ELECTRIC BUSINESS

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Distributed in
THE TIMES

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INNOVATION

Them's the brakes – how to recharge a stalling EV market

Deterred by persistent affordability concerns and range anxiety, western consumers seem to have become hesitant about buying electric cars. Can the industry innovate its way out of these problems?

Jon Axworthy

The global market for electric vehicles looks buoyant at first sight, but look a little closer and you'll see some trends that are worrying manufacturers selling EVs in Europe and the US.

According to the latest figures from British trade body the Society of Motor Manufacturers and Traders, 2023 was the first year in which EVs failed to grow their collective share of the market for new vehicles since their sales started to boom in 2018.

Their share actually declined, albeit marginally, to 16.5% from 16.6% in 2022. In the UK, that percentage equated to one in 11 private car buyers choosing an EV. And, while the total number of units sold globally grew by 18% year on year, several analysts believe that the market is entering a new phase, with the early adopters giving way to a more cautious group of consumers, who are taking their time to decide when they'll ditch the internal combustion engine.

One of the primary reasons for the apparent loss of momentum becomes clear if you walk around a car showroom looking at sticker prices. The average list price of an EV is £49,818 and very few low-budget options are available.

Speaking at Tesla's investor day last year, Elon Musk said: "The desire for people to own a Tesla is extremely high. The limiting factor is their ability to pay for a Tesla," which is probably why the price of its cars has fallen by more than 20% over the past year.

Fiat, Peugeot, Skoda and Volkswagen all felt the need to offer discounts on their EVs in the UK too, while Ford made similar price cuts in the US.

Manufacturers are hoping to innovate their way out of what has so far been a micro-slump. Many are starting with their cars' battery systems, which are the biggest contributor to the sticker price. Based on a range of chemistries, depending on the manufacturer, batteries are made up of costly elements such as lithium, nickel, cobalt and manganese. Although commodity analysts at Goldman Sachs have predicted that battery costs are set to drop by 40% within a year as the prices of these raw materials cool off, manufacturers aren't sitting around and waiting for such forecasts to come true.

Battery swapping is one of the many concepts they are exploring in the search for greater cost-efficiency.

Euan McTurk, a consultant electrochemist, explains that battery swapping is a straightforward concept that "allows an EV's charge to be replenished in a handful of minutes by physically removing the depleted pack and replacing it with a fully charged one. The process is slightly faster than your average refuel. The depleted battery is then recharged and installed later in another vehicle visiting the charging station."

While this seems like it could be an effective solution, not everyone is convinced. Musk has claimed that Tesla customers aren't interested in swapping batteries, for instance. His firm will focus instead on developing its fast-charging network.

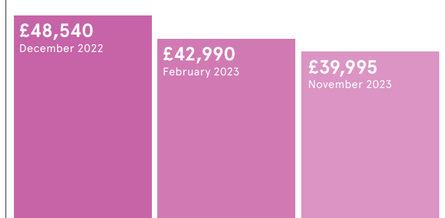
Nonetheless, McTurk believes that swapping could be "a cost-cutting option for certain EV manufacturers whose customers don't want to be limited to charging points and are more focused on completing journeys quickly – taxi drivers and couriers, for instance".

There's also increased activity surrounding the varied battery chemistries, with a general move away from the lithium-ion technology that powers most EVs.

"Sodium-ion is exciting for various reasons," McTurk says. "Done properly, this chemistry eliminates cobalt, nickel, copper and lithium, replacing them with cheaper, more abundant materials that are less costly to ship. In fact, the first sodium-ion-equipped EVs have recently been launched in China, priced at under £8,500."

THE PRICE OF TESLA'S MOST AFFORDABLE MODEL HAS DROPPED NEARLY £10,000 IN A YEAR

Price of an entry-level Tesla Model 3 in the UK



Fleet News, Car Dealer Magazine, 2023

The trade-off is that sodium-ion cells aren't as energy-dense as lithium-ion equivalents – that is, they can't propel a vehicle as far on a single charge. McTurk notes that this makes them better suited to city cars and buses.

As EV charging infrastructure is further developed, the relatively limited range of sodium-ion batteries should become more acceptable even to longer-range drivers, who will feel increasingly confident that they can always make it to a charging station in time.

Another cost-saving innovation, this time on the assembly line, is a process known as gigacasting. Pioneered by Tesla, this was introduced for its bestselling Model Y in 2020, enabling the firm to produce large sections of bodywork by pouring molten aluminium into high-pressure moulds. Aluminium is more expensive than steel, but replacing 100-plus welded parts with one enables significant cost savings on production time, labour, factory space and robotics.

"Gigacasting is a core part of Tesla's 'unboxed' reimagining of the assembly process," says Gil Tal, director of the EV research centre at the University of California, Davis. "It speeds up the process because it gives workers, human or robotic, the ability to assemble different sections of the car simultaneously."

Although such innovations will undoubtedly help to make new EVs more affordable, will they come through quickly enough to arrest any negative demand trends in Europe and North America?

"Innovations in the auto industry are usually introduced slowly," says Mike Tyndall, a director at HSBC and its head of research into European autos and future transport. "Significant changes tend to happen only when a model is facelifted or replaced. This is likely to be the case for both gigacasting and the adoption of new battery chemistries."

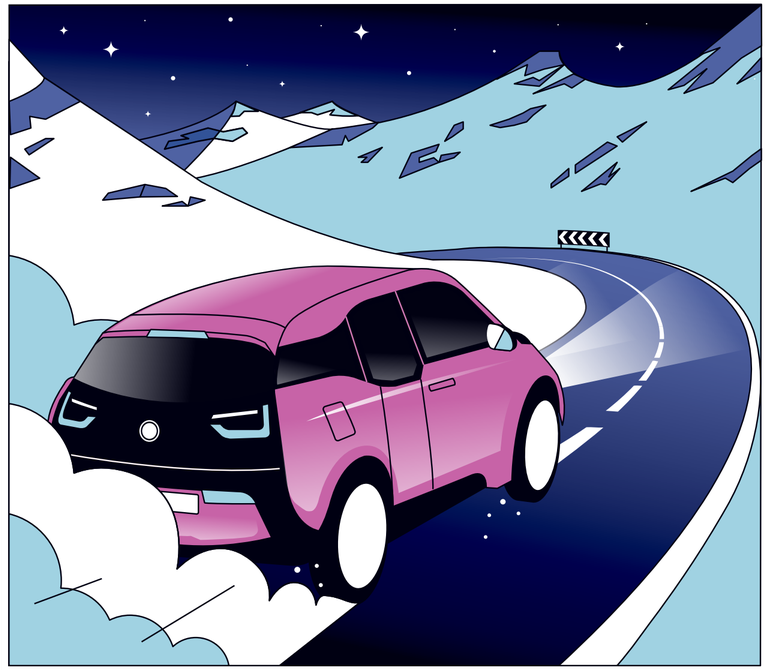
Tyndall believes that the most significant downward impact on EV prices this year will be "the falling prices of the associated battery materials. Most car makers have intimated that they will use these savings to help support pricing. But that does, of course, assume that their suppliers will pass through the cost reductions."

