

State of the Switch

Assessing Britain's progress towards electrified road transport in 2024



About this report

This report is New AutoMotive's fourth annual 'State of the Switch', gauging the UK's progress towards electrified road transport.

The report assesses progress, and highlights recent developments, including successes and failures, in the UK's transition over the course of 2024 and the early months of 2025. It makes predictions for the upcoming year and examines barriers to the transition, as well as potential interventions that could accelerate it.

Much of the data is derived from our monthly Electric Car Count series, which collates data from the DVLA and DVSA. We also analysed publicly available data published by public bodies including the Vehicle Certification Agency, the Driver and Vehicle Licensing Agency, the Department for Transport, and the Department for Energy Security and Net Zero, as well as commercial sector organisations such as ZapMap, Autotrader and the AA.

The State of the Switch 2025 report uses this data to provide a snapshot of where the UK is in its journey towards electrification, and identify the challenges and opportunities facing the transition.

About us



[New AutoMotive](#) is a thinktank that works to increase the pace of the clean energy transition, focusing on road transport – one of the largest sources of greenhouse gases and air pollution.

We use data to tell stories, informing the public and influencing policy development. New AutoMotive campaigned for and helped win the UK's Zero Emissions Vehicle mandate, one of the most ambitious clean transport policies in the world.

Each month we release the [Global Electric Vehicle Tracker](#), and the [UK Electric Car and Van Count](#), the most up-to-date sources of EV data in the UK and globally. We've also released numerous [reports](#) detailing the switch to electric and what the UK government needs to do to make this happen.

Summary of conclusions & predictions

Last year

More than 380,000 battery electric cars were registered in 2024, a new all-time high.



Industry as a whole outperformed the Zero Emissions Vehicle (ZEV) mandate in 2024. Firms who beat targets did so with 78,000 excess credits, whilst companies who fell short only needed to obtain 36,000 to close the gap, making this a buyers' market.



9 of the 18 largest car makers beat their targets in 2024.



Battery electric cars on the road comfortably beat the 1 million barrier, ending the year with 1.252m.



The ratio of zero emission vehicle miles to petrol and diesel miles travelled rose to 1:13. Diesel usage for transport ended the year down 12% on its peak in 2018, whilst petrol usage failed again to return to pre-pandemic peak levels.



At the beginning of 2025, we had upfront price parity on 80% of used EVs, and total cost of ownership (TCO) parity on 67% of new EVs bought via PCP and charged at home.



Chargepoint numbers rose by 37% to exceed 73,000 by the end of 2024.



Minimum requirements for charge points came into force. The ZEV mandate was extended to Northern Ireland. Government consulted on what new vehicles could continue to be sold beyond the end of 2029.



This year

UK battery electric car registrations will reach 440,000-540,000 in 2025.

Industry as a whole will outperform the Zero Emissions Vehicle mandate again in 2025. The price of ZEV mandate credits for firms who fall short of targets will therefore be low.

VW Group, BMW, Mercedes, Volvo, Tesla and BYD will all comfortably exceed targets. Stellantis, Hyundai, Renault and Jaguar Land Rover will also meet targets. Ford, Nissan, Toyota and Chery will find targets more of a stretch, whilst Honda, Mazda and Suzuki will miss them.

Cars on the road will grow at an even faster rate this year, reaching 1.67-1.77 million.

The ratio of zero emission vehicle miles to petrol and diesel miles travelled will reach a new high in 2025 of 1:10. Petrol usage for transport will fall by 1% in 2025, whilst diesel usage will fall by further 5%.

We will reach 83% upfront price parity for 83% of used EVs, and TCO parity for 80% of new EVs bought on PCP and charged at home.

Chargepoint numbers will reach within touching distance of 100K.

Government will take steps to make it easier for more to charge from home and to lower the cost of public charging. Government to bring forward regulations on

Indicator 1: New Car Sales

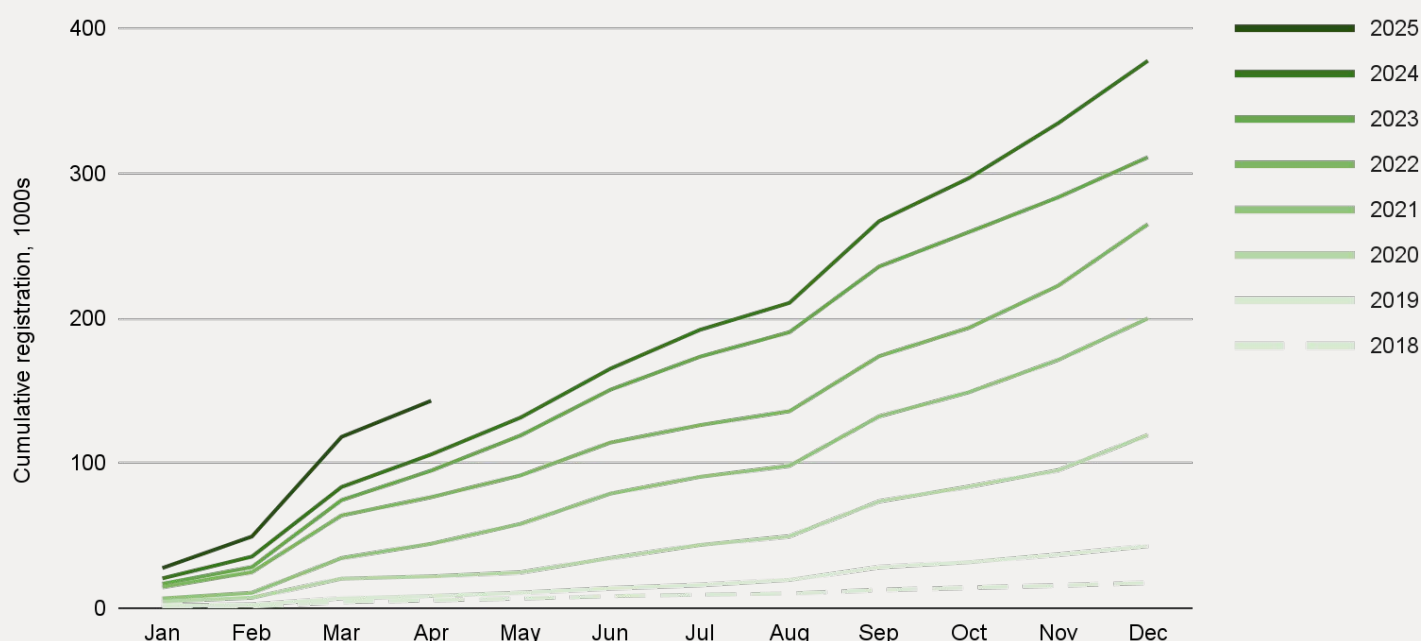


Figure 1: UK cumulative battery electric car registrations by year

Fuel type trends

Despite unevindenced claims to the contrary, EV demand is not weak, weakening or even slowing in the rate at which it strengthens. Registrations have accelerated since talk of a slowdown emerged, with 17% more EVs registered in 2023 than 2022, a 23% year-on-year rise in 2024, and a 31% rise in the first 4 months of 2025 on the same period in 2024.

Put another way, battery electric registrations in each recent year have exceeded the previous full year total by mid November at the latest.

Over the same period petrol car registrations have fallen steeply, with volumes in 2025 down 62% on pre-pandemic levels, and 25% on just one year ago.

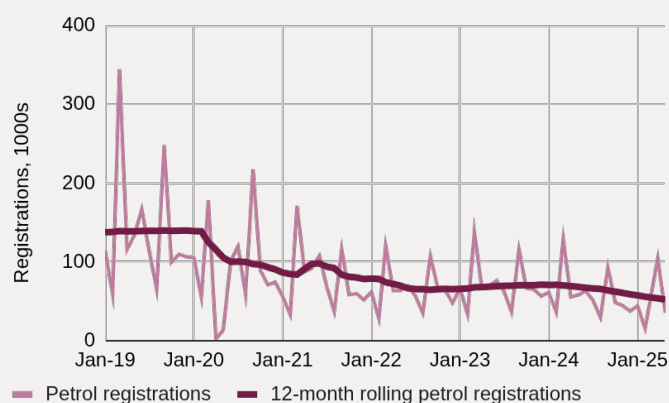


Figure 2: UK petrol car registrations by month

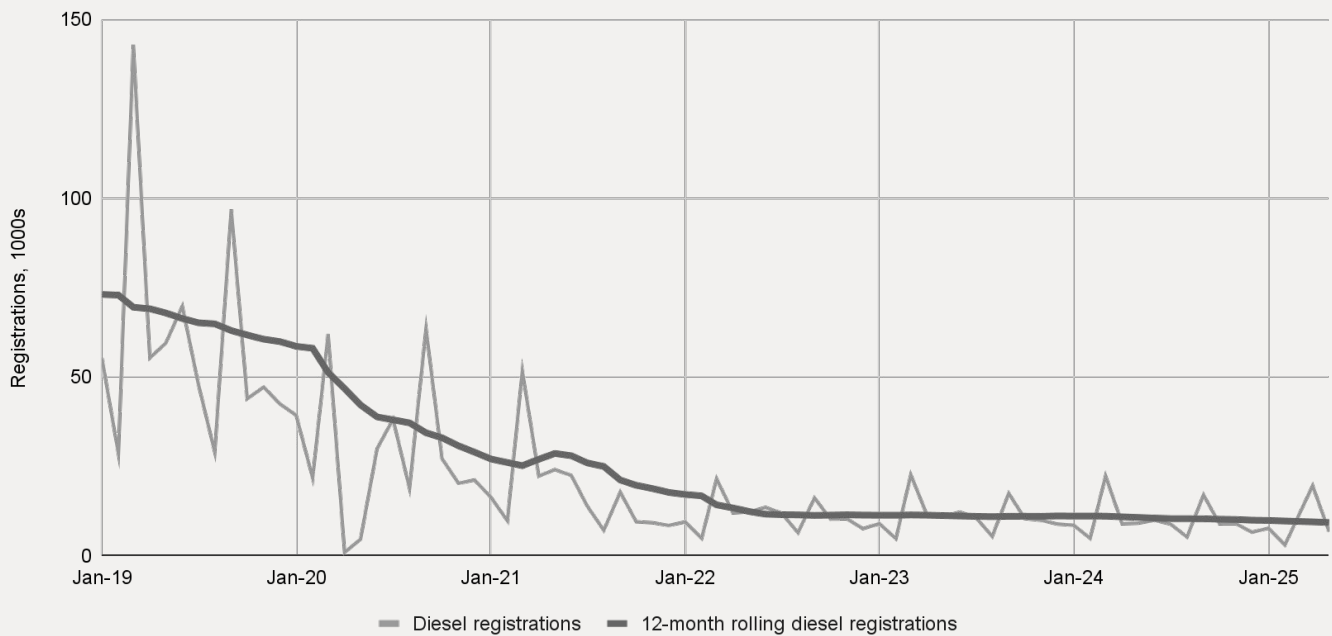


Figure 3: UK diesel car registrations by month

Diesel was already in steep decline before the pandemic – registration volumes are now down more than 85% on 2019 levels, and 15% on last year.

Meanwhile hybrid car registrations have grown rapidly over the same period but now show signs of peaking. Over the past few months, battery electric, rather than hybrid cars, have become the beneficiaries of falling petrol and diesel volumes.

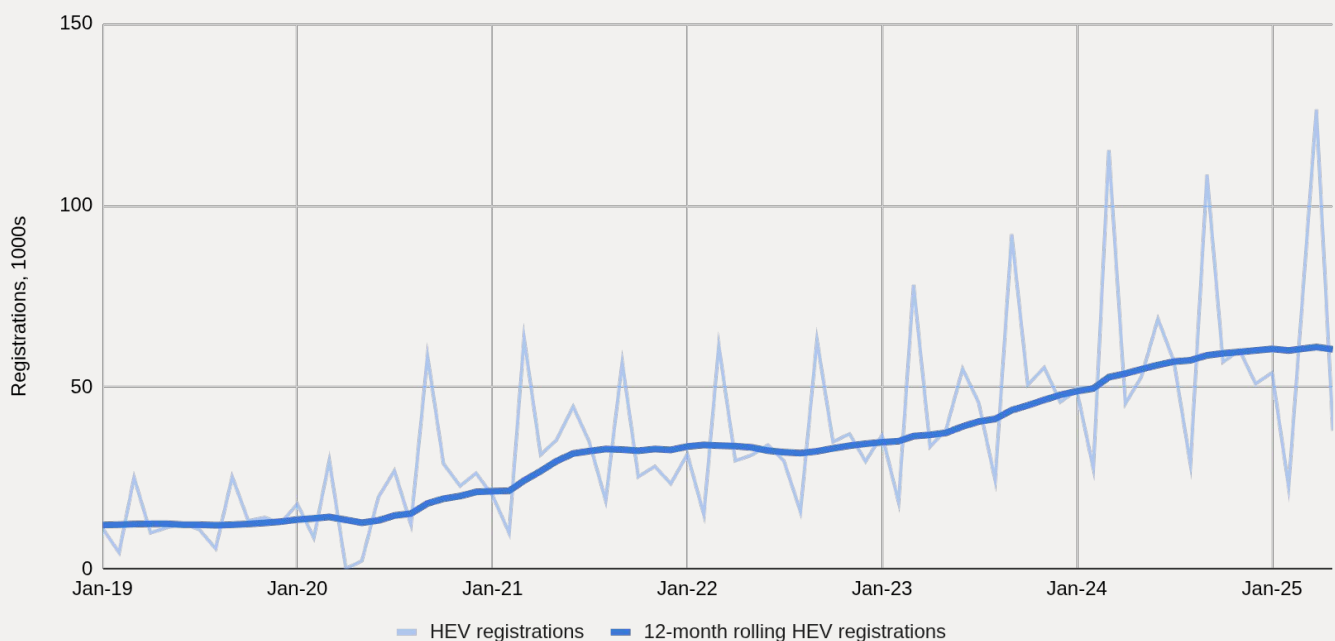


Figure 4: UK hybrid car registrations by month (including mild, full and plug-in hybrid)

2024 ZEV mandate summary

Whilst 2024's headline ZEV mandate target required 22% of firms' car sales to be zero tailpipe emission, most firms were able to use outperformance against easy-to-meet CO2 targets for their non-zero emission car sales to lower their targets. We explain this further in our briefing, [Catch-22%](#).

