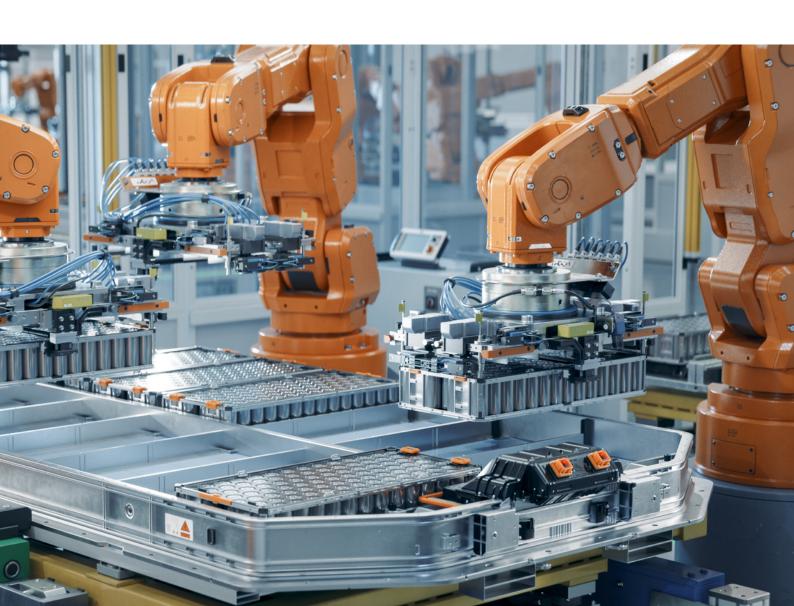


# A plan to support electric vehicle manufacturing in the UK



# Summary

Moving to EVs should be managed in a way that supports domestic manufacturers and supply chains."

Switching away from fossil fuel to electric vehicles (EVs) is a critical milestone in meeting Britain's 2050 climate targets and cleaning up air pollution in towns and cities. It is also a massive economic and industrial opportunity, but action is needed now to ensure the British car industry maintains its market share during the transition, in the face of intense competition from low cost Chinese carmakers.

Moving to EVs should be managed in a way that supports domestic manufacturers and supply chains, retains jobs and maximises economic opportunities. This cannot be left to the market. The government, working with industry, needs a plan.

Policy makers must first stabilise the car industry in the short to medium term by reducing energy costs, supporting domestic demand for EVs and aligning Britain more closely with EU regulations for a level playing field.

A long term plan should then build on this to position the industry for the next wave of innovation by developing R&D capabilities, ensuring a pipeline of workers skilled in software and electronics and attracting new investment in EV manufacturing.

# Introduction

Road transport is the UK's biggest single source of greenhouse gas emissions, responsible for

**26**%

of the UK's total territorial carbon footprint in 2023

The move away from fossil fuels is one of the most important economic transformations since the industrial revolution. But the level of co-ordination required means it cannot be left to the market. It will profoundly affect almost every area of industry and presents huge opportunities for countries and businesses that can capitalise early on the shift. China is showing the way, where advanced clean technologies are at the heart of its economic growth and being exported around the world.

The car industry is in the midst of this process and the potential for EV growth is clear as most journeys in Britain are still made by car and fuelled by petrol or diesel.

Road transport is the UK's biggest single source of greenhouse gas emissions, responsible for 26 per cent of the UK's total territorial carbon footprint in 2023, and it is a significant source of other air pollutants. The government is progressively cutting these emissions with the zero emissions vehicle (ZEV) mandate, introduced in 2024. This requires manufacturers to sell a rising share of new zero emission vehicles each year from 2024 until sales reach 100 per cent in 2035. It was the single biggest carbon saving policy proposal in the Conservative government's 2023 net zero strategy. The growing number of EVs on the roads is helping to accelerate emissions reductions from UK transport. Across the world, almost 22 million passenger EVs will be sold in 2025, and most of these (69 per cent) will be made in China.

Business as usual is not an option as world markets shift. The future is electric. Due to ambitious government policy, EV sales in Norway went from 0.25 per cent of the market share in 2010 to 84 per cent in 2024, while sales of new petrol and diesel cars went from 94 per cent of market share in 2012 to four per cent in 2024. Globally, EV sales have doubled every 18 months from 2011 to 2023, reaching 12 per cent of total market share. At this rate, they will dominate sales globally within a few years.