This means that tumbling sticker prices in the showroom are far from a foregone conclusion. EV manufacturers should buckle up, lest 2024 gives them a bumpy ride.

COMMERCIAL FLEETS

Accelerate to accumulate

The government may have postponed its ban on the sale of new petrol and diesel vehicles, but firms shouldn't take that as a sign to defer electrifying their fleets



Sally Whittle

It wasn't exactly a strategic decision that added the first electric vehicle to the AA's fleet. It was more a case of waste not, want not.

"The PR team called us, saying that they needed an electric van for an advertisement, so we bought one and got it branded up," explains Simon Ungless, who joined the firm at the end of 2021 as commercial group fleet manager.

Once it had fulfilled its role as a marketing tool, the van was turned into a roadside-assistance vehicle, becoming the first EV in the AA's 2,500-strong fleet.

That fleet has since incorporated about 80 more EVs and the company is now set on full electrification. It was not prompted to ease up on its strategy by the government's decision last September to defer its ban on the sale of new petrol and diesel cars from 2030 to 2035.

But relatively few companies in the UK have shown such initiative and resolve so far. Full fleet electrification is a complex project that requires careful planning and, even though the investment will pay back in the long term, many decision-makers are still reluctant to commit to EVs for the time being.

Research suggests that the high initial outlay associated with electrification is the key reason why companies are delaying their transition. For instance, a poll of 200-plus UK fleet decision-makers on behalf of software firm Webfleet in Q1 2023 revealed that cost pressures had prompted 76% of them to postpone such plans.

As Angela Hultberg, global sustainability director at management consultancy Kearney, notes: "We know it's cheaper over time to own and operate an EV, but the initial cost is putting people off. What does it matter to them that something might be 25% cheaper if its upfront cost is three times higher?"

That said, she would advise any firm to start planning for electrification sooner rather than later.

"I'm not sure there is any benefit in waiting," Hultberg says. "Over time, EVs will lower your costs and reduce your scope-three emissions, which is a high priority for many companies."

Hesitant firms risk incurring considerable costs further down the road, when there will be more pressure on vehicles and their supporting systems. Moreover, the early movers will have more influence over essential arrangements, such as charging infrastructure, adds Hultberg, who believes that cooperation between firms will be vital in this respect.

Starting the EV transition early can also help a company to solve unexpected electrification problems before they affect its whole fleet. Hultberg recalls one such dilemma she faced in her previous job as head of sustainable mobility at Ikea.

"We invested in electric vehicles and charging infrastructure, but we hadn't conducted upfront energy assessments," she says. "One day, the facility manager in France called us and asked whether they should keep the ovens going in the kitchen or charge our trucks, because they couldn't do both."

The demise of the internal combustion engine in the UK may appear to have become more distant since the sales ban was pushed back to 2035. But David Watts, EV fleet product manager at Volkswagen Financial Services, points out that the Department for Transport's mandate on zero-emission vehicles still stipulates that 80% of new cars sold in Great Britain by 2030 will have to be electric.

"If you're relying on having that full five-year window, you're going to struggle," he warns, adding that fleet managers should take the lead in developing a transition strategy for the next six years.

"Given the typical fleet replacement cycle, it's important to start now," Watts says. "Do that by building a picture of what the current fleet looks like, in terms of both vehicle operations and capabilities."

The first step for a fleet manager is to gain a comprehensive understanding of how their existing vehicles are performing. Questions to consider include: how are they being driven? What sort of mileage do they clock up? What kind of terrain do they cover? Where are they stored and what functionality do we need from them? This will help the manager to gauge what they'll typically require from an EV and what type of charging and maintenance infrastructure might be needed.

In many organisations, hearts and minds will need to be changed too. Some employees might benefit from training on the importance of electrification, while others could require tuition in how to adapt their driving techniques to optimise the performance of EVs.

"In some cases, you might even be able to reduce the fleet significantly before electrifying," Hultberg says. "How many miles can you take out by optimising routes and services? Which routes make the most sense to electrify? How far do your vehicles typically travel each day? Do you have reliable routes with access to charging infrastructure?"

The AA has formed several project teams, spanning fleet, IT and HR management, to address such questions. Over the next 18 months, data will be collected from the firm's existing 80 EVs and used to inform its electrification strategy.

The company will consider which vehicles it requires and what functionality will meet its varied needs. The AA's drivers have unpredictable daily routes, for instance, making it difficult to understand the range required of an EV.

The work of the company's patrol drivers can be unpredictable and varied, too. They could be changing a brake pad at the roadside and then towing a broken-down SUV on their very next assignment.

"The vehicles need a decent capacity and payload, so that they can do most jobs," Ungless says. "You don't want to say to a driver whose car has broken down that you need to drive somewhere to get the part it needs because your electric van can't haul the car."

The AA must also have a coordinated plan for its charging infrastructure, which isn't easy for a firm with a largely home-based workforce.

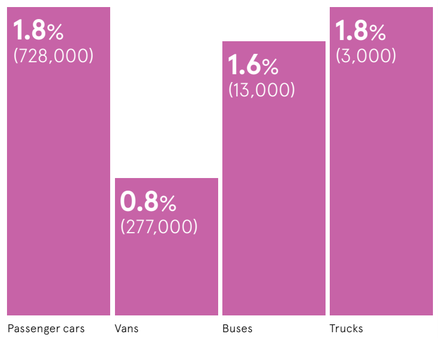
Ungless explains: "If we install a charger at a driver's home and they leave the company a week later, we can't very well go and rip it out. But, at the same time, it doesn't look good if a customer pulls into a supermarket car park and sees a row of commercial vans charging up at a public charging point."

While there is much to consider, Watts believes that too many firms have been daunted into inaction by the perceived complexities of the initial planning stage.

"Many organisations are stalling, because you do need to collect a lot of data and build a really big picture of each vehicle and driver in a way you've never had to do before," he explains. "But it's not necessarily difficult. And, once you have that picture, you can build your transition strategy and start actually testing vehicles."