This means that the real industry-wide target was 18.0%. The industry as a whole comfortably beat this level, with more than 19.7% of registered cars being battery electric.

However individual firms outperformed CO2 standards to different extents. Carmakers who had increased hybrid sales significantly

since the 2021 baseline year, such as Toyota and Jaguar Land Rover, were the greatest beneficiaries. Meanwhile firms which had previously been heavily invested in diesel, such as BMW and Mercedes saw less benefit, as a switch away from diesel towards petrol tends to increase emissions.

Meanwhile firms showed varying levels of success in selling electric vehicles. Many traditional car makers were extremely successful in switching to new technology, with only one of the top 15 makers, Tesla, being an EV only brand. Only two Chinese-owned brands figured in the top 15, with the remainder being produced by German, Korean, French, Japanese and US-listed makers.

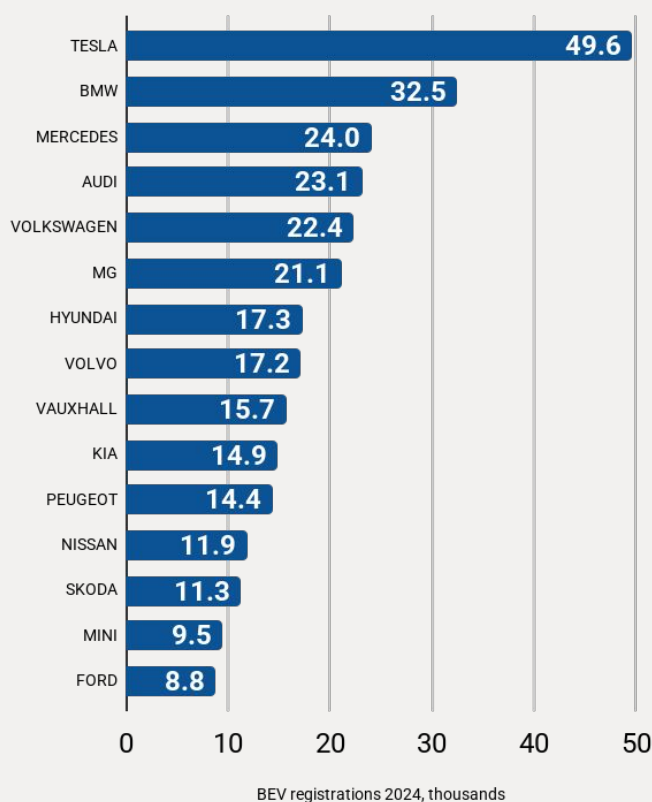


Figure 5(a): Registrations of battery electric cars by manufacturer, 2024

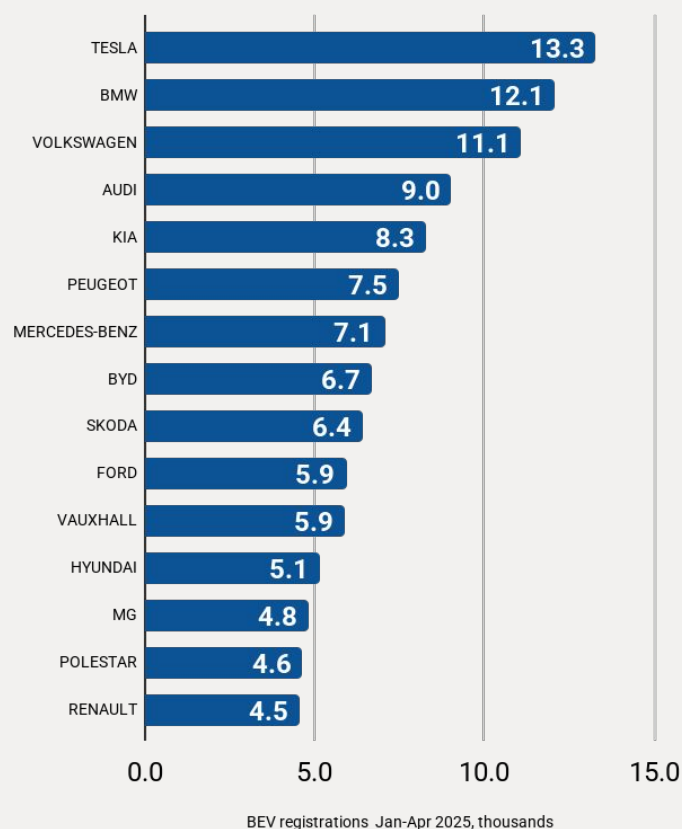


Figure 5(b): Registrations of battery electric cars by manufacturer, Jan-Apr 2025

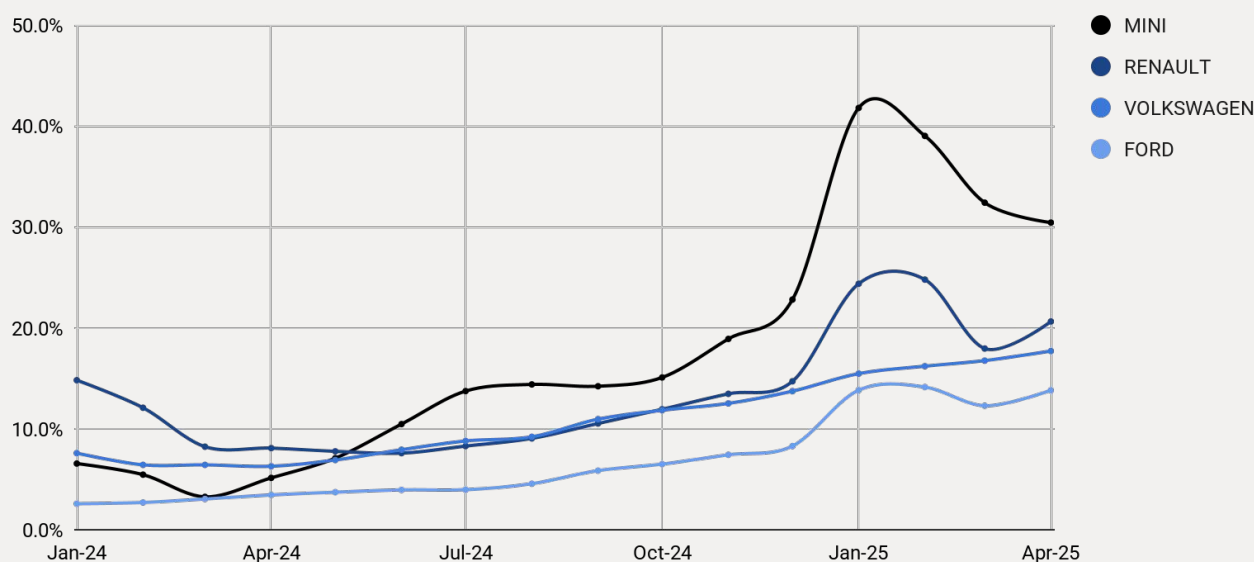


Figure 6: Cumulative share of car registrations which were battery electric for selected manufacturers, 2024, and Jan-Apr 2025

Tesla are still number 1 but their lead over BMW has been cut by 90%. Volkswagen, Kia, Peugeot, BYD and Ford have all sharply improved their EV registrations on 2024 levels, whilst Mercedes, MG and Volvo have all slipped back. There is now only one Chinese-owned firm in the top 10.

Zooming in on month-by-month performance, some firms' performance changed significantly through 2024 and the first 4 months of 2025. Mini launched an acclaimed new EV, whilst VW refreshed its ID.4 and ID.5 models. Meanwhile delays in

bringing electric cars to market meant Ford had a slow start, whilst Renault withdrew the successful Zoe early in the year, before a full range of replacements had become available. All four firms' performance noticeably improved in the second half of 2024 and have continued to do so in the opening months of this year.

Other firms did not bring forward enough models at any point in the year – Nissan, with 5.2% of the UK market across all fuel types in 2024, had just 2 models on offer; whilst Jaguar Land Rover (with 3.7%) and Mazda (with 1.4%) had just one each. Suzuki,

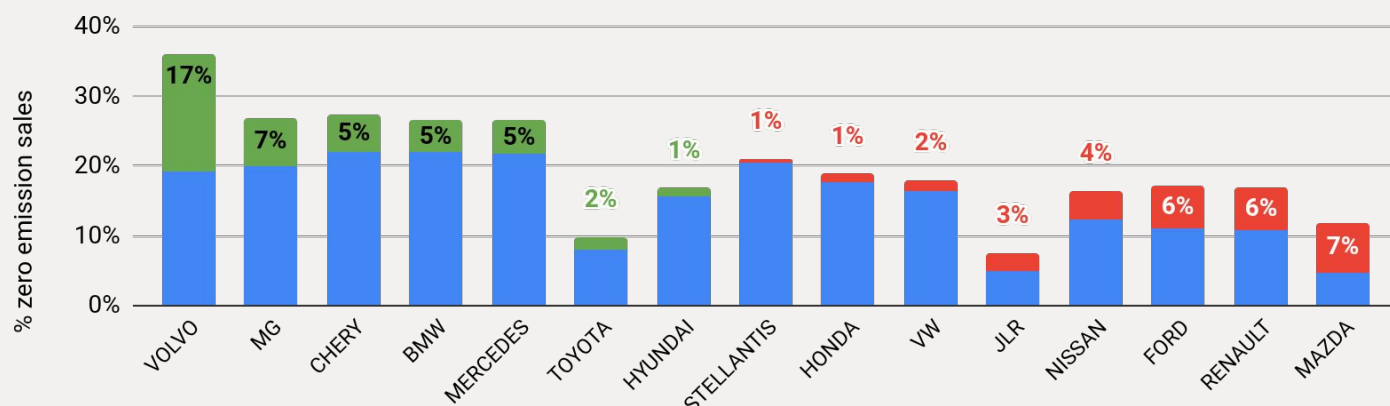


Figure 7: Over (green)/ under (red)-performance against real 2024 ZEV mandate targets (blue) (NB Volvo includes Polestar)

the smallest maker captured by the ZEV mandate, with 1.2% of the market (and therefore not shown in the chart below), did not produce any EVs for sale at all in 2024.

When Tesla (who only sell electric cars) and BYD (90% of whose cars were battery electric in 2024) are taken into account, makers responsible for more than 40% of the market met their targets, whilst those responsible for another 40% were within 3 percentage points of their target.

For the makers who fell short, they have the option to roll forward that shortfall in 2025 and aim to outperform next year's targets, or to buy credits from outperforming firms. Overall industry outperformance against the mandate means that there is a glut of credits, with lagging firms needing to buy 36,000 credits and 78,000 credits available. We therefore expect the cost of compliance for all firms – even those who fell far short – to be low.

Some have argued that the ZEV mandate has been met at the price of unsustainable discounting. There is little evidence for this – and the claim is undermined by the facts that the total value of discounting against recommended retail prices is lower in real terms than pre-pandemic levels¹, whilst the petrol and diesel side of the market still receives more in aggregate discounts than the battery electric car sector².

2025 Predictions

Industry performance

The ZEV mandate target for 2025 is 28%. However increasing outperformance against CO2 standards for non-zero emission vehicles – which have not been tightened – means that the real target is lower. Without recent Government policy changes (see Indicator 6 – Policy Trends), the industry target would be 22.3%. Based on the information released to date, and without sight of the draft regulations, those amendments appear likely to only significantly benefit two firms – reducing the target slightly more, to 21.7%.

Despite the uncertainty created by Government's consultation and April announcement on increased flexibilities, manufacturers have run the 2025 target very close with battery EVs accounting for 20.7% of vehicle registrations. At the same time last year, EVs accounted for 16%, and needed to reach 18.5% – a much steeper climb which the industry easily exceeded.

We therefore expect industry to comfortably meet the 2025 ZEV mandate target. With a consensus estimate of no growth in overall car sales, this corresponds to a **minimum of 440,000 battery electric sales in 2025 – an increase of 16% on 2024 levels.**

However, sales are likely to go higher. Manufacturers will prefer to cost-effectively comply by making an EV sale, even on a

¹ See New AutoMotive. [The ZEV Mandate is Working. Industry Is On Course to Meet 2025 Targets, and Discounts are Readily Affordable – In 4 Charts](#)

² See JATO Dynamics. [Average EV discounts in UK dealerships double those for ICE vehicles](#). Whilst discounts on EVs were twice those for ICE cars, ICE car volumes are 4 times EV numbers.

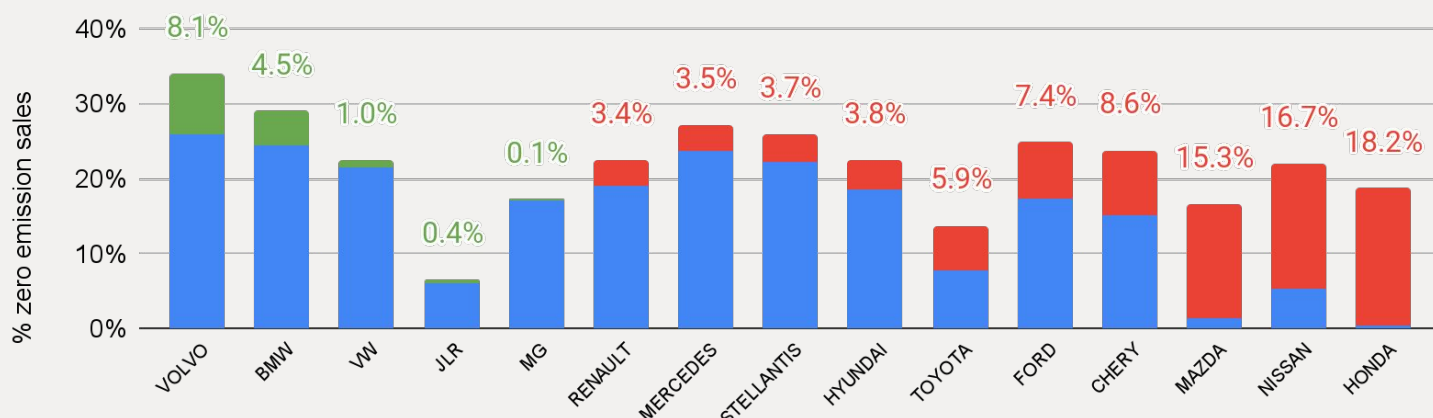


Figure 8: Year to date over (green)/ under (red)-performance against real 2025 ZEV mandate targets (blue)

tightly squeezed margin, than to hand money to competitors by buying a credit from another firm. Therefore firms which currently fall short of the 2025 target will close the gap through the year, driving sales up overall. **EV registrations could go as high as 540,000, a 45% increase on 2024 levels.** Even if these heights are not met, we predict that there will still be an **excess of ZEV mandate credits, making compliance cheap for any firms who fall short.**

Individual manufacturer predictions

Seven of the largest manufacturers are already in credit in the year to date, including VW, BMW, Volvo, Jaguar Land Rover and MG, as well as Tesla and BYD who are not shown in the chart below.

