varied but by 2021 the EU saw an average EV to charger ratio of 14 to 1.

Admittedly, it becomes more difficult to maintain such a high ratio with a rapid expansion in the number of vehicles, and advancements in range and speed of charging has cast some doubt over the number of chargers required, but businesses still need to be sure they can keep their electric vehicles on the road for the maximum amount of time; and that means having the right chargers in the right places.

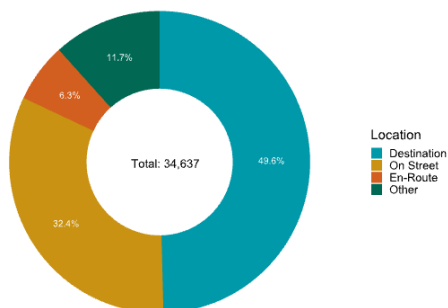


"63% of businesses are worried about accessing the public charging points needed to keep their fleet moving"

CHARGE STATION

Are chargers being installed in the right places?

A combination of habit and convenience has meant that most drivers refuel their petrol or diesel vehicles enroute to their destination. Whereas EVs need to be charged at a location that enables the driver to carry on with other activities whilst the vehicle is plugged in. This is borne out by the strategic location of public chargepoints.



For most drivers, the location in which they spend the most amount of time — whilst their vehicle remains idle — is either their place of work or their own home.

Whilst it's difficult to put a precise figure to the number of workplace chargers, the Workplace Charging Scheme has funded the installation of just under 40,000 sockets since 2016, which is thought to be 50-80% of all workplace charging installs. Research conducted by ULEV research specialists Cenex also shows that there are more than 5 domestic chargers for every workplace charge point.

The vast majority of company cars, and many LCVs, are taken home by employees and may, or may not, be used for personal mileage. Some of these employees will have the necessary space for a home chargepoint to be installed and businesses can support drivers making the switch by providing access to a quality assured charging partner that has been fully vetted by their employer.

However, many drivers are unable, or would prefer not to, install a chargepoint at their home address. In this case — and especially considering concerns over the public chargepoint infrastructure — reliable access to workplace chargepoints is an essential component of a decarbonised fleet strategy.

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Are charging speeds fit for purpose?

Whilst there have been some great technological advancements, we are still a long way from matching the experience of pulling into a petrol station for 5 minutes, refuelling, and then continuing our journey.

Battery pioneer StoreDot, who are backed by strategic investors and partners including BP, Volvo, Daimler, and Polestar, are promising 100 miles of charge in just 5 minutes by 2024, 3 minutes by 2028, and 2 minutes by 2032. However, there is a big difference between the creation of next-gen batteries and large-scale operational roll-out.

For cars, a more realistic charging speed is 100 miles of range in around 30 minutes and, whilst the theory of planning your day so that a re-charge takes during a break for lunch, or when parked up near a meeting location equipped with a convenient chargepoint, life and business doesn't always work out that way. As a result, installing charging units in locations where employees and their vehicles spend the most time is a key factor in maintaining mobility on-demand.




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Can the National Grid cope with demand?

Since the turn of the century, peak demand for electricity has topped out at 62GW (62 billion watts). That was way back in 2002 and improvements to energy efficiency have seen peak demand fall by 16%. With the National Grid estimating that a total switch to EVs would increase demand by around 10%, 'show-stopping' concerns over capacity appear unfounded. Additionally, the Electric Vehicles (Smart Charge Points) Regulations mean that new chargepoints must have the capability of intelligently drawing down power when there is less demand. This not only evens out power usage, but also reduces the cost by focusing on times when lower rate electricity is available.

Additional developments in both strategy and infrastructure are still needed and the National Grid has developed proposals to ensure consistent coverage through the strategic placement of chargepoints. National Grid ESO have also unveiled a £54bn plan to increase the supply of lower cost electricity from zero-carbon British sources. And the recent (official) launch of Great British Nuclear (GBN) shows the government's commitment to nuclear as a major source of 'clean' electricity. In short, more is needed, but more is being done. The infrastructure can and will cope with both the current and future demand of EVs.



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Is electric the only answer?

Most manufacturers are focusing their attention on battery electric vehicles and, in reality, there is neither the time or the resource capacity to develop a large-scale roll out of the vehicles and infrastructure needed to support non-battery powered cars and LCVs.

This is less true of HGVs and specialist vehicles, where hydrogen is likely to play a larger role, although the development of structural batteries integrated into the framework of each vehicle may yet change this outlook.

How can I plan my own transition to zero-emission vehicles?

The road to net zero is one we are all going on together. This means that business fleet operators are being asked to make decisions now based on a vehicle and infrastructure landscape that continues to evolve. It's a challenge that's further compounded by the apparent need to work with a disconnected supply chain of vehicle providers, EV servicing and maintenance engineers, chargepoint installers and operators, and funding solution providers.

We can replace this complex array of providers with a single, partnership-driven, solution that helps you make the right decisions now and long into the future. Simply put, we supply, fund, manage, and optimise the vehicles and chargepoints your business needs; providing the expertise, services, and support required to successfully transition to a fully electric fleet.



Looking for more information?

To find out more about how Novuna can help start your journey to net zero visit:

NovunaVehicleSolutions.co.uk/electric-charging

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