ELECTRIFYING EUROPE'S COMMERCIAL FLEETS

Share (and volume) of EVs in European commercial fleets, by vehicle type



Charles River Associates, 2023

> **If we install a charger at a driver's home and they leave the company a week later, we can't very well go and rip it out**

Electrifying employee benefits: how EVs can help you win the war for talent

By making driving more sustainable and affordable, electric vehicle salary sacrifice schemes can help businesses attract and retain top talent

With 2023 the hottest year on record, concerns about the climate crisis growing and the UK workforce still reeling from the cost-of-living crisis, employees are crying out for their employers to help them save money and live more eco-consciously. In turn, almost one-in-three employees are asking their employer to not only have a more active role in delivering green initiatives, but to offer benefits that would help them live more sustainably, according to research from Octopus Electric Vehicles.

The UK is also facing a skills shortage, with the need to acquire and retain talent front of mind for chief people officers and HR departments. The war for talent shows no sign of letting up in 2024. A recent survey by the talent services firm Morgan McKinley found that 51% of UK professionals plan to actively look for new jobs over the next six months.

The same Morgan McKinley survey also revealed that British workers are not happy with the benefits they receive, with more than half feeling 'neutral', 'dissatisfied' or 'highly dissatisfied' with their packages. This offers savvy businesses a window of opportunity in the war for talent. By offering a great benefits package, they stand a much better chance of attracting top talent.

So, what are highly skilled staff looking for today? Sustainable employee benefits that offer generous cost savings – and that's exactly what an electric vehicle (EV) salary sacrifice scheme is.

Similar to the 'Cycle To Work' scheme, EV salary sacrifice enables employers to lease electric cars and offer them to their staff as a perk. Monthly payments for the car come out of an employee's gross salary (their pay before income tax and national insurance is deducted), which can save thousands of pounds per year compared to a personal car lease or loan - up to 40% in fact. For those earning less, the savings are closer to 20% per month, which is still a significant sum compared to other means of accessing a new electric vehicle.

"Employees are increasingly demanding flexibility and cost-saving benefits from their employers and EV salary sacrifice hits the sweet spot. It is one of the easiest and most affordable ways to get behind the wheel of an electric car" says Antony Brookes, head of marketing at Octopus EV. "The employee gets a shiny new EV, the company improves its talent retention and everyone helps the environment."

Affordable EVs

When Octopus EV asked people if they'd consider making the switch to an EV for their next car, 61% said they would. But the perceived high cost of new EVs relative to petrol cars is a barrier, with nearly 78% of employees citing price as a top consideration when choosing their next car.

EV salary sacrifice schemes get around this problem by making EVs a financially viable option for more people. Indeed, when shown what an EV salary sacrifice scheme includes, the overwhelming majority of employees (74%) said they'd like their employer to offer one.

"An affordable electric car is a great way of attracting talent because you're giving people something they actually want," says Natalia Peralta Silverstone, head of propositions at Octopus EV. "It's a high-value benefit you can offer to staff outside their salary."

In addition to the savings on the lease, EVs are cheaper to run than petrol and diesel cars. Charging an EV at home on an EV-specific energy tariff can save the average driver 75% per year on costs versus filling up on petrol or diesel. Most salary sacrifice schemes also include costs like maintenance, insurance, repairs and even charging, reducing the hassle associated with running a car. Octopus EV includes a free home charger or equivalent amount of public charging credit. It also pre-orders many of the most popular EV models to reduce vehicle delivery times for new customers.

All of this makes EV salary schemes the most cost-effective and pain-free way of accessing a new electric vehicle. Granted, there's still a 2% 'benefit in kind' tax charge to pay, but it's a fraction of the percentage employees pay for a petrol or diesel car.

Greater access to EV salary sacrifice schemes could also have a significant sustainability impact. Research by the insurance firm YuLife found that more than half of UK working adults would be more likely to use environmentally friendly modes of transportation if their employer offered incentives to do so. This is even more prominent among 25- to 44-year-olds.

Furthermore, most employees surveyed by Octopus EV expect their employers, or potential employers, to be proactively working towards clear environmental, social and governance goals. Businesses that put five EVs on the road through a salary sacrifice scheme will help to save 13.5 tonnes of CO2 emissions per year, according to Octopus EV, equivalent to planting 6,750 trees. That's not just valuable in terms of attracting eco-conscious talent, it's also beneficial for a company's image among all stakeholders, as well as for meeting net-zero goals.

> Employees are increasingly demanding flexibility and cost-saving benefits from their employers – and EV salary sacrifice hits the sweet spot

> When you charge at home, there's massive cost savings for the duration of the contract

Hassle-free setup

Firms such as Octopus EV remove the hassle involved in operating an EV salary sacrifice scheme. As well as sourcing the cars, Octopus EV provides employees with a dedicated contact once they place an order. The employer also gets access to everything they need to promote and monitor the scheme, including an HR dashboard that details the number of cars on the road and how much carbon the company has saved.

Today, the impetus for setting up an EV salary sacrifice scheme often comes from the employees themselves, according to Silverstone. "When we started out a few years ago, lots of employees didn't know about EV salary sacrifice schemes and businesses didn't necessarily understand the benefit that could create for their employees," she says. "Now, employees often approach their employer and say: 'I want to go greener' or 'I want to save on my fuel costs.'"

With Octopus EV, businesses can launch the scheme in as little as two weeks. Because they're part of Octopus Energy Group, they're also able to provide employees with a smart energy tariff that will maximise the affordability and sustainability benefits of going electric. "When you charge at home, there's massive savings for the duration of the contract," says Brookes.

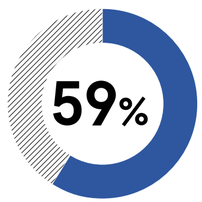
It's worth noting that EV salary sacrifice schemes aren't only beneficial for large firms. "There are companies with tens of employees that see this as a really nice way of tackling their emissions," says Silverstone. In fact, it can be arguably more powerful for an SME, she says, because they are really able to speak to every person in the business and help them understand what it can mean for them.

In short, it's exactly the kind of benefit that can help businesses recruit and retain the best talent in the market.