However the shortfall is small for many other makers, with 4 more firms within 4% of their target.

We therefore predict that VW Group, BMW, Volvo, BYD and Tesla will all comfortably

exceed targets. VW Group, the largest seller of cars in the UK and the maker behind Skoda, Audi, Cupra, Porsche and Seat, as well as VW itself, missed targets in 2024.

We also predict that Stellantis, Hyundai, Mercedes, Renault and MG will all meet targets. Stellantis (makers of Peugeot, Vauxhall, Citroen, Fiat and Jeep) and Hyundai (including Kia) have made a strong start to the year, and are close to targets, whilst a revamped Renault line-up means they are now following through on their earlier success as an EV trailblazer after missing targets in 2024. Mercedes has a shortage of new models coming to market, but its current offering is probably sufficient, whilst in contrast MG has had a comparatively weak start to the year, but will be supported by the new S5 EV. Some discounting may be seen from all these firms, especially in the latter half of 2025 if they are off-track.

Finally, we predict that Jaguar Land Rover

will also meet the target. Previously in a tight spot with no electric vehicles whilst Jaguar takes a year out, JLR were given a huge handout by Government's changes to the ZEV mandate announced in April. Whilst their non-zero emission vehicles are considerably more polluting than average, JLR have made huge savings on 2021 levels, following a shift to plugless and plug-in hybrid cars. This means a huge surplus of CO2 credits – and thanks to Government's recently-announced loosening of the cap on transfers, this can now be used to reduce their ZEV mandate target to just 6.1%. Even with the new electric Range Rover only arriving in "late 2025" this should give them enough volume to meet this year's targets.

Altogether, the firms we predict to meet or exceed their targets make up 75% of the car market.

In contrast **we anticipate Ford and Nissan will find targets more of a stretch.** These firms are not suffering from a general lack of consumer demand, but a lack of interest in their products. Ford's sales have sharply improved – and should improve further thanks to a partnership with Octopus Energy offering free chargers, free miles and free servicing – but their current market share of zero emission vehicles falls some way short of targets. Nissan have been performing significantly worse and are going backwards, with their early lead long since thrown away, and no new models since the poorly-received Ariya in 2022. A third generation Leaf and electrified Micra are expected in 2025, although timings are currently hazy, making trading or borrowing their way to targets more likely.

We also anticipate a stretch for Toyota, despite benefiting from the ability to transfer additional CO2 credits thanks to Government's April announcement. Here, the problem is not so much a lack of interest in their products but a lack of any products, despite consultations on the ZEV mandate beginning as long ago as 2021. Toyota will have to make do with the original bZ4X until late 2025 when an update arrives, alongside two new models.

The much smaller **UK player Chery AutoMotive also faces an uphill battle.** Whilst the makers of Omoda and Jaecoo have had a strong start to 2025, after selling their first car in the UK last year, the Chinese firm only makes one battery car, the Omoda E5, alongside two petrol cars and two plug-ins. Battery electric market share is consequentially already lagging.

Bargain-conscious buyers should look out for steep discounts from all four of these firms, especially in the second half of 2025.

Finally we predict that **Honda, Mazda and Suzuki will all miss targets.** Suzuki finally delivers their first EV in the form of the e-Vitara in Summer 2025, but it will need to make up almost half of their sales over the rest of the year to meet targets. Meanwhile Honda and Mazda are both aiming at new product launches in 2026, by which stage they risk being terminally behind other makers. In fact they already are – with a combined UK market share down to just 4% across all fuel types, an exit from the market begins to look on the cards.

Recommendation

Government should hold its nerve and resist continued calls from lagging manufacturers and their representatives to further weaken ZEV mandate targets (see indicator 6).

Manufacturers who were behind in 2024, such as VW Group and Renault, have shown it is possible to swiftly catch up with higher targets. Firms responsible for the vast majority of sales will meet targets in 2025.

Where firms are lagging, weakening the mandate will be counter-productive. Ford and Toyota need to invest more, not less, in the transition. The requirement to ramp up attractive product lines and efficiencies or make payments to rivals for surplus credits provides exactly the incentive the ZEV mandate was designed to do.

Meanwhile Nissan's challenges are global, including the risk of outright company failure. Rather than wreck the UK's decarbonisation and clean air ambitions in the hope of paying its Sunderland employees for a few more months, Government would be better placed funding a bailout, supporting restructuring, or help with finding a buyer for the Sunderland site.

Other firms which are struggling to bring forward attractive EVs have low market share and a small domestic employment footprint, meaning there is a low cost to their exit from the UK market. We forget, but this happens all the time. Daewoo, Daihatsu, Infiniti, Perodua and Proton all sold significant numbers of cars to the UK market once.

Indicator 2: BEVs on UK roads and miles travelled

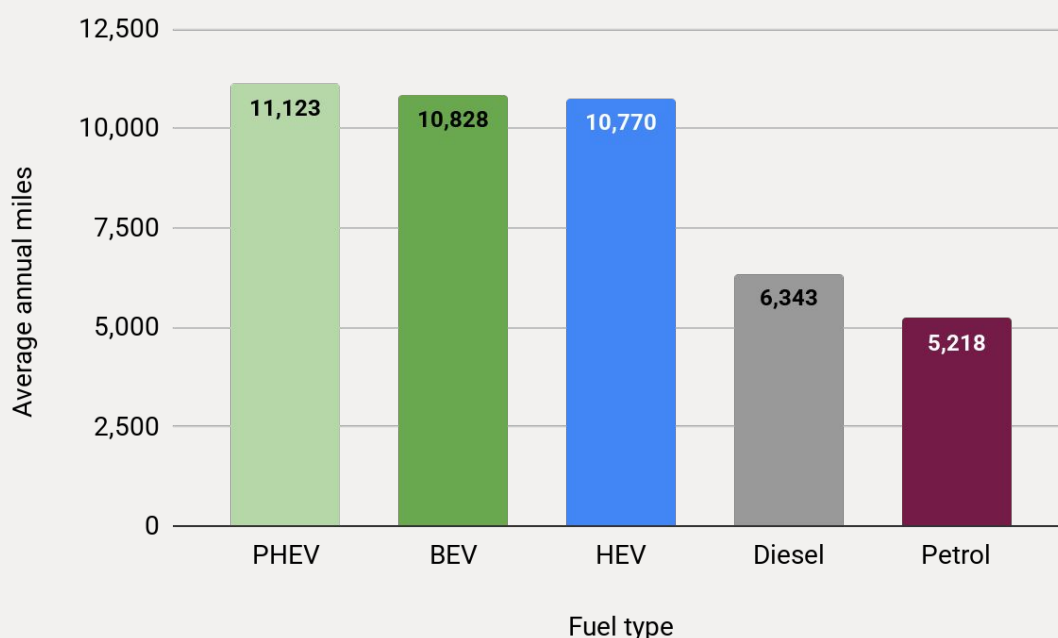


Figure 9: Year to date over (green)/ under (red)-performance against real 2025 ZEV mandate targets (blue)

2024 BEVs on UK roads

The UK began 2024 with just shy of 1 million battery electric cars on the road, and ended it with 1.252 million, an increase of more than 25%. This outcome is in the centre of the range which we predicted last year, of 1.2 to 1.3 million cars.

By year end, battery electric cars made up 4.1% of the cars on the road (more than one in twenty five), up from less than 3% (less than one in thirty-three) twelve months earlier.

2024 miles travelled

However it is not enough to own an electric car, the point is to drive it. How do miles travelled by electric car compare with those powered by petrol and diesel fuels?

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We used the publicly available MOT database to identify all vehicles with 2 or more MOTs, calculating the odometer difference between the two most recent MOTs and converting that into an annual amount. Fewer battery electric, Plug-In Hybrid and Hybrid cars have had 2 or more MOTs, but in each instance we were able to capture at least 20% of the cars on the road.

Car buyers have quite clearly been guided by their driving habits to a choice of fuel type, with more fuel efficient battery electric and hybrid cars being driven 70% further on average than diesel cars - traditionally the

preserve of high mileage drivers – and twice the annual mileage of petrol cars.

This means that, whilst battery electric cars account for only 4.1% of cars on the road, they account for a much higher proportion of miles driven. To calculate the ratio of battery electric miles to ICE miles we disregarded plug-in hybrids where the UK government does not currently report data on how much they are driven in zero tailpipe emission mode (although such data is collected¹), and we treated other hybrids as ICE miles, given that an internal combustion engine is the ultimate source of all the vehicle's propulsion.

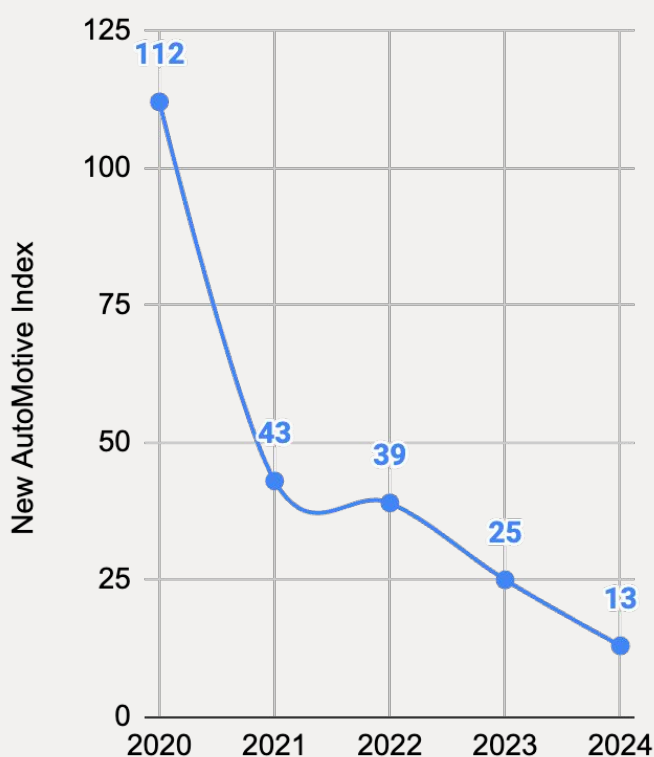


Figure 10: Ratio of ICE miles to zero tailpipe emission miles (the New AutoMotive index) over time

This gives the following ratio for the “New AutoMotive Index”:

2024
13 : 1
ICE miles : EV miles

Positive selection of battery electric cars by higher mileage drivers is driving decarbonisation of transport faster than the actual sale of vehicles would suggest. We expect this trend to continue.

2025 Predictions

With new battery electric cars joining the cars on the road much faster than old BEVs leave it, we are predicting another rapid increase in the overall number of cars on the road.

With the consensus estimate of no growth in overall car sales, we predict that **there will be a minimum of 1.67 million battery electric cars on the road by the end of 2025.**

Given the incentives for manufacturers to aim to meet the ZEV mandate through sales (which earn revenue) rather than through trading (which gives money to competitors), **battery electric car numbers on the road could go as high as 1.77 million this year.**

Meanwhile the numbers of petrol and diesel cars on the road, which currently dwarf the volumes of battery electric, hybrid and plug-in hybrid alike, will both fall significantly.

¹ See article 12 of retained Regulation (EU) 2019/631 of the European Parliament and of the Council on [Real-world CO2 emissions and fuel or energy consumption](#)

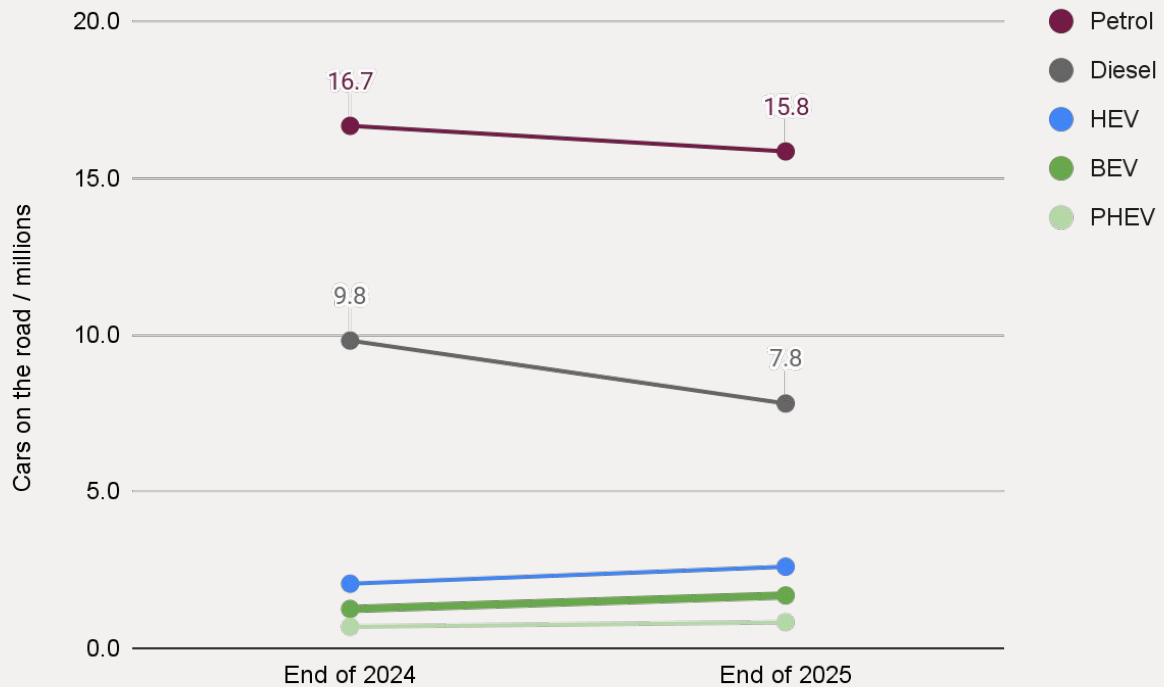


Figure 11: Vehicles on the road by fuel type at the end of 2024 and forecast for the end of 2025.