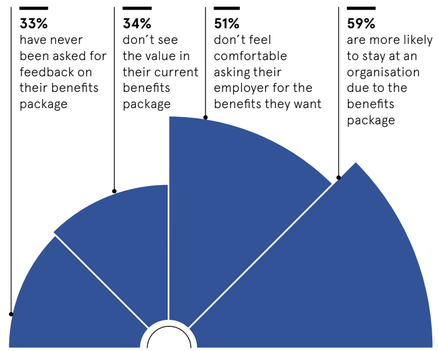
For more information please visit octopusev.com

octopus electric vehicles

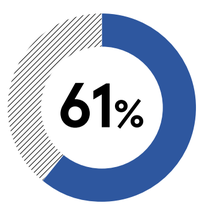
EMPLOYEES HAVE MIXED FEELINGS ABOUT THEIR CURRENT BENEFITS PACKAGE



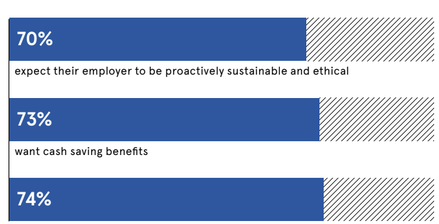
of employees are more likely to join or stay with an organisation if they have a comprehensive benefits package on offer



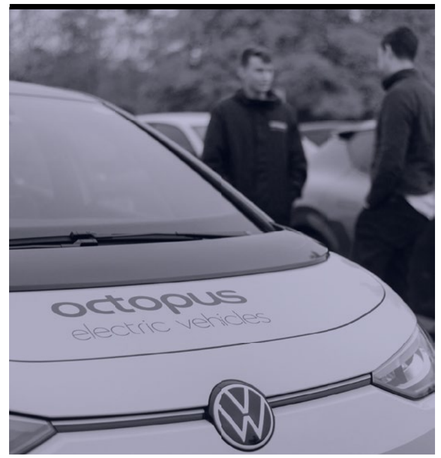
EMPLOYEES ARE KEEN TO ACCESS EMPLOYER BENEFITS THAT ARE BOTH ENVIRONMENTALLY FRIENDLY AND OFFER FINANCIAL SUPPORT



of employees want to switch to an electric vehicle



Octopus Electric Vehicles, 2023



The electric car revolution

From more EVs on the road to a rapidly growing infrastructure base that will help drivers charge on the go, there's plenty of reasons to feel positive about the electric revolution taking place on roads across Britain. Here are four key indicators that a generational shift is happening

01 EVs are best sellers

More than one in six new cars sold in the UK in 2023 was a battery electric vehicle (BEV), according to data published by the Society of Motor Manufacturers and Traders. Sales for BEVs were also up 17.8% year on year, with an extra 50,000 BEVs registered when compared to 2022. In Europe, the Tesla Model Y was the biggest selling car last year, according to market research specialists Dataforce, the first time an EV has taken the top spot.

02 Infrastructure is more robust

The UK has an extensive grid of superfast charging points, with more being installed across the country. With the Octopus Electroverse app, customers can access more than 600,000 charging stations across the UK and Europe - and that's not even counting the fact that many customers choose to charge at home. The days of worrying about running out of charge while on-the-go are quickly disappearing in the rearview mirror.

> The perception that you're going to have to stop multiple times on a long journey to charge simply isn't accurate anymore

03 Drivers are confident driving further, for longer

The driving range of EVs continues to increase, with many of the latest models capable of comfortably covering more than 300 miles between charges. "The perception that you're going to have to stop multiple times on a long journey to charge simply isn't accurate anymore" says Brookes.

04 It's more cost-effective to charge EVs

The average EV owner can save more than £900 per year when charging at home on an Octopus smart tariff, compared with the cost of filling up an equivalent petrol or diesel vehicle. That's a big win for consumers when the cost of living is increasing across many other areas of day-to-day life.

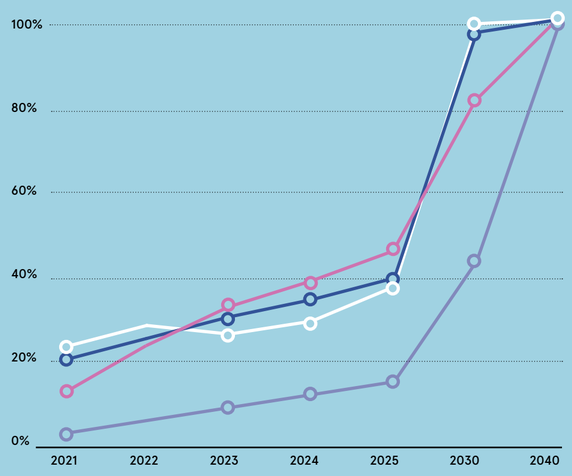
CHINA'S ROUTE TO EV DOMINANCE

Thanks to its manufacturing heft, plentiful mineral deposits and generous government subsidies, China has become one of the most important markets for electric vehicles. While Chinese automakers have long dominated their domestic EV market, they are now seizing the global export market, too. This will worry Western companies and governments

CHINESE CONSUMERS HAVE BEEN QUICK TO MAKE THE SHIFT TO EVS

EV market penetration rate, by country / region

SNE Research, IHS, Bernstein analysis and estimates

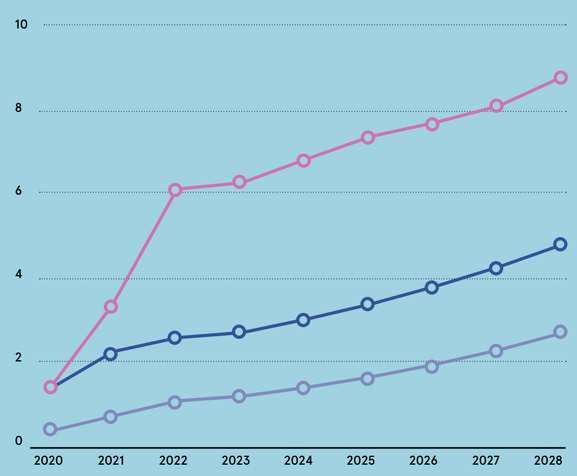


* including Ireland, Iceland, Sweden, Denmark, Netherlands

MORE THAN 6 MILLION EVS WERE SOLD IN CHINA IN 2023

Total unit sales of plug-in hybrid and battery EVs, by region, in millions

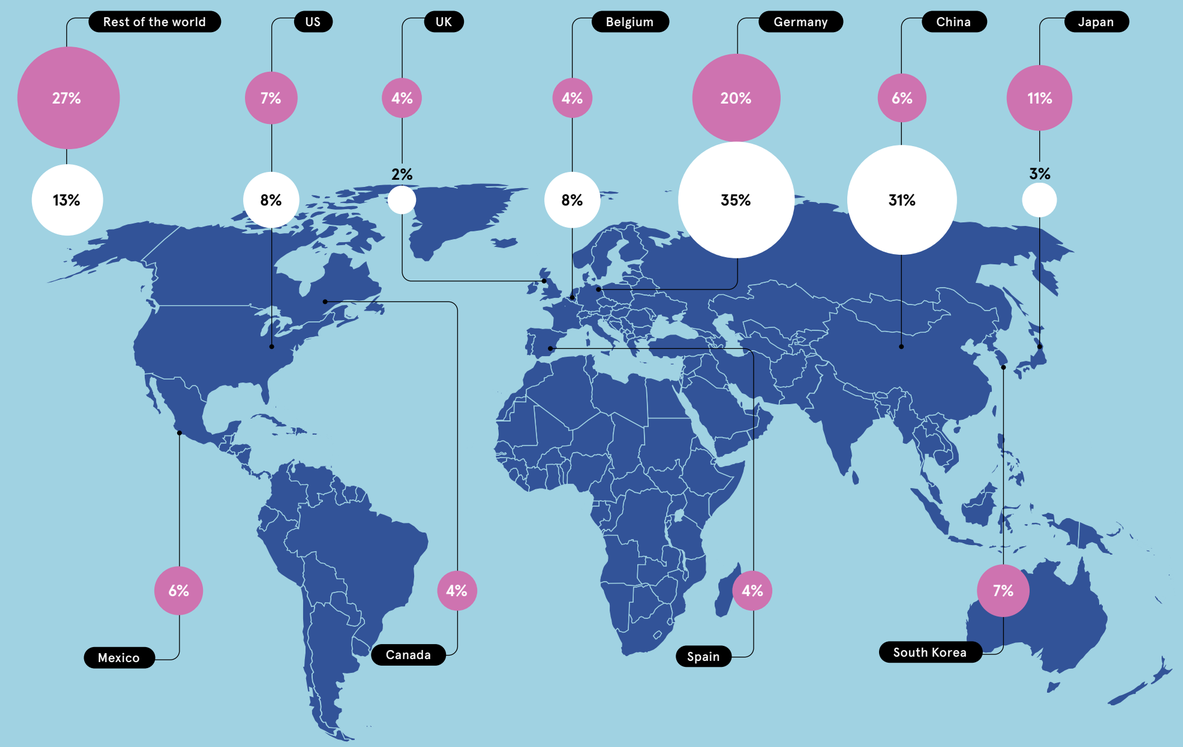
Statista, 2023



CHINA COMMANDS A DISPROPORTIONATE SHARE OF THE EV EXPORT MARKET

Global passenger car export market share in 2022 · Global EV export market share in 2022

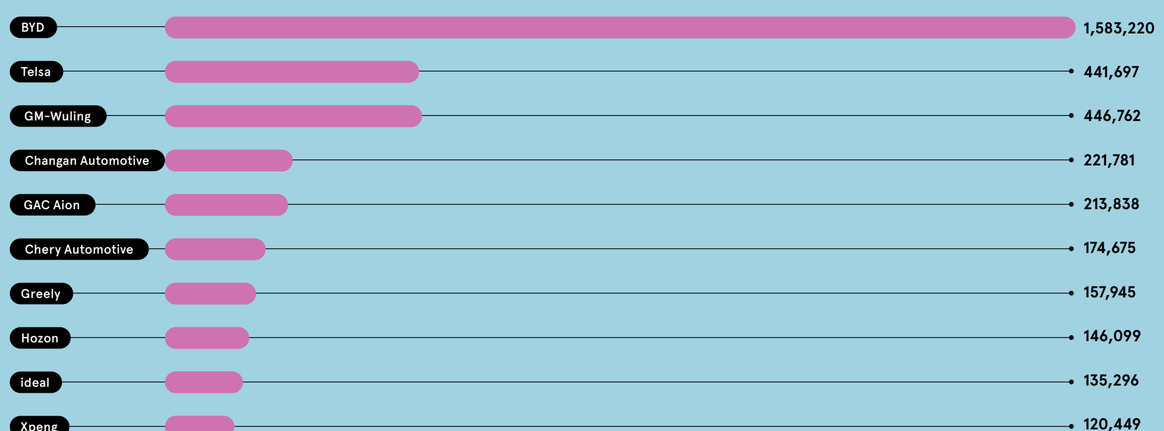
BBVA Research, 2023



CHINESE COMPANIES DOMINATE CHINA'S DOMESTIC EV MARKET

New EV sales in China in 2022, by original equipment manufacturer

CPCA, 2023

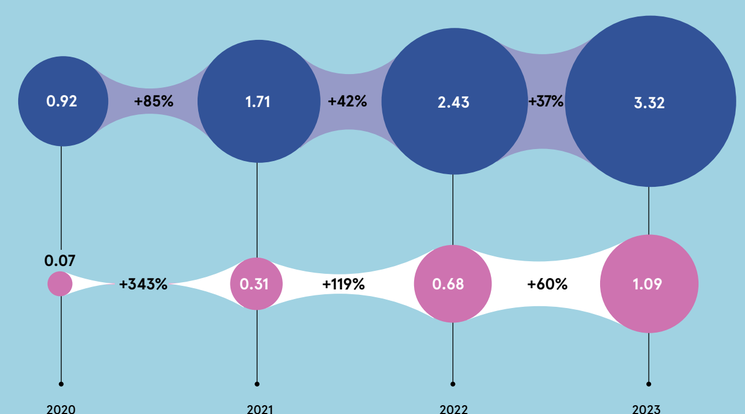


CHINA'S EV EXPORTS HAVE GROWN AT A STAGGERING RATE

Made-in-China car exports, worldwide, in millions

Automobility, FT, 2023

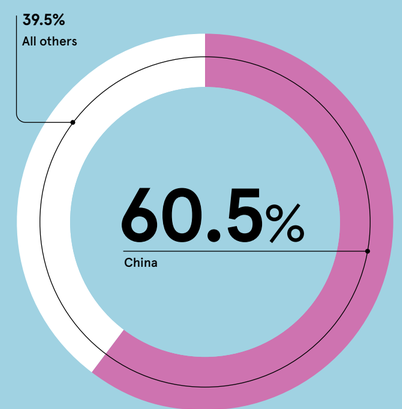
Internal combustion engine · Electric vehicles



EXPERTISE IN EV BATTERIES HAS HELPED FUEL CHINA'S MARKET DOMINANCE

Share of global EV battery sales

BBVA Research, 2023




Chris Ratcliffe/Bloomberg via Getty Images

EV PRODUCTION

The UK automotive sector sorely needs a jump start

The nation's prospects of becoming a globally competitive EV manufacturing base are diminishing. Experts agree that coordinated action is required to remedy the situation, but time is running out

Daniel Thomas

When the first British-built Leaf rolled off the production line at Nissan's Sunderland factory in 2013, the plant's annual output capacity was 50,000 EVs of that model, according to Colin Herron. The former Nissan manager, who is now professor of practice at Newcastle University's School of Engineering, reports that the figure today is closer to 40,000.