However the decarbonisation of road transport will take place faster due to the more rapid rate of switching to battery electric cars by high mileage drivers.

We predict that by the end of 2025, the ratio of electric miles to ICE miles will reach a new landmark high of 1:10.

Spotlight: Vans

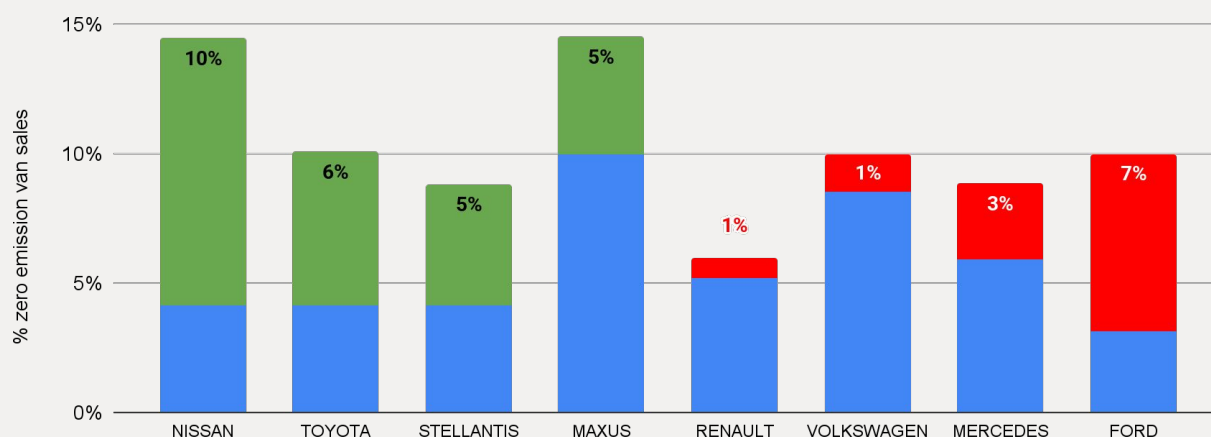


Figure 12: Over (green)/ under (red)-performance against real 2024 ZEV mandate targets (blue) for leading 8 makers (responsible for 97% of 2024 registrations)

20,474 electric vans were sold in 2024, a modest 1.1% increase on the previous year. However market share flatlined with battery electric making up 6.1% of registrations for both 2023 and 2024. Nevertheless battery electric sales have begun to improve in 2025 and are up 29% in the year to date, representing 8.7% of all van sales.

In contrast to cars, the average annual mileage of electric vans is lower than their ICE counterparts, with the 12,000 battery electric vans for which we have two or more MOTs completing an average of 5,420 miles per year, compared with 8,960 across vans of all fuel types. This signals that range concerns may remain an issue at least in relation to older vans. We anticipate that this will ease over time, in line with increasing vehicle range, with popular models such as the Peugeot E-Partner offering 213 miles whilst the Ford E-Transit can deliver up to 249 miles between charges.

In the year 2024, 4 of the largest 8 van

manufacturers met their ZEV mandate target through a combination of battery electric sales and credits earned through more efficient diesel and hybrid models. However the UK market is dominated by Ford – which, as with cars, was late in bringing new models to market.

The result of Ford's slow start is that industry as a whole missed the ZEV mandate target. However this was anticipated in regulations, which allowed firms to borrow from future years to meet up to 90% of their van targets in 2024. This will enable any lagging manufacturers to make up ground in later years.

Assisted by increasing sales and Government's recent April announcement, which will allow makers to count more savings from reductions in the CO2 of their petrol, diesel and hybrid sales, the picture for 2025 is looking more positive. Second largest maker Stellantis has increased its surplus, as has Nissan, whilst VW vans have gone into credit, and Toyota (who were

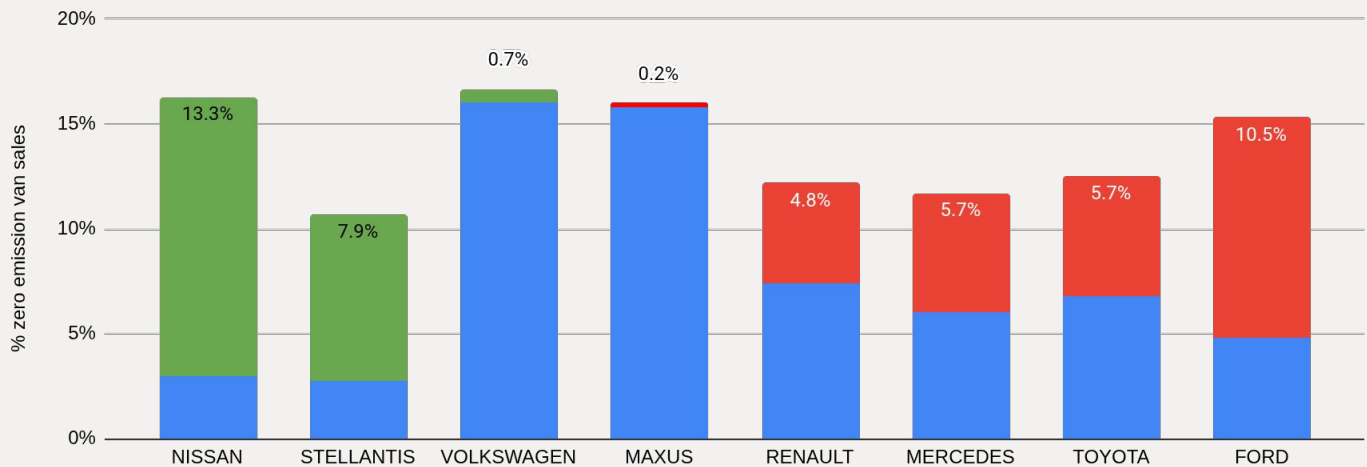


Figure 13: Over (green)/ under (red)-performance against real 2025 ZEV mandate targets (blue) for same 8 makers

previously in credit) are only a small amount behind - a better position than industry had reached at the same time last year.

Ford was the second largest electric van maker in 2024, and is the largest in 2025 to date. But whilst it has grown the share of battery electric across its total sales from 3% to 5% in the first 3 months of 2025, this is still far short of its 16% 2025 target.

Furthermore Ford's domination of the van market (they sold almost twice as many vans as the other four lagging firms Maxus, Renault, Mercedes and Toyota put together) means that it is only by the actions of Ford alone - whether extending the appeal of the E-Transit, or by bringing forward other models - that the industry as a whole will get on track with the ZEV mandate targets.

Indicator 3: Surface Transport Electrification

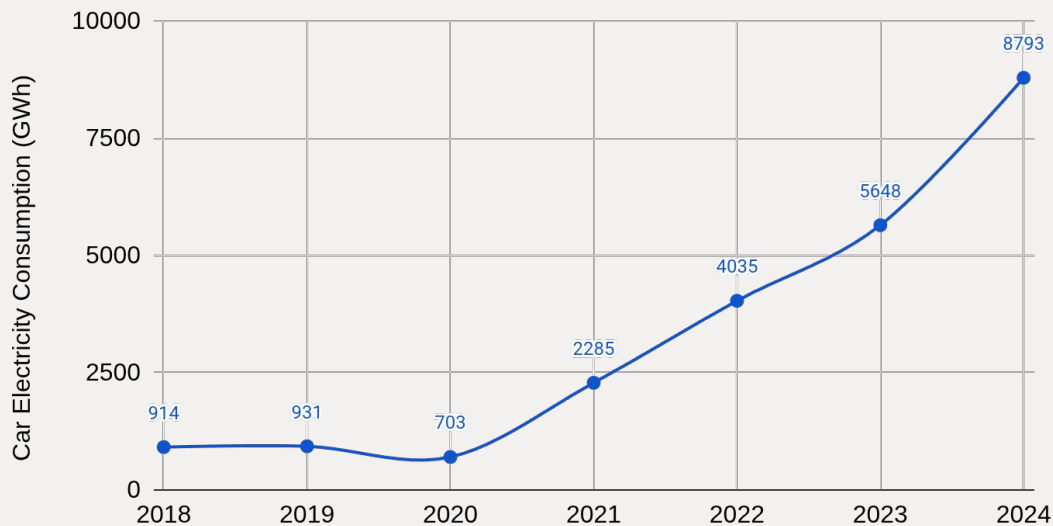


Figure 14: Annual electricity demand attributable to electric cars over time

For this State of the Switch we have included a new indicator, which shows the rate at which electricity demand for cars is increasing, and the rate at which petrol and diesel demand for road transport is declining.

Electrification of car transport

The official statistical publication DUKES (Digest of UK Energy Statistics)¹ publishes estimates of electricity demand in road transport. It does this using data from the Department for Transport on total vehicle miles travelled, and assumptions set out in the Transport Analysis Guidance databook on the proportion of electric miles and average vehicle efficiency.

We have used this methodology to isolate the electricity usage attributable to electric car travel in particular, and to extend the analysis from 2023 (the last year for which data is available in DUKES) to 2024.

Consistent with our analysis in indicators 1 and 2, vehicle electricity demand is not only increasing, but accelerating, due to rising year-on-year EV sales and positive selection of battery electric cars by higher mileage drivers.

However, none of this should be a cause for concern in relation to the integrity or resilience of the grid. Thanks to their vastly superior efficiency (77–91%, compared with 12–30% for ICE vehicles³), electric vehicle charging uses only a small proportion of domestic energy generation.

¹ [Energy consumption by final user \(energy supplied basis\)](#), 1970 to 2023 (DUKES 1.1.5)

² [TAG Databook](#) (A1.3.9)

³ [US Department of Energy and Environmental Protection Agency](#)

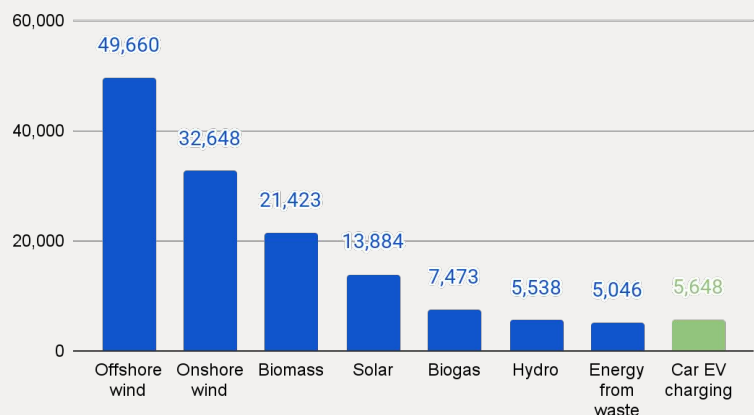


Figure 15: GWh of electricity supplied by wind, solar and other renewable sources in 2023, compared with end consumption of electricity by cars in the same year

Some renewable electricity must be used at the point of generation. However EVs are an ideal technology to accommodate this, as charging demand can be readily – and automatically – time-shifted to moments of peak supply.

Declining petrol and diesel demand

Evidence is increasingly suggesting that petrol consumption for road transport is on the verge of peaking. After a long period in which deliveries of petrol moved in a range of 963 to 996 kilotonnes per month, usage crashed during the pandemic. The 12 month rolling average did not make it back to the bottom of this range until April 2024 and has still not returned to its peak.

Meanwhile diesel is already in decline. Having reached a peak of 2,085kt of white diesel per month during 2018, monthly deliveries recovered post-pandemic to reach 1,939kt in mid-2023 – down 7% on their peak – before beginning to fall again.

At the end of 2024, deliveries were down to 1,814kt per month, a decline of more than 13% on their peak, and 5% in the last year alone.