The decline is a result of problems affecting the sector's supply chain in the UK. This country lacks the capacity for large-scale battery production, having only one so-called gigafactory – a facility making components for electrification and decarbonisation technologies – on its shores. Moreover, it's highly dependent on imported parts, it's short of crucial skills and it's rarely the first choice as a destination for foreign direct investment.

"We've never had the volume of car production in Britain to support a supply chain that builds things such as motors, inverters and chargers," Herron says. "But the UK car industry must become highly self-sufficient if it's to survive and be seen as a safe bet by overseas firms making investments. It used to be viewed as such, but I'm not sure whether it is any more."

The UK's ban on sales of new petrol and diesel cars from 2035 may help to galvanise the sector into action. But whether it will be able to meet the expected demand for EVs at that point is debatable. Some politicians and industry leaders believe that the government must do more to help.

There are some grounds for optimism, according to the Society of Motor Manufacturers and Traders. The industry body believes that this country's EV supply chain does have a "firm foundation", including the potential to make almost every component required to manufacture zero-emission vehicles, including batteries and hydrogen fuel cells. But the society's CEO, Mike Hawes, acknowledges that achieving competitiveness on the world stage will a tough task.

"UK production costs are on average 80% higher than those in the EU, primarily because of our significantly higher energy prices. The supply chain also demands critical raw materials such as lithium and graphite, which are found in limited quantities here. Although this challenge is not unique, new approaches and evolved trade flows will be required."

Herron observes that the UK's diminished manufacturing heft will make the nation's transition to electric transport difficult. This country is only the sixth-largest car manufacturer in Europe, for instance, and it might not even make the global top 20 this year.

"Without scale, it's much harder to attract investors or obtain favourable terms on things such as material prices," says Aris Matopoulos, professor of supply chain design at Cranfield School of Management. "Germany, Spain, France, the Czech Republic and Slovakia all have bigger production volumes than the UK. All things being equal, they would be ahead in the queue if a company were seeking a base for a new battery plant, car factory or any other kind of EV facility."

This country's lack of self-sufficiency in key areas of EV production is also worrying at a time when the Covid crisis, the war in Ukraine and the growing hostility between China and Taiwan have exposed serious vulnerabilities in global EV supply chains.

The UK should follow the US's lead and establish a task force to pinpoint weak links in key sectors' supply chains in an effort to build resilience, according to Matopoulos. He notes that Boris Johnson's government appointed former Tesco CEO Sir David Lewis as its supply chain adviser in 2021, but "nothing has really happened since".

But there have been some positive developments for the industry of late. Mining for lithium and other essential chemicals that go into EV batteries has begun in British counties including Cornwall and Durham, while on Teesside the planned construction of the UK's first large-scale lithium refinery has been approved. The facility is expected to open in 2027.

Such developments, along with the UK's substantial domestic EV market, export base and manufacturing expertise, have convinced several manufacturers to stick around. Nissan, Jaguar Land Rover, Stellantis and BMW-owned Mini have all made important commitments to British EV production, amounting to a "massive vote of confidence", according to Hawes.

But he and others agree that more needs to be done, particularly when it comes to boosting battery production capacity. The failure of Britishvolt last year underlined how shaky provision has been in this country. The government-backed startup, which was expected to make batteries for more than 300,000 EVs a year, hadn't even begun production when it went into administration.

Jaguar Land Rover and Envision AESC both plan to open British gigafactories in the medium term (it typically takes at least two years to set up a battery plant), but the Faraday Institution has warned that these developments alone would not be enough to adequately fuel domestic EV production. The battery research group estimates that the UK will require five such facilities by 2030 for that to happen – and 10 by 2040.

Employees work inside a new Nissan Leaf EV at Nissan Motor's vehicle assembly plant in Sunderland.

> **Without scale, it's much harder to attract investors or obtain favourable terms on things such as material prices**

With Germany and other nations racing ahead in the battery provision stakes and the US offering big subsidies to foreign firms investing in green ventures on American soil, time is fast running out for the UK to act.

Only when it fixes its supply chain problems will this country attract the EV investment it needs, according to Herron. To help the next generation of UK-based car makers "work smarter", more innovation centres are required too, he says, noting that a lack of coordination is inhibiting progress.

"We used to have an industrial strategy in the UK, which we scrapped. We've only just launched a battery strategy," Herron says. "Regions such as the North East and the West Midlands are having to take the initiative themselves."

Prateek Biswas, a transport and materials analyst at energy consultancy Wood Mackenzie, agrees. He believes that the government would do well to replicate the kinds of inducements that persuaded Nissan and Toyota to establish UK factories in the 1980s.

Lower corporate taxes, energy subsidies for component makers with thinner margins and "a more inviting atmosphere for foreign investment" would all help, Biswas says.

Adding to this, Hawes says that stronger trade partnerships with mineral-rich nations and new export markets are also needed, along with more attractive EV subsidies for British consumers.

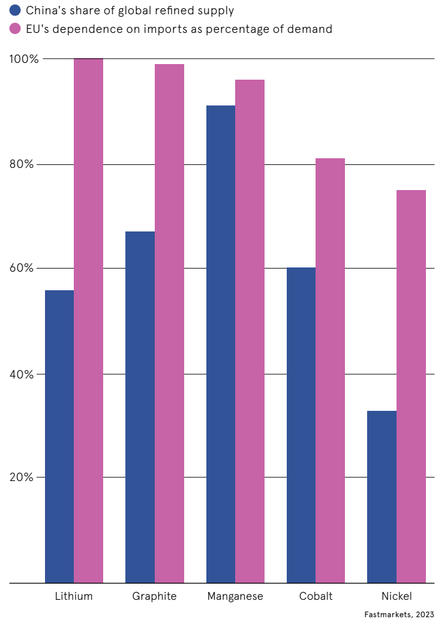
> **This is about how we make the EV transition faster and capture some of the many opportunities from electrification**

The government insists that it is backing the domestic EV industry, including allocating about £2bn for the sector in its new battery strategy. And although it has thus far resisted the subsidy-led approach taken by the US, the Department for Business and Trade has set out measures to support the automotive supply chain in its recent Advanced Manufacturing Plan.