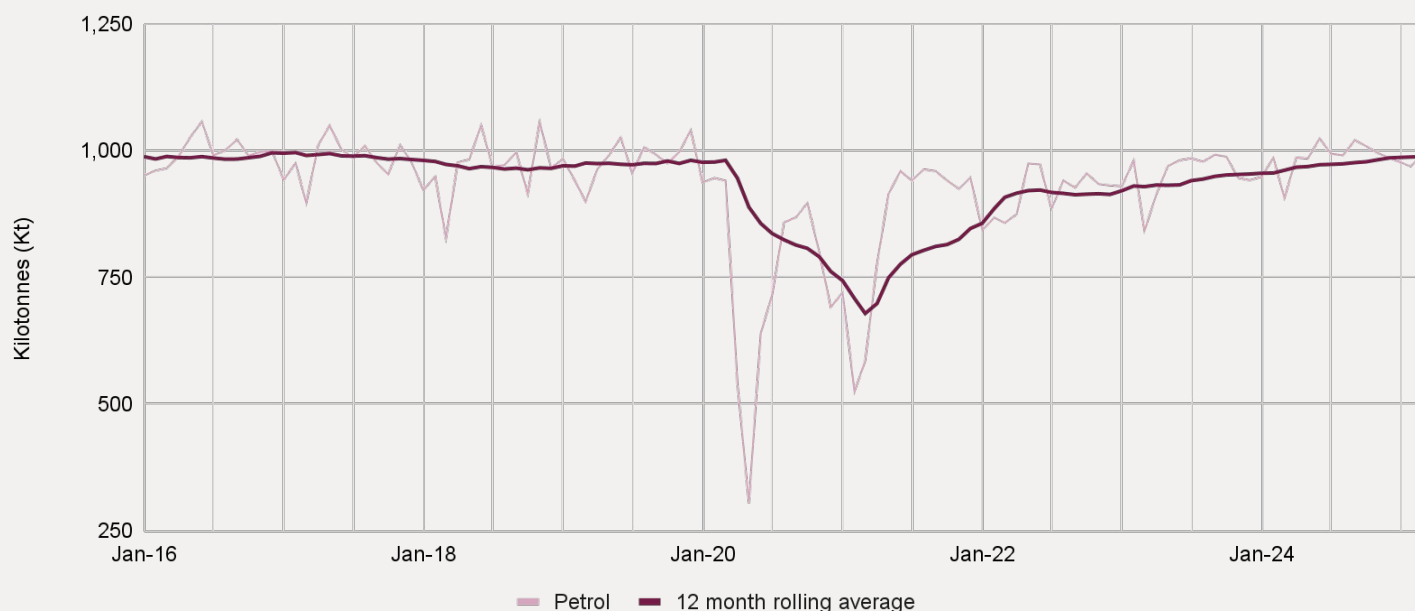


Figure 16: Monthly and 12-month rolling average petrol deliveries

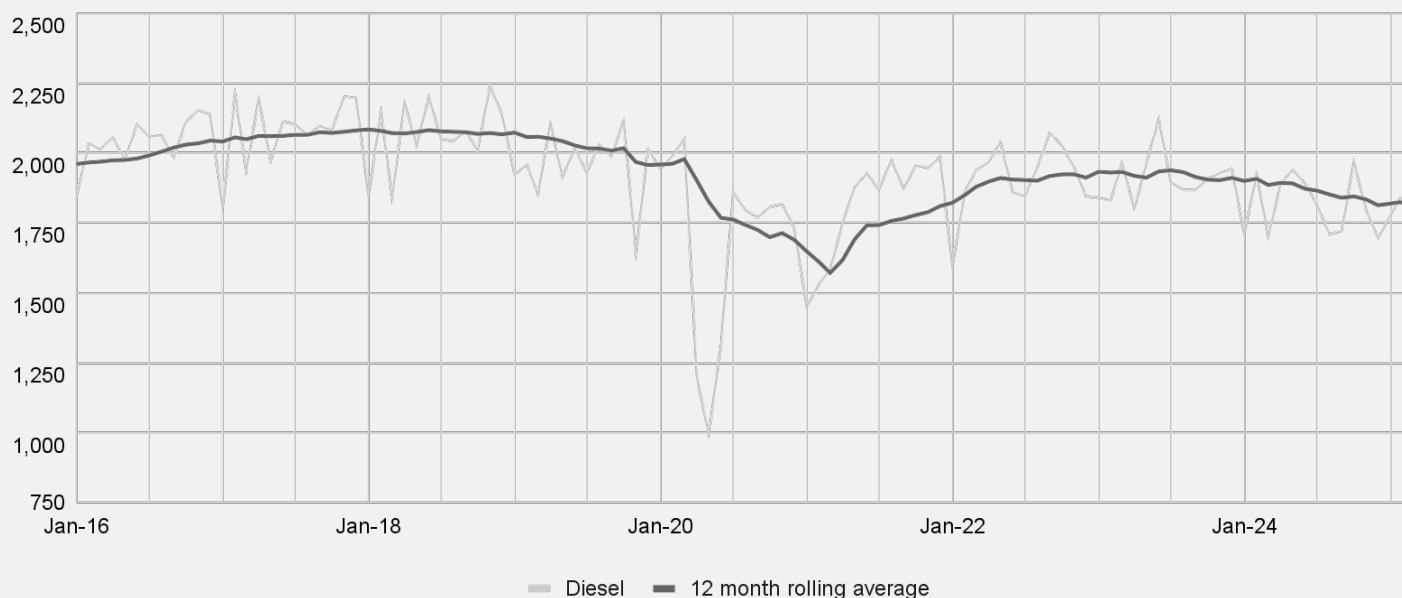


Figure 17: Monthly and 12-month rolling average diesel deliveries

2025 predictions

As illustrated earlier in figure 11 under indicator 2, we expect the volume of diesel and petrol cars on the road to fall over the next year. Diesel car volumes might fall by as much as 20%, from 9.8m to around 7.8m, whilst petrol car numbers could decline by up to 5%, from 16.7m to 15.8m.

However hybrid car numbers will increase by a quarter, whilst plug-in hybrids also increase by 20%, compensating for some of the fall – predominantly in petrol, and to a lesser extent in diesel. Meanwhile diesel remains dominant in the HGV and van market and usage may even slightly increase here, although not enough to fully offset the decline in usage from diesel cars.

Therefore, overall we expect petrol deliveries to drop in 2025, whilst diesel's decline accelerates. We predict that petrol usage will fall by around 1%, whilst diesel usage drops by 5%.

Indicator 4: EV Price Parity

To identify whether, and if so where, price parity had been reached, we compared the most popular battery electric vehicles with the closest equivalent petrol vehicles at the beginning of 2025.

Our analysis looks at both the new and used markets, considering 15 of the most popular new vehicles, and a further 35 combinations of vehicle model and age in the used market. We have taken account not just of upfront cost and headline filling/charging costs, but also insurance, servicing, taxes and the costs of installing a home charger. We also allow for losses in EV charging and different charging scenarios – those where consumers can mostly charge at home and others where they are reliant on the public charging network – as well as a range of different annual mileages.

In this way, our analysis overcomes the many limitations in earlier analyses, which have tended to focus exclusively on the new market, consider only small numbers of models, compare recommended retail

prices rather than actual sale prices, or average across all models available on the market, regardless of those models' popularity.

We summarise our findings on price parity below. Further detailed findings, and more on our methodology, can be found in the [Cost of Driving Electric Report 2025](#), which we produced with Electric Vehicles UK.

New vehicles

In the new market, we have looked at personal contract purchase and salary sacrifice at both basic and higher taxation rates. The analysis below takes account of recent changes to vehicle excise duty (road tax) and the expensive car supplement.

Price parity in the total cost of ownership has largely been reached for consumers with the ability to charge at home. This consumer segment will save by switching from a petrol vehicle to an EV much more often than they lose, regardless of how they

How they charge	Mostly charging at home			Public charging		
Annual mileage	5K	8K	10K	5K	8K	10K
Personal Contract Purchase	60%	67%	73%	40%	40%	40%
Leasing with sal sac (basic rate tax)	73%	87%	93%	47%	47%	40%
Leasing with sal sac (higher rate tax)	100%	100%	100%	100%	100%	100%

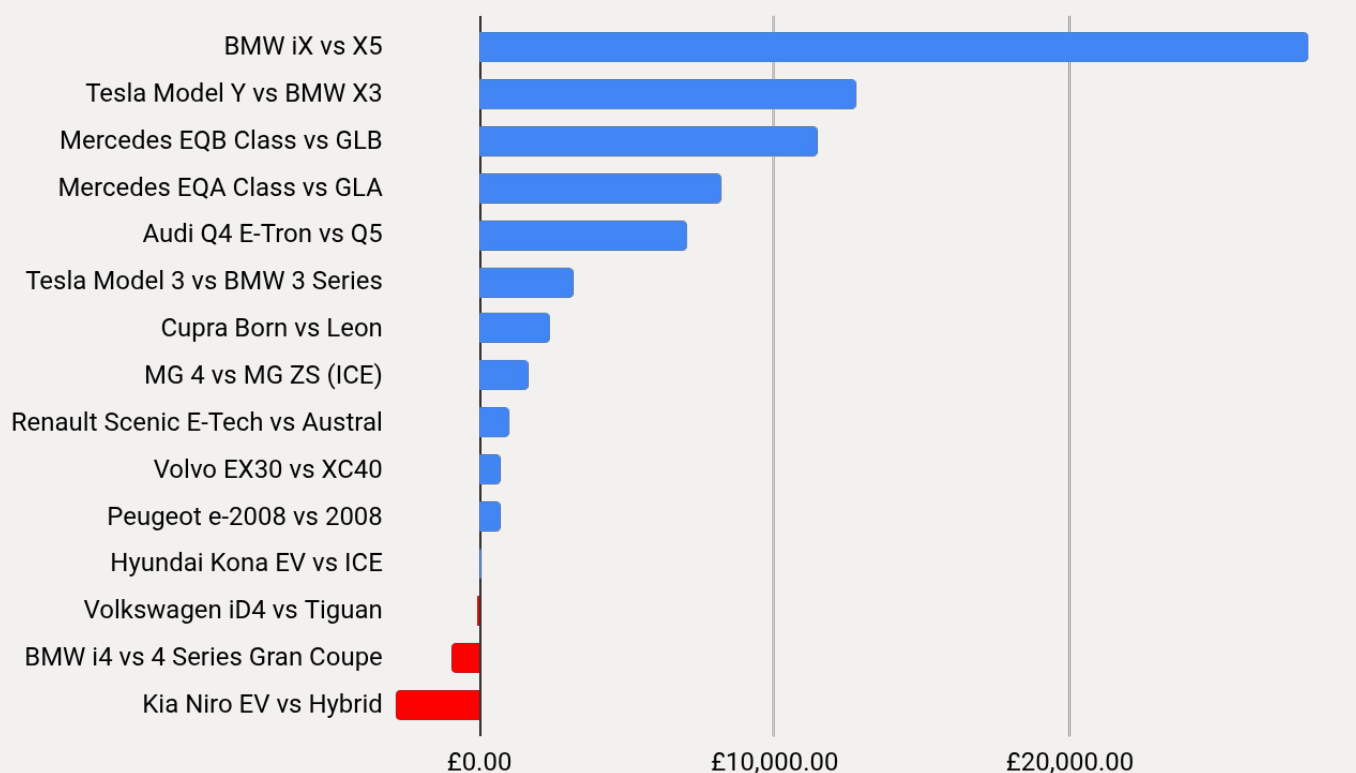


Figure 18: Average saving in total cost of ownership for new EVs across all scenarios, compared with equivalent petrol cars

buy, or how far they drive. However they have the greatest likelihood of saving at higher mileages, and when they are able to access a salary sacrifice arrangement via their employer.

In contrast, for drivers without access to home charging, price parity is still out of reach. This segment will more often lose out by switching, unless they are fortunate enough to be a higher rate taxpayer with access to a salary sacrifice arrangement.

This difference in outcomes between those with and without access to home charging is due to the much higher cost of public charging. We cover this issue in indicator 5.

Averaged across all the charging, mileage and ownership scenarios the biggest

savings are available for Teslas, Audis, Mercedes and some BMWs – see figure 18. However, much cheaper brands, including MG, Cupra, Renault, Volvo and Peugeot also deliver savings.

Used vehicles

Our analysis of the used market shows that upfront price parity has already largely been reached. At all ages in the market, 80% of electric vehicles are cheaper up front than their petrol counterpart, and only 20% are more expensive, typically by a relatively small amount.

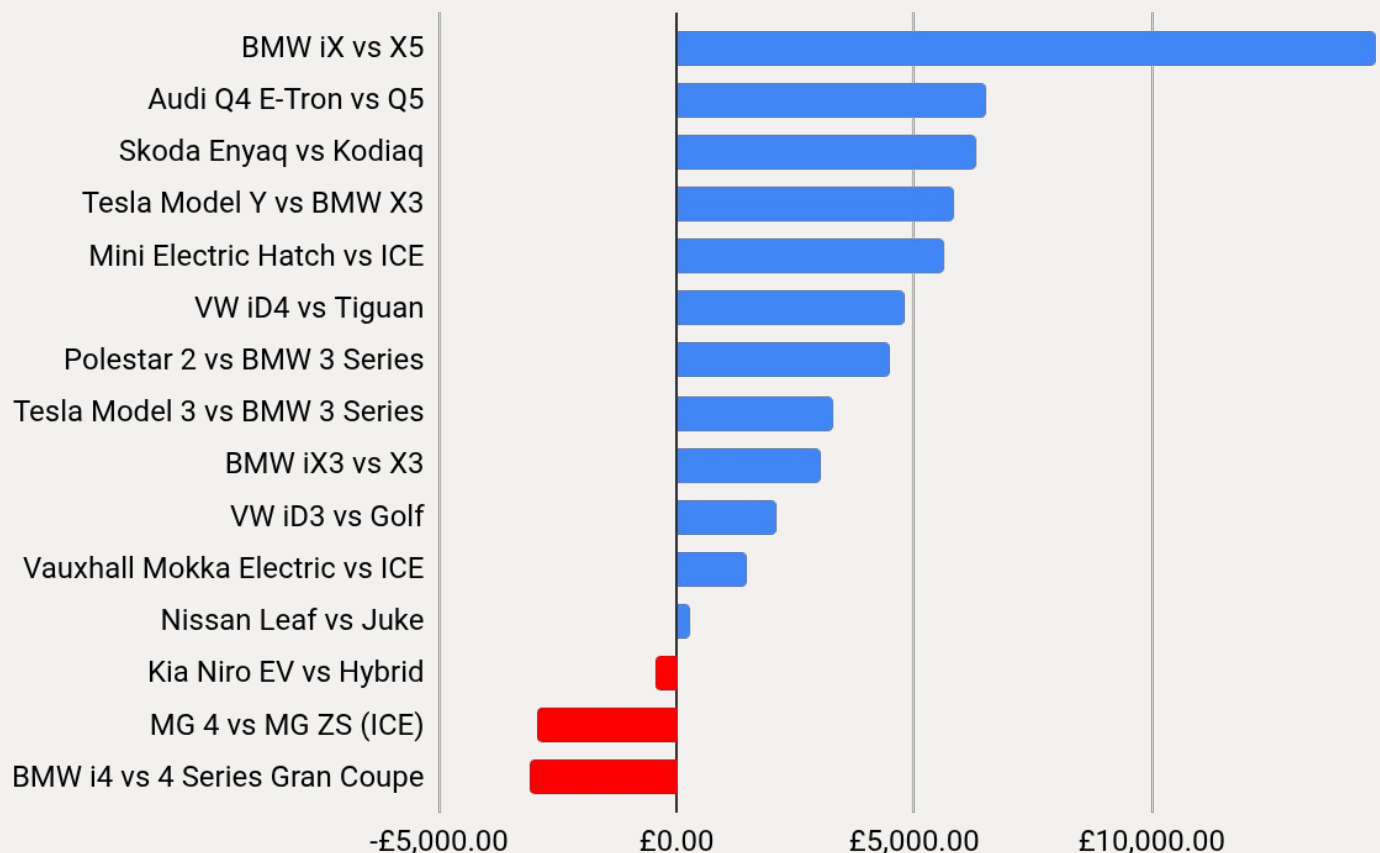


Figure 19: Average saving in upfront cost for up to 3 year old battery EV, compared with equivalent petrol car