Matopoulos believes that a failure to address the underlying problems effectively and promptly could leave the UK at a serious disadvantage in the longer term.

"This is about how we make the EV transition faster and more sustainable – and how we capture some of the many business opportunities from electrification in areas such as end-of-life for batteries and the recovery of critical minerals," he stresses. "It's about looking around, seeing where this country is in the global electrification race and making the changes required to succeed. In doing so, we'll need to look at the UK's entire electrification ecosystem."

EUROPE IS HIGHLY DEPENDENT ON IMPORTS FOR MINERALS CRITICAL TO EV PRODUCTION



Fastmarkets, 2023

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SALARY SACRIFICE

The perks of owning an EV on the cheap

Offering employees new electric cars at a fraction of their list price is an eye-catching recruitment and retention tool, but firms must scrutinise the fine print attached to such schemes

MaryLou Costa

With 73% of UK workers wanting financial support from their firms on top of their pay, according to YouGov research published by Octopus Electric Vehicles, a tax-efficient scheme offering employees heavily discounted new EVs could prove a key weapon in the war for talent.

It is essentially a salary-sacrifice arrangement under which the employer leases an EV from the provider and offers it as a benefit. The employee then pays for the vehicle with a portion of their gross salary, thereby reducing their income tax and national insurance payments. Many packages will also cover the cost of domestic charging equipment, maintenance and insurance.

But there are crucial details that employers and employees must be aware of before taking the plunge, warns John Ellmore, founding editor of electriccarguide.co.uk. Implementing such schemes will require extra administrative work, for instance. Early-termination fees and the impact on employees' overall salaries are also key considerations.

"On the employer's side, early-termination fees are the biggest risk. If a participating employee leaves their job or faces redundancy before the end of the lease term, it could become liable for such fees. Depending on the scheme's early-termination protection (ETP) terms, the employer may be obliged to bear these costs or cover the remaining lease payments," Ellmore explains.

But he adds that "a reputable provider will work hard with companies to ensure that this doesn't happen. It may offer options for other staff to take on the lease or, potentially, have the arrangement transferred to the employee's new place of work."

Ellmore stresses the importance of scrutinising a potential provider's ETP coverage. It should be an effective safeguard that mitigates the financial risk run by both employer and employee, ensuring the fair and structured handling of early terminations.

"It's crucial that this is balanced, offering adequate protection to the business and its employees without leading to inflated lease rates. A fair and practical ETP policy is a sign of a provider's commitment to all parties' interests," he says. "Be wary if a provider does not publish ETP details on its website or is unable to clearly explain them when you ask the question."

Participating employees must also consider the financial impact of a smaller gross salary. A reduction in take-home pay might limit their ability to obtain a home loan, for instance. If it would cause their salary to fall below the national minimum wage, it wouldn't be legal for them to proceed with the scheme. And, while there are tax efficiencies associated with salary-sacrifice schemes, employees must pay a benefit-in-kind tax on their EVs. This is currently 2% of the vehicle's list price, but is set to rise to 3% in the tax year 2025-26.

Amtivo Group, a provider of certification assessment services, introduced an EV salary-sacrifice scheme through Octopus early last year. The firm hosts regular webinars about the initiative and frequently posts about it on the intranet to keep staff informed. So far, 60 of its 300 employees have taken up the option.

Kiya O'Brien, the company's external HR partner, has been impressed by how straightforward and comprehensive the scheme has proved.

"The package covers insurance, breakdown cover and the cost of the charger to be installed at the employee's house," she says. "If they can't accommodate a charger, they will be given a prepaid card to use at public charging points, so they get the equivalent in miles."

O'Brien adds: "When we kicked off with this scheme, it was for brand-new vehicles only. It's introducing some used vehicles now, so people don't necessarily have to go for something that might be a little bit beyond their budget."

Although EV charging facilities have been installed at Amtivo's offices in West Malling, Kent, employees must pay to use these. But the firm's hybrid working policy means that they're required to visit HQ only two days a week.

Most participants are grateful for the opportunity the scheme has given them to save money, according to O'Brien.

"If you were to go and get a new EV off your own back, they do tend to be more expensive than a petrol or diesel equivalent. The salary-sacrifice scheme definitely helps, because the savings are there straight away," she says. "And charging an EV costs nowhere near the same amount as fuel. The feedback I'm getting from people is that they've seen a big reduction in their outgoings."

Amtivo hopes that offering an EV ownership scheme as part of its benefits package will help the firm in its bid to become a B Corporation.

Having purchased numerous businesses in recent years, the group has built a particularly diverse workforce, "with employees at several different life stages", O'Brien notes. It's therefore been "hard to work out what the right benefits to offer are" as the organisation seeks to consolidate its various acquisitions.

"It can be difficult to find benefits that will appeal to lots of people. Gym memberships, for example, aren't for everyone," she explains. "But we had a lot of queries about this scheme over the 12 months leading up to its launch, so we knew that the appetite for it was already there. It's one of those things that's accessible to everybody."

When network security specialist Beyond Encryption launched its EV salary-sacrifice scheme a year ago, its main motivations were to offer an attractive benefit that would help employees to both save money and live more sustainably. Only two of the firm's 20-strong team have signed up so far. But CEO Paul Holland is keen to give the scheme more time to gain traction.

While he is disappointed with the slow uptake, Holland accepts that employees might be reluctant to sacrifice a portion of their take-home pay while the rate of inflation is still relatively high.

"In this economic climate, people haven't been changing their cars as frequently. With the cost of living rising so much, it's been tough out there," he says. "But this scheme offers one of the only really tangible cost savings that you can actually feel. I'm not sure that anything else would give the same financial incentive at a practical level."

Ellmore agrees that an EV salary-sacrifice scheme would be an attractive addition to any employer's benefits package, especially given the sustainability angle.

"It can be a real boost for attracting and retaining talent," he argues. "Such schemes reflect a commitment to offering competitive – and modern – benefits."

> **It can be difficult to find benefits that will appeal to lots of people. Gym memberships, for example, aren't for everyone**

89%

of company directors believe it would cost their company considerable sums to run an EV salary sacrifice scheme

90%

believe EV schemes present a significant risk to the company (i.e. employees who are made redundant)

74%

believe that implementing an EV scheme it would take a considerable amount of work internally

The Electric Car Scheme, 2024

POLICY

No more U-turns, please

While the deferral of Westminster's ban on new petrol and diesel cars doesn't seem to have changed manufacturers' plans yet, such indecisive policy-making has unsettled the EV sector

Heidi Vella

In 2020, Boris Johnson's government stated that the sale of all new fossil-fuel-powered cars in the UK would be prohibited in 2030 – a whole decade sooner than the ban that Theresa May's administration had been planning in 2019. That announcement came on the back of amendments to the Climate Change Act 2008, which requires the nation to reduce its greenhouse gas emissions to net zero by 2050.