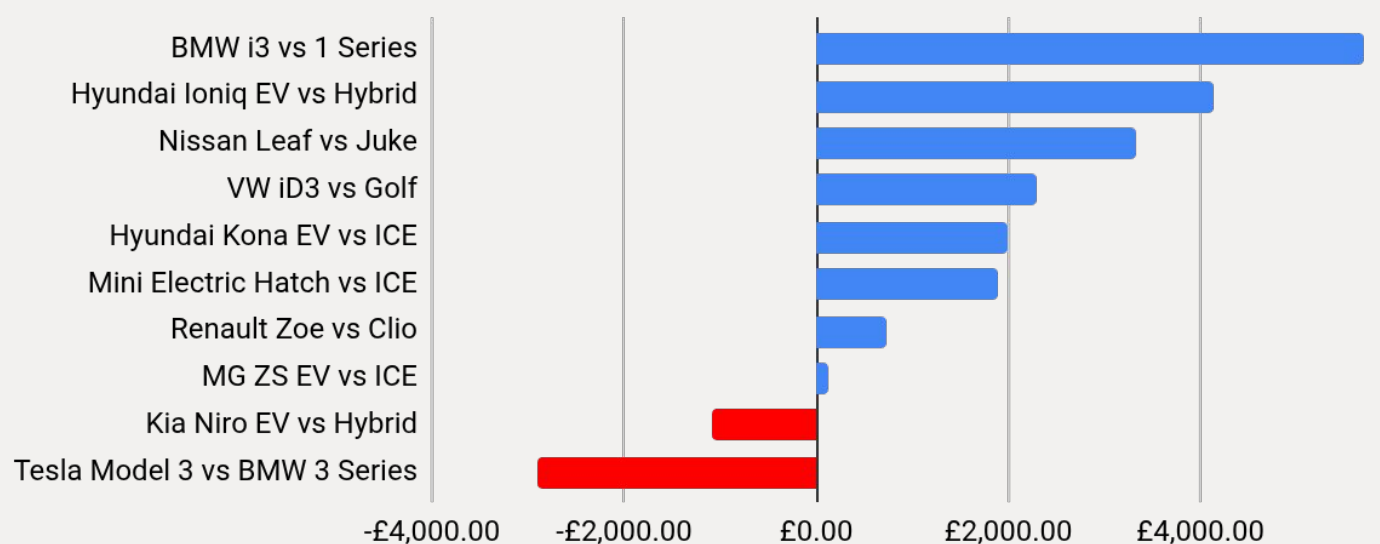


Figure 20: Average saving in upfront cost for 3-5 year old battery EV, compared with equivalent petrol car

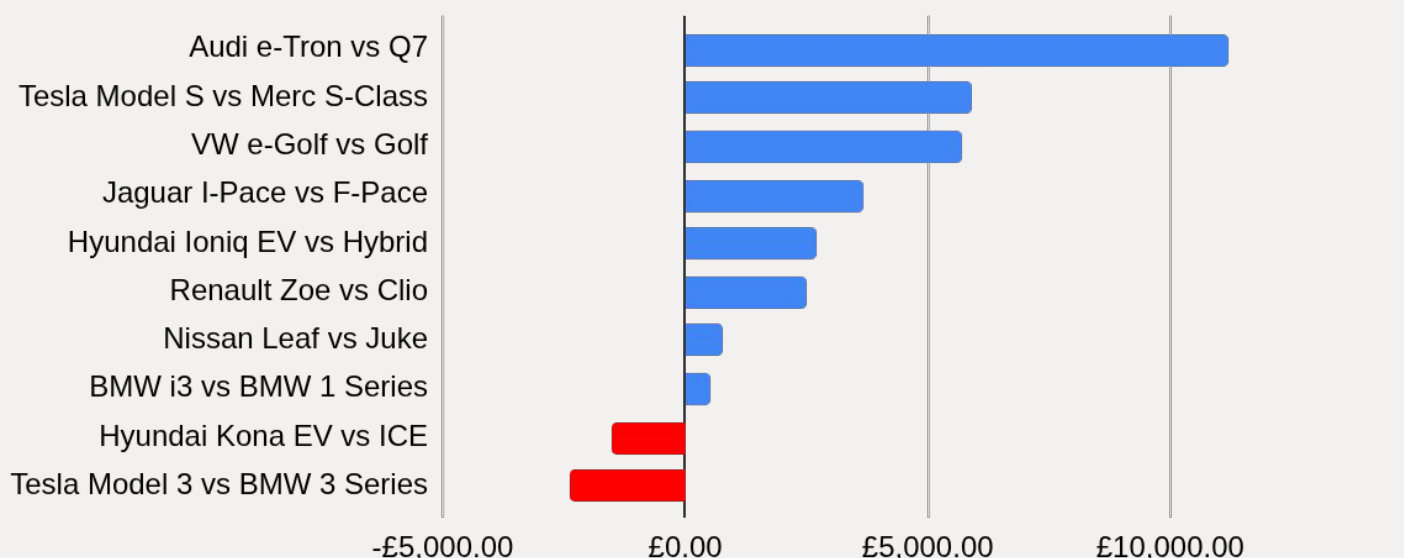


Figure 21: Average saving in upfront cost for 6+ year old battery EV compared with equivalent petrol car

Given the lower upfront cost of most used EVs and the low cost of home charging, the total cost of ownership over a typical 5 year term is unsurprisingly also lower, where consumers can charge at home. Only in a small number of low mileage scenarios will it be more expensive to switch.

However for consumers dependent on public charging, the higher per kilowatt hour cost means that price parity has not been reached for a majority of buyers. At present, consumers reliant on the public charging network will only be more likely to save with

vehicles that are less than 3 years old.

Strikingly, higher mileage drivers, who are responsible both for more greenhouse gases and more local air pollution, are less likely to benefit from switching when they are dependent on the public charging network. This is again because – for most EVs – the “per mile” costs of charging on the public network are higher than the cost of refuelling. This gap significantly undermines Government’s policy goals of tackling both the local and global pollution associated with road transport.

How they charge	Mostly charging at home			Public charging		
Annual mileage	5K	8K	10K	5K	8K	10K
Up to 3 yrs old	100%	100%	100%	73%	67%	60%
3 to 5 years old	80%	100%	100%	50%	40%	40%
6 years old +	90%	100%	100%	50%	40%	30%

Table 2: Percentage of used EV models with which consumers save, relative to a corresponding ICE vehicle, by mileage, charging situation and vehicle age

2025 predictions

In the used market, Autotrader¹ noted a 2024 year on year decline in battery EV prices of 10.6%, compared with a wider market decline of 4%.

Following 58% growth in used electric car sales in 2024, we predict a further 50% growth in 2025, and approximately 283,000 transactions. This volume of EVs reaching or recirculating in the used market will exercise some downward pressure on prices, but prices are unlikely to fall more steeply than they did in 2024. The bargains are to be had already, and – where they can charge at home – owners of petrol and diesel cars will not gain by holding onto them and paying more to refuel them.

Therefore, **we predict that the proportion of used EVs which are cheaper upfront than their petrol counterparts will increase slightly in 2025, from 80% (4 in 5 cars) to 83% (5 in 6).**

In the new market, we anticipate that manufacturers who are lagging behind the ZEV mandate targets will bring forward more competitive offers, including price cuts, free chargers and low interest rates.

We expect to see this behaviour from many manufacturers, but particularly Ford, Nissan, Toyota, Chery and – if they do not exit the market altogether – Honda, Mazda and Suzuki. Buyers will naturally want to carefully weigh up the discounts available against the quality of the products. However, thanks to these improved deals, we predict that the

proportion of vehicles bought via PCP and charged at home which are cheaper to own than corresponding petrol cars will increase from 67% (2 in 3) to as much as 80% (4 in 5).

¹ Auto Trader. [Car monthly market intelligence](#).

Spotlight: HGVs

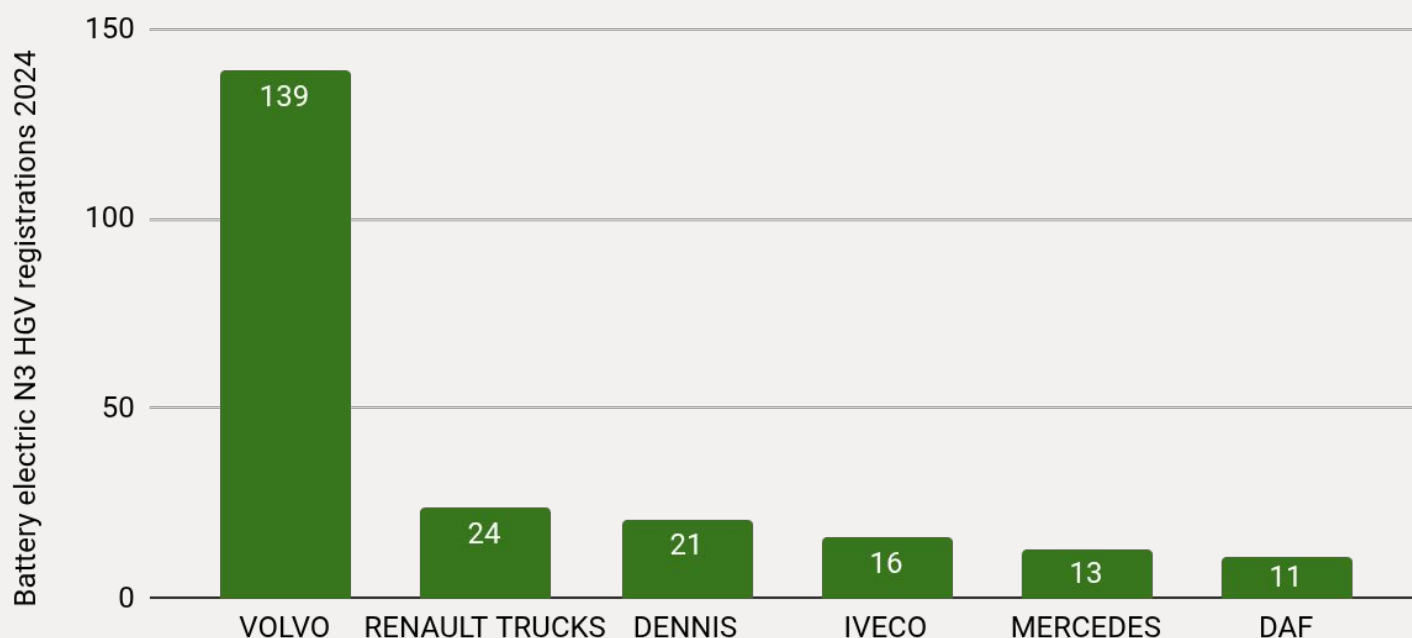


Figure 22: top 6 battery electric HGV makers by UK sales, 2024.

HGVs remain the biggest decarbonisation gap in UK road transport policy. They account for 18.3% of transport greenhouse gas emissions, slightly more than vans, but are not covered by any Government policies other than a plug-in grant.

Battery electric HGVs accounted for 0.6% of sales (248 units) in 2024, unchanged on 2023 levels. Whilst the longer-term trend has been upward, this is far too slow to meet the target – set by the previous Government – of all new HGVs being zero emission by 2040. The target for all new vehicles under 26 tonnes to be zero emission by 2035 now appears extremely ambitious – this is the same target for cars and vans, which already benefit from a policy mechanism and real sales growth.

Under the plug-in grant, five vehicles of 4.25–12 tonnes gross weight are eligible for grants of £16,000, or 20%, whichever is less, whilst a further 19 vehicles of above 12 tonnes are eligible for £25,000 or 20% off. However the slow take-up shows that incentives alone are nowhere near enough to drive widespread adoption.

The previous administration left a Call for Evidence on exclusions to the 2035 switchover unanswered, but did at least commit to an HGV infrastructure strategy in early 2024. This had not appeared by the time the election was called. Since taking power in July 2024, Labour have not indicated any timings for publication, or indeed any other plans beyond the zero emission HGV and infrastructure

demonstrator programme (covering hydrogen fuel cell vehicles, alongside battery electric) which will gather data for a 5-year demonstration period¹.

The UK Government's leisurely approach and determination not to pick winners compares unfavourably with China, where battery electric trucks accounted for more than 13% of registrations in 2024, whilst fuel cell trucks flatlining at less than 1% market share.²

It's therefore unsurprising that in 2024 the most popular battery electric HGVs in the UK included the Chinese-owned Volvo FE, FH and FM series, as well as the Renault Trucks D Series (also owned by Volvo, despite the name). Volvo's FH and FM Electric truck each offer a range of up to 300km (185 miles), with ranges of up to 600km expected later in the year³. However, costs are reported to be very high, up to 3 times more than the corresponding diesel vehicle.

The leading European makers DAF, Mercedes, Scania and MAN sell many fewer electric HGVs, with the latter two firms registering fewer than 5 vehicles each in 2024.

China's rapid electrification has been delivered by a much more comprehensive range of incentives and standards. Amongst its top manufacturers, Yutong, a top 5 producer of both medium and heavy trucks, is set to launch its electric offering in the UK later this year, whilst Dongfeng, FAW, Foton,

SANY and XCMG all now have some operations here. Traditional brands look set to be squeezed in the years ahead as competition hots up and prices come down.

¹ Innovate UK – Business Connect. Zero emission heavy goods vehicles and infrastructure

² ICCT. [Zero-emission medium- and heavy-duty vehicle market in China, 2024](#)

³ Volvo Trucks. [Breakthrough: Volvo to launch electric truck with 600 km range](#)

Indicator 5: EV Charging Network

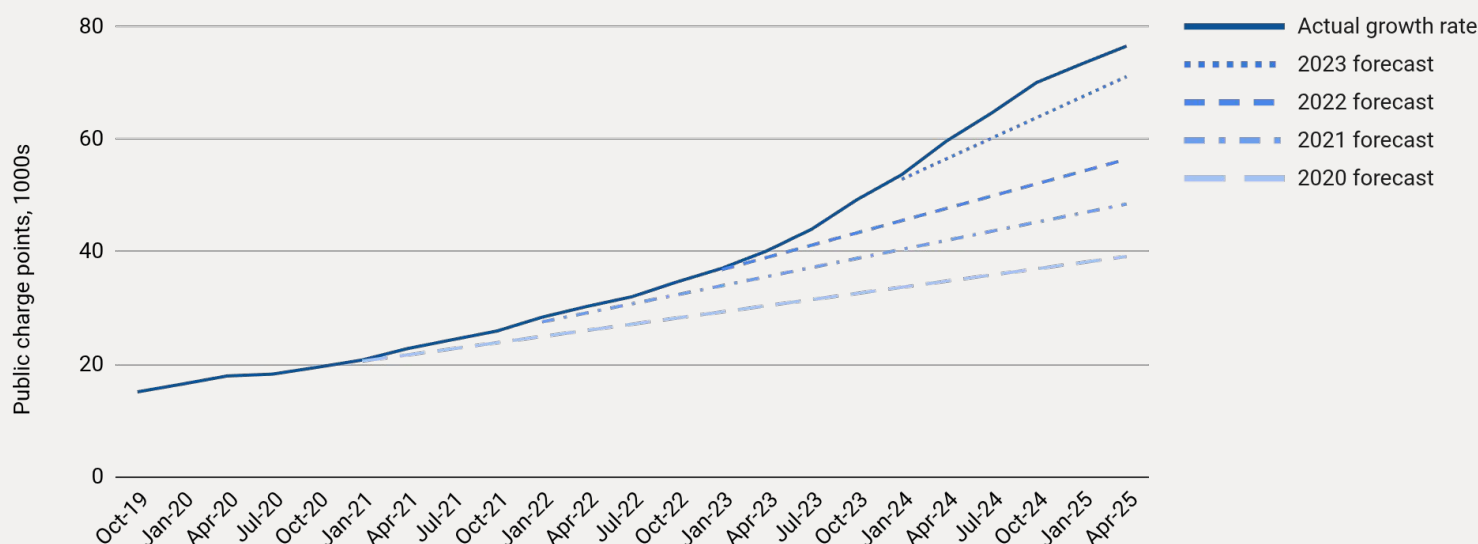


Figure 23: Chargepoint numbers over time, alongside forecast numbers had they grown linearly

Chargepoint progress

Public chargepoint numbers increased during 2024 from 53,667 at the beginning of the year to 73,334 at year end – in the top half of the 70,000–75,000 range we forecast last year.

This 37% annual increase is well above the rise in numbers of electric vehicles on the road over the same period.

Installations continued to increase exponentially through 2024, defying repeated forecasts which suggest volumes will only increase linearly. There are now almost twice as many public chargepoints as such forecasts would have predicted back in 2020.

At the 6.4% quarterly growth rate which has

applied over the past 12 months, public chargepoint installations will reach 300,000 in October 2030.

The phony war on chargepoint targets

Chargepoint provision is commonly cited as a concern with uneven provision has also been raised by the National Audit Office¹. However these conclusions rely on a limited and partial analysis of the data.

First, they omit home chargers from the analysis – these dwarf public charging facilities by a factor of 10 or more².

Second, the UK, like almost every other economy, is relying largely on a commercial model for public chargepoint rollout. Chargepoint operators will respond to trends in EV take up and locate

¹ National Audit Office. [Public chargepoints for electric vehicles](#)

² Charge UK. Powering ahead to 2030: current and future charge point availability in the UK

chargepoints there. They are not in a financial position to adopt a “build it and they will come – eventually” model, and tie up capital in new sites which don’t earn back significant revenue for many years.

Chargepoint operators have however proven successful at responding to demand. Whilst public chargepoints per head of population are typically lower across northern England, northern Scotland and Northern Ireland, these are areas of lower EV take up. The ratio of chargepoints per EV are much more even, with a relatively small number of (widely dispersed) “coldspots”¹.

Third, national blunt target numbers of chargepoints, or target ratios of chargepoints per EV, are in any case not the most effective indicator of a successful EV rollout. Norway has amongst the lowest ratios of public chargepoints to EVs but has the highest take up of EVs in the world, with sales of petrol, diesel and hybrid vehicles set to end this year.

Calls for chargepoint operators or others to have binding targets on infrastructure provision are therefore profoundly misguided and will slow the transition, not accelerate it. Unlike car manufacturers, who will earn revenue, re-invest and scale up production with each new EV sale, chargepoint operators earn no immediate revenue at all from installing new chargepoints, and will earn back slowly in areas with low numbers of EV drivers.

Mandatory targets would crash investor confidence in the public chargepoint sector.

In reality, despite the displacement activities by lobbyists, satisfaction with public chargers amongst EV drivers is high, and increasing. Research by EVA England² found that 64% of respondents felt that the charging network has improved over the past 12 months, whilst 79% of drivers have only rarely or never experienced range or charging anxiety. The proportion who occasionally or more often have difficulties has fallen by a quarter in just one year.

Costs of public and home charging

Rather than a confected policy solution to fix an imaginary north-south divide, the real divide is between the majority of drivers who are able to charge on their driveways, and the minority who are not.

As part of our research for Electric Vehicles UK’s report on the Cost of Driving Electric, we carried out an innovative analysis of chargepoint utilisation data to identify how consumers charge their EVs, and derive a real cost of charging.

Our analysis aimed to overcome the limitations of typical surveys which tend to at best count charging frequencies, rather than the amount of energy taken from different types of chargers or the amount paid.

¹ The majority of these are in the midlands and south. See [New AutoMotive, Where are the cold spots in the UK charging network?](#)

² EVA England. [The great EV charging report 2024](#)

³ Electric Vehicles UK. [Cost of driving electric report 2025](#)

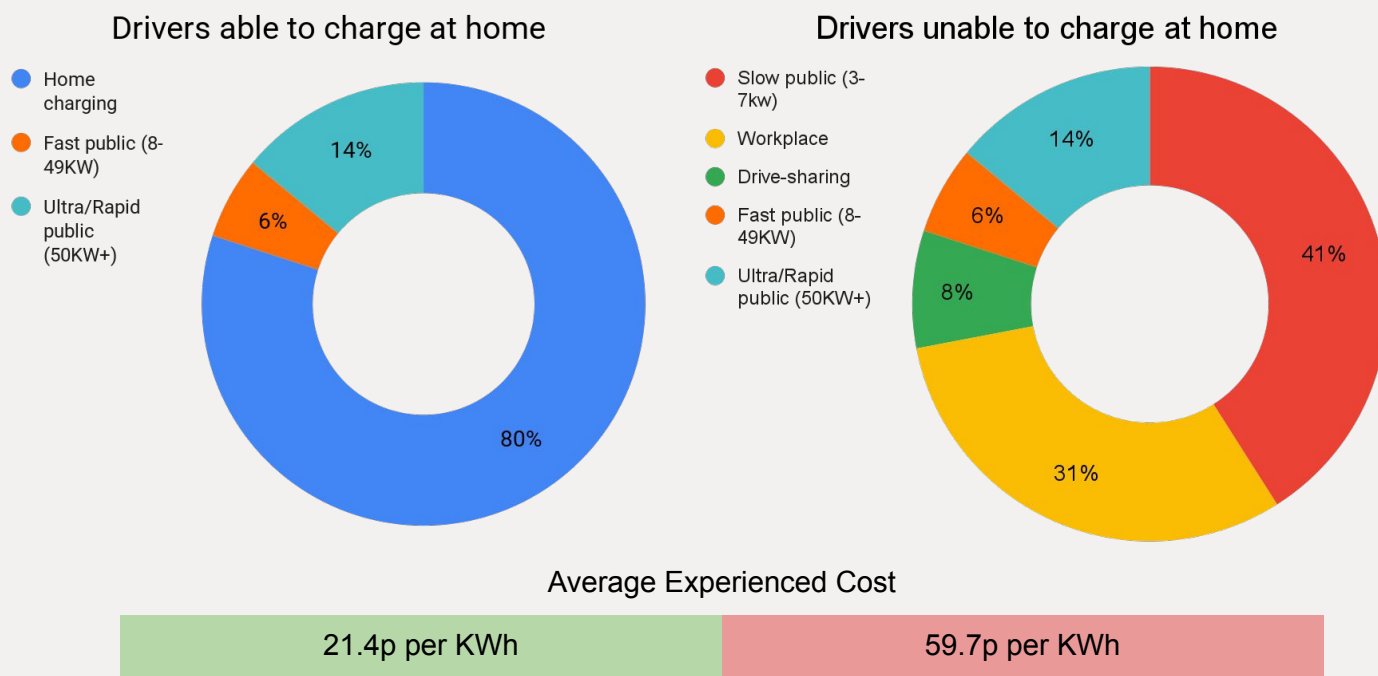


Figure 24: Breakdown of charging modes by main categories of EV owner

We used chargepoint numbers, average prices and utilisation factors from Zapmap data to calculate the power supplied to electric cars, our own analysis of electric car miles driven (see indicator 2) and evidence-based assumptions of the split between drivers with and without access to home charging and charger losses, to determine the proportions of charging which took place at home.

This suggested a breakdown of EV charging by driver type as shown in figure 24.

The much higher cost of public charging means that for all but the most efficient electric vehicles, it is cheaper to refuel a petrol equivalent than to charge an electric car. Whilst an average used EV buyer able to charge at home will save more than £2,000 over a 5 year period of ownership, one without the ability to charge at their own home will pay more than £800 extra.



Figure 25: Saving from charging instead of refuelling an equivalent petrol car over 5 years, for mostly home and public charging – averaged over 35 models, using WLTP combined cycle data and 7,700 annual mileage.

Government and manufacturers will need drivers without access to off-street parking to switch to EVs in the coming years as ZEV mandate targets increase, but they are unable to argue that switching is in these consumers' both long-term best interest. In fact for many consumers, the opposite is the case.

2025 predictions

We anticipate that public chargepoint numbers will continue to steeply increase in 2025. Having reached 73,300 at the beginning of the year, growth at the same 37% annual rate seen in 2024 will take the total number of public chargepoints over 100,000. Therefore, even in the event of potential slight slowing in response to Government policy changes (see indicator 6) **we predict that public chargepoint numbers will rise to within touching distance of 100,000 in 2025.**

We believe the logic of further action on the cost of public charging and access to home charging for those without driveways, as well as tenants and leaseholders, is inescapable. This group makes up approximately 40% of householders, but recent estimates suggest they account for less than 15% of current EV owners¹. If that proportion remains unchanged, then car-buyers with driveways will need to do more and more of the heavy lifting as ZEV mandate targets increase. To meet increasingly demanding headline ZEV mandate targets, by 2026, 41% of car-buyers with driveways would need to be buying EVs, increasing to 50% by 2027 and 74% by 2028.

We therefore predict that, by necessity, in 2025 **Government will begin to take steps to make it easier for more to charge from home and to lower the cost of public charging.**

¹ Zenith. [The EVXperience Report 2.](#)

Recommendation

To ensure that the policies are in place to facilitate the switch as targets ramp up, Government needs to begin work now to address charging issues. Action is needed on three fronts.

Lower the cost of public charging

- **Complete the restructuring of standing charges**, which have been directly responsible for a sharp uptick in the cost of charging.
- **Reduce the blatantly regressive rate of VAT on public charging.** New AutoMotive's report [Vehicle taxation: the next 25 years](#) showed how the costs of a VAT cut could readily be funded in a fiscally neutral way by modest increases in Vehicle Excise Duty.
- **Extend (or preferably, redeploy) the Renewable Transport Fuel Obligation to support renewable electricity in chargepoint provision.** Introducing a scheme similar to that implemented in the [Netherlands could cut the cost of public charging by up to 50%](#).

Make it easier for people with on street parking to charge from their home supply

Cross pavement solutions allow drivers without off street parking to plug into their home supply at low cost, in a way which doesn't endanger or pose obstacles for pavement users. The most common solutions are narrow covered gullies into which charge cables are safely slotted.

- **Simplify street works law** – unobtrusive inch-wide gullies currently require a "street works licence" from the local authority, costing between £500 and £3000. Gas and electricity firms and in future public chargepoint operators carrying out much more disruptive street works already get to use a lower cost permitting system.
- **Simplify planning for home chargers** – Despite their silent operation, lack of odour and unobtrusive scale, home chargers require planning permission anywhere they face onto and are within 2 metres of the pavement, and for all on-street charging. This adds more fees for driveway-less consumers who want to switch, as well as unnecessary clogging of the planning system.

Give occupants a "right to plug"

For those renting, leasing or living in multi-occupancy blocks, the UK has the worst legislative provision out of the 6 largest markets in Europe. Tenants, landlords, leaseholders and freeholders all need to approve a project. No justification is needed to oppose a project, with no legal deadlines to respond. Drivers should be able to install home charge points, where reasonable and at a fair price, wherever they live.

None of these changes are difficult, and many of them can be achieved by amendments to the Planning and Infrastructure Bill which is before Parliament.