The decision solidified the automotive industry's electric future in this country, providing car makers with a clear schedule for decarbonisation. While the newly imposed deadline presented challenges, it effectively levelled the playing field. All manufacturers were forced to accelerate their strategies for, and investments in, electrification.

Many in the sector were surprised when, in September 2023, Rishi Sunak's government shunted the ban back, albeit by only five years. The prime minister himself justified the U-turn by arguing that a "more pragmatic, proportionate and realistic approach" to the phasing-out of petrol and diesel cars was required. He stressed that the move was not intended to weaken the UK's net-zero commitments.

This has brought Westminster into line with Brussels, which is also prohibiting the sale of new fossil-fuel vehicles in the EU from 2035. But the deferral has cast doubt on the UK government's priorities, given that it once positioned itself as a leader in the EV space. The apparent spontenaity of the announcement has also highlighted the difficult environment that key sectors on a mission to decarbonise can often find themselves in: one in which vacillation by policy-makers causes industry-wide uncertainty.

Such problems are far from unique to this country. The EU is set to review its regulations on vehicular carbon dioxide emissions in 2026 – and there has already been talk of weakening the ban on the internal combustion engine (ICE) by allowing the use of synthetic fuels. The result of the upcoming US presidential election could change the course of carbon-related regulation there too.

"The first question that car makers will be asking is: could the regulation change again?" says Horst Schneider, head of European automotive research at Bank of America.

The question that many concerned observers are asking is: how will such uncertainty affect car makers' strategies in the short to medium term – and their eventual delivery of a decarbonised industry?

The whole automotive industry has made notable progress towards full electrification. Last year alone, UK manufacturers committed more than £20bn to EV and battery production in the UK, according to the Society of Motor Manufacturers and Traders. And there has been no hint so far that any are pondering a change of plan.

> **The ban is what consumers listen to. There has been a dip in EV sales already, particularly among private consumers**

Indeed, a spokesperson for Nissan, whose Leaf model was one of the first mass-market electric cars, confirms that there is no going back for the manufacturer. It recently invested more than £3bn in developing two new EV models at its plant in Sunderland.

Other players have welcomed the ban's deferral. Matt Harrison, COO of Toyota Motor Europe, told the FT that the five-year grace period had helped his company to remain competitive, as it was no longer facing any "premature discontinuation".

But the uncertainty created by the government's volte-face has clearly done little for the sector's faith in the UK's political leadership. Before Sunak announced the postponement, Lisa Brankin, chair of Ford UK, wrote on her firm's website that the business needed "three things from the UK government: ambition, commitment and consistency. A relaxation of 2030 would undermine all three."

Ford is shifting to EV production at its Halewood plant after a £380m investment. Its factory in Dagenham is still producing diesel units.

Despite the flip-flopping in Westminster, experts agree that car makers' strategies will remain geared towards full electrification. But the speed and scope of that change may alter because of the uncertainty, according to Frederic Huet, a partner at consultancy Altman Solon.

Pointing out that "changing a manufacturing line from petrol to electric is a 15- to 20-year decision", he says: "It will be interesting to see the pace at which the broadening of EV portfolios happens."

Despite the outward appearances of business as usual, manufacturers are likely to be reconsidering their short- and medium-term strategies. Any abrupt changes of plan will ultimately lead to higher prices, according to Schneider.

BMW has chosen to hedge its bets rather than go all-in on one technology. The firm has relatively frequent ICE launches planned, he adds. This would probably put it in a more adaptable position if EV sales were to fall short of expectations.

Other companies that have prioritised EVs may have to reconsider their schedules. Mercedes-Benz, for instance, is planning to stop launching ICE vehicles after 2025.

Schneider reckons that Mercedes could "decide to continue to develop and launch new ICE vehicles in the most expensive categories on the basis that, in Europe at least, there is scope for these cars to be driven with synthetic fuels for longer".

It's important to note that, despite the deferral of the ICE ban, the Department for Transport's mandate for zero-emission vehicles remains in place. This regulation requires 22% of all new cars sold this year in Great Britain to be EVs, scaling up to 100% by 2035, with penalties issued for firms that miss their targets on the way.

Data from the Society of Motor Manufacturers and Traders shows that sales of new EVs in the UK hit a record high last year, accounting for a 16.5% share of the market, yet the equivalent figure in 2022 was 16.6%. British motorists are clearly still deterred by the relatively high upfront cost of owning an EV, while range anxiety remains a serious concern too.

For the EV sector to grow its market share, it will need to cut costs. But lowering production costs will be a challenge as long as supplies of crucial minerals and electrification components remain diffuse. Behind the scenes, manufacturers are likely to be focusing on this problem.

One suggestion is government grants for consumers – businesses are already incentivised – to effectively subsidise EV sales, much like in the US, China and, more recenlty, India. The Society of Motor Manufacturers and Traders has called for a temporary halving of value-added tax on EVs, but that's unlikely to be politically or fiscally acceptable.

But Schneider notes that manufacturers have been "making record margins and buying back shares – their dividend yields are about 9%. It could therefore be argued that they have the scope to make battery EVs cheaper. Otherwise, the government would be subsidising their profits."

Without the incentive of falling prices, the ICE ban's postponement could persuade consumers to defer EV purchases and, in turn, force manufacturers to change plan.

Jillian Anable, the UK Energy Research Centre's lead for the decarbonisation of automobile transport, observes that "the ban is what consumers listen to. There has been a dip in EV sales already, particularly among private consumers. And, while we need more time to figure out the cause, the policy change may already be having an effect."

A poll of more than 1,500 motorists in November 2023 by online marketplace Carwow backs up this theory. A quarter of respondents said that the ICE ban's deferral had made them less inclined to buy an EV as their next car.

To address this, manufacturers may mount marketing campaigns highlighting the lower lifetime cost of EV ownership. Some firms may even offer sales incentives of their own that should bring prices down one way or another.

Such promotions would help them to fend off competition from cheaper Chinese alternatives. But, if manufacturers were forced to incentivise consumers alone, that would inevitably reduce their profitability. It's more likely that they will recruit lobbyists to rally greater support in Westminster for their cause.

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