Combined, these zero cost policy measures will lift the ceiling on the potential population of EV buyers from a current approximate 70% to a figure very close to 100%, allowing everyone the opportunity to enjoy the switch to cleaner, cheaper travel.

Spotlight: motorbikes

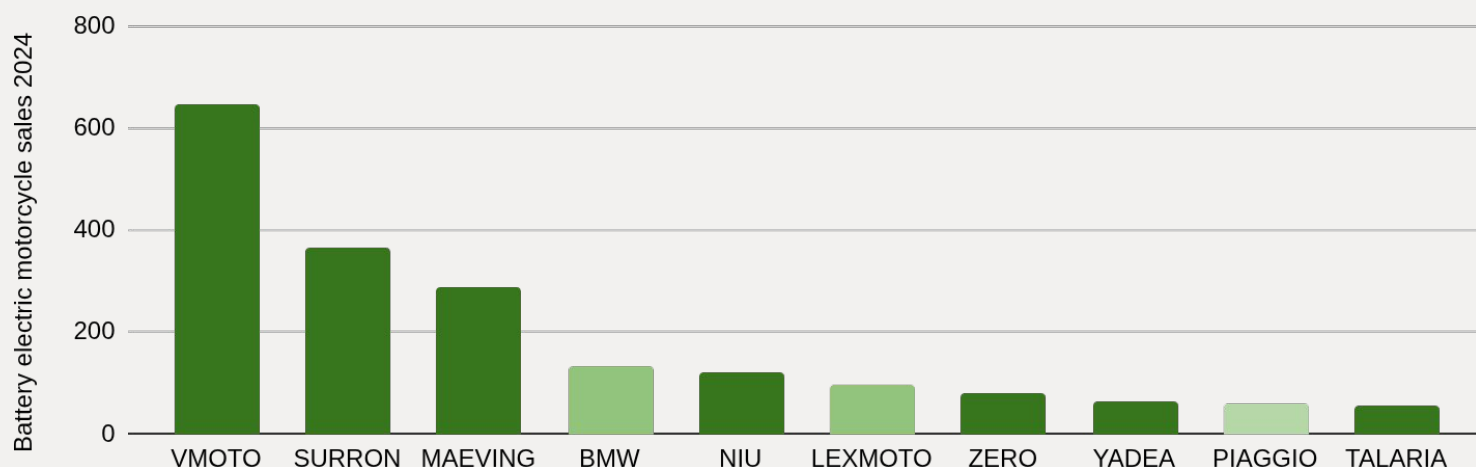


Figure 26: top 10 battery electric motorbike makers by UK sales, 2024. (EV only brands in darker green)

Motorcycles and mopeds are responsible for less than 0.5% of vehicle emissions, so have unsurprisingly taken a backseat in decarbonisation policy.

In theory they should be one of the easiest technologies to decarbonise, with lower weight and lower annual mileages, but it has not turned out that way. Battery electric bikes accounted for just under 3,500 (3.2%) registrations in 2024, down from 3,751 (3.5%) in 2023. We do not anticipate market share changing significantly in 2025.

Policy incentives to encourage the switch are present, with a £500 grant on approved motorbikes (not mopeds) with a speed of above 40km/h and a range of above 50km, and a price of below £10,000. Currently 55 electric bikes are approved.

In the absence of any supplier targets, most of the big makers have seen no first mover advantage in developing compelling electric motorbike offerings. As a result the top 10 is dominated by electric only

manufacturers. However the low revenue available in motorcycles- 100,000 new sales a year at an average of approximately £6,000, compared with 3 million cars at an average of £40,000 - means that the sector has not caught the eye of a well-funded disrupter.

BMW, Lexmoto and Piaggio are the only traditional motorbike makers in the top 10, and battery electric accounts for less than 5% of each firm's sales. The top two UK brands - Honda and Yamaha - did not sell a single battery motorbike in the UK in 2024.

The reasons cited for consumers not switching will be familiar from the world of cars - concerns about cost, range and charging dominate. However trade offs between range and cost remain a live concern amongst motorbike buyers. Vmoto offers bikes at under £4,000 with a top speed of 58mph, but a range of only 60 miles. Motorbikes made by Zero can double that range but will cost three times as much.

Indicator 6: Policy trends

As the earlier indicators have shown, the electric car market is largely in rude health.

Sales are steeply increasing, industry is on course to meet 2025 targets, and for a majority of manufacturers, the targets are well within reach. Existing levels of discounting are smaller in real terms than those which applied before the pandemic, and are entirely sustainable. Some manufacturers continue to lag behind, but some firms which were well behind in 2024 have caught up in the first few months of 2025, showing that there is nothing pre-ordained about the switch. The 3 firms most likely to miss this year's targets make up only 4% of the new car market.

The ratio of electric miles driven to those which were petrol and diesel-powered is already up to 1:13, and on present trends, EVs will account for close to 10% of miles driven in 2025. The consumer is already breaking free of volatile and air-clogging transport fuels, with diesel already down 12% on its peak and set to fall another 5% this year. Meanwhile petrol is turning a corner and will also begin a long slow fall this year.

Price parity between EVs and ICE cars has already been reached for many consumers, with upfront price parity on 80% of used EVs. Total cost of ownership parity has been reached on 67% of new EVs bought via PCP, and 85-100% of new EVs bought on salary sacrifice when charged at home. We expect both to increase this year. Public chargepoint provision is also keeping pace with vehicles on the road, and consumer satisfaction with the network is increasing.

The cost of public charging remains a major barrier to completing the switch in the latter half of the 2020s, but there are a host of zero cost measures which Government can and must begin putting into place now to make this easier.

The other major issue hanging over the sector is wild instability in Government policy. A consultation launched in December 2024 dangled the option of extending existing flexibilities under the ZEV mandate, or providing new ones. This was followed by a rushed announcement of changes, without public consultation, on 6 April 2025.

The most damaging measure is to extend both the duration and credits from outperformance against the CO2 scheme - discussed under indicator 1 - beyond 2026. This measure, despite protestations to the contrary, will significantly lower the market share of EVs in the remainder of the decade.

It will do this in three ways -

- Allowing manufacturers to continue to claim the benefits of historic reductions in the average emissions of their car sales right up to 2029, rather than see this mechanism expire in 2026 as planned.
- Allowing additional accrual of credits to manufacturers from customer-buying trends which are already underway - across the non-zero emission vehicle market, petrol market share is expected to continue to decline by around

9 percentage points each year (from 45% to 36% in 2025) whilst plugless hybrids grow by a similar amount (from 37% to 45% this year), and plug-in hybrids increase from a lower base by 1.5 percentage points annually (from 11% to 12.5%).

- Incentivising manufacturers to tilt business towards short-term transitional plug-in hybrid technologies over zero emission cars. Government's decision not to align with other countries in updating the reported emissions of plug-ins to reflect the real world use will mean that manufacturers will typically have the choice of choosing to comply with the ZEV mandate by selling battery electric cars or only slightly more plug-in hybrids.

The impact on EVs reaching the road, even in the absence of manufacturers adjusting their strategies towards PHEVs over BEVs, is profound, and represents a significant undermining of the Secretary of State for Business's assurance that he was considering measures which would help manufacturers "without in any way changing how many EVs there will be on the road"¹. New AutoMotive modelling suggests that even if manufacturers don't adjust their strategies at all in response to the new "flexibilities", there will be 400,000 fewer

battery EVs on the road by 2030. And with only modest adjustments to manufacturer strategies, there could be as many as 700,000 fewer battery EVs on the road by that date.

By 2029, the switch should have been unstoppable, with 66% of car registrations being battery electric. Instead, this decision will lower the minimum market share of battery electric cars, potentially down to only 50% or even less.

And by announcing 3 cliff edges to 2029 – cutting the maximum average emissions of petrol, diesel and hybrid cars, ending the use of improvements in these cars' emissions to lower ZEV mandate targets and updating the reported emissions of plug-ins to reflect their real world usage – Ministers have risked significant self-harm, by making the policy an election battleground issue.

Ultimately the announced measures will have a deep knock-on effect on other parts of the economy, including in investment, public and home chargepoint supply and installation.

Chargepoint Operators (CPOs), installers and maintenance service companies – who rely on BEV rollout and will see negligible benefit from plug-in hybrids – already employ more people domestically than those manufacturing EVs², suggesting that

¹ House of Commons Business and Trade Committee. [Oral evidence: The work of the Department for Business and Trade, HC 450](#)

² Chargepoint Operators (CPOs), installers and maintenance service companies are already estimated by consultancy Roland Berger to provide 4,000 (50% more) jobs, with this expected to rise to 10,000 skilled jobs by 2030. In contrast, Nissan's Sunderland site – which is by far the UK's largest battery EV automotive plant – employs 6,000 people, and only approximately 10% of its output is battery electric.

Ministers have decided to prioritise motor manufacturers, most of whom are based and all of whom are owned overseas, over the interests of domestic employees of charging companies who are by necessity predominantly based in the UK.

Ultimately, despite these quite unnecessary growing pains, the switch is well underway. Pure petrol and diesel cars are on their way out and the revised policy – by incentivising hybrids – will hasten their demise. From the future looking back, hybrids and PHEVs are set to be blips in the journey to electrification.

Previously BEVs on the road were set to overtake diesel before the end of 2027. In a worst case, under the existing legislation, we'll need to wait until the Spring of 2028 for that. Hybrids were set to be overtaken at the beginning of 2030. That now won't happen until the end. Petrol's eclipse by battery electric is still on course for 2032. And plug-in hybrids on the road will never even get close to the volumes of battery electric cars. Any carmaker eyeing a tilt towards a technology which is less popular and growing more slowly will be making a big mistake.

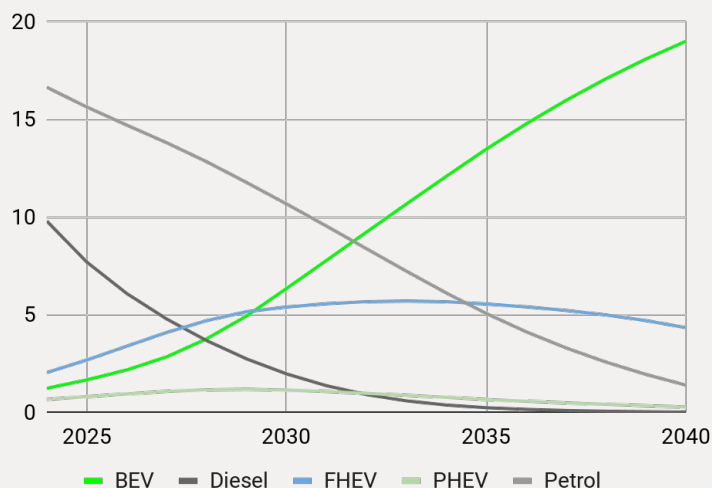
Recommendation

Registrations of BEV cars in December 2024 were high enough to meet the ZEV mandate for the whole of 2026. There is no further need for change.

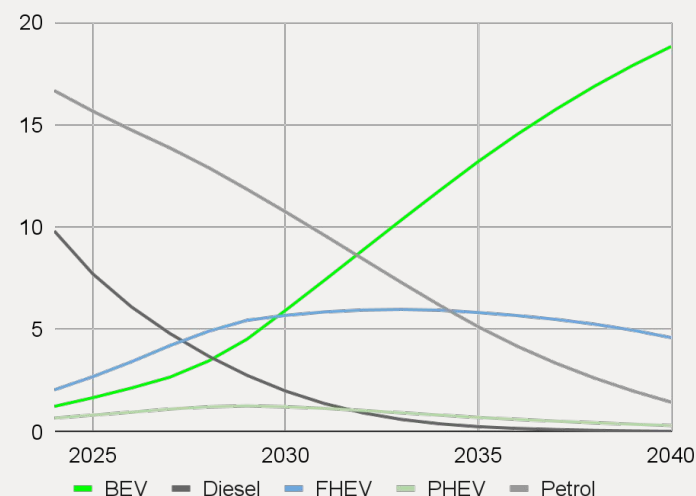
Government should resist continued calls from lagging manufacturers to further weaken ZEV mandate targets.

Figure 27: Forecast cars on the road (in millions) by fuel type

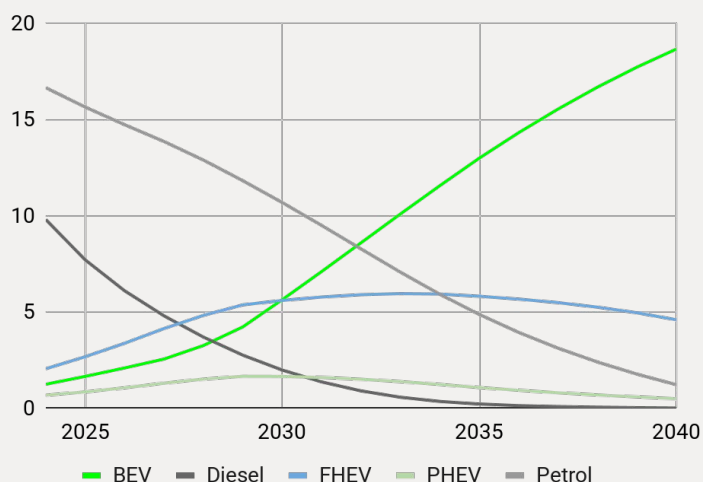
(a) Before Government's April 2025 announcement



(b) Existing trends towards hybrids continue



(c) Carmakers respond to the policy & boost PHEVs



Summary of recommendations

- Government should hold its nerve and resist continued calls from lagging manufacturers and their representatives to further weaken ZEV mandate targets.
- Government should take action to lower the cost of public charging, through restructuring standing charges, reducing VAT on public charging, and reforming the Renewable Transport Fuel Obligation to support chargepoint provision instead of (or as well as) liquid biofuels.
- Government should make it easier for people with on-street parking to charge from their home supply by simplifying street works requirements and planning permission for home chargers.
- Government should give tenants and leaseholders a “right to plug”, allowing them to install home chargers, where reasonable and at a fair price, wherever they live.