If managed well, this could present huge economic and industrial opportunities. Rapid transition to EV manufacturing could add £16.1 billion to the gross value added (GVA) of Britain's automotive sector, according to the CBI.<sup>5</sup> However, the car industry (EVs and petrol and diesel vehicles alike) faces a raft of challenges: high power costs, competition from China, US tariffs, sluggish demand and the lingering effects of Brexit are all making business harder for manufacturers.

A comprehensive set of interventions is needed to stabilise Britain's car industry."

Retaining British mass car production in the EV era means reorganising the industry, its workforce and international supply chains quickly. Badly handled, this shift could be fatal for parts of the industry and, once they are lost, it would be hard to revive them.

Market-led restructuring is unlikely to foster a timely switch to EVs, with uncertainties around future markets and technologies encouraging companies' natural tendency to focus on the short term, condemning them to rely on the internal combustion engine (ICE) and certain obsolescence. Honda, for example, made a serious mistake in neglecting EVs and taking a different direction, investing in hydrogen, and has now withdrawn from Britain. Only the government can provide the strategic direction the industry needs and supply public goods like enabling frameworks for training and R&D.

Yet experts we spoke to for this policy insight agreed that successive governments have reacted to the industry's problems erratically, with no consistent plan of action. The recent Industrial Strategy white paper included an ambitious target to raise production by 50 per cent to 1.3 million vehicles a year by 2035 and some welcome extra financial support to help with the transition. However, there were few specifics in the strategy, meaning the industry will have to wait until the Automotive Technology Strategy is published next year for a long term plan for the sector.

A comprehensive set of interventions is needed to stabilise Britain's car industry over the next five years. The respite this would bring can be used to draw up a long term plan, covering skills, technology and supply chains, to convince investors that the country has the right manufacturing base to be a leading carmaker of the future.

Here, we explain some of the challenges facing the industry, before suggesting short and longer term plans to overcome them.

# Making the EV transition happen

Uncertainty has made manufacturers and suppliers hesitant to invest."

The EV transition is characterised by many deep technological uncertainties: for example, which technology and batteries will be the future standard, and how will the appropriate technologies be developed for a future that cannot be predicted? There are also economic and policy uncertainties, from how large the market will be and what a potentially successful product will be, to the degree of investment needed in charging infrastructure.

Uncertainty has made original equipment manufacturers (OEMs) and suppliers hesitant to invest in new products and components, because they are all waiting for each other to make the move.

Car sales have also been sluggish. The industry was hit hard after the Covid-19 pandemic by supply chain shortages and the rising cost of raw materials, leading to the British car industry falling out of the world's top ten car producing countries.<sup>6</sup>

Rather than investing, OEMs have resorted to cost cutting, which has put suppliers under further financial pressure.

Manufacturing has switched from high volume production to higher revenue, lower volume models. As a result, plant capacity utilisation rates (the difference between maximum and actual output) have dropped from 65 to 54 per cent in Britain between 2019 and 2023 and, for many OEMs, they are now below sustainable levels.<sup>7</sup>

The situation for suppliers is even more precarious. Parts of the supply chain will be more important in an EV focused car industry because more of the value of the car is in components like batteries, software and electronics. Final assembly is much easier than for ICE vehicles.<sup>8</sup>

But suppliers of thermal engine parts and drive trains, with perhaps a few exceptions for particular vehicles and transport modes, will face obsolescence if they are unable to change.

Suppliers, who are mostly SMEs, are more credit constrained than OEMs; hence, they are particularly vulnerable to investment uncertainty. As well as investment in new plant and machinery, building EVs requires new skills, combining elements like mechanical, electronic, chemical and software engineering, which very few existing suppliers offer.

# What's at stake?

EVs driven on British roads do not necessarily have to be built in Britain, but losing domestic manufacturing would be a major blow to the economy. The automotive sector contributed £47 billion in gross value added (GVA) in 2023 and it employs around half a million workers on wages 13 per cent higher than the national average, according to the CBI.9 Automotive supply chains alone comprise more than 2,500 businesses, employing 80,000 people and producing over £15.5 billion in GVA.

The industry's total economic contribution is considerably higher than this, as for every £1 of initial GVA an additional £2.26 is generated in the wider economy. Likewise, the CBI says that, for every job created directly in the automotive sector, a further 3.1 jobs are created elsewhere in the economy.

Many car plants are located outside the south east and are 'anchor' employers in their regions. Over the past 30 years many other heavy industries have withered or shifted production overseas, leaving the car industry as one of the few remaining sources of well paid, high productivity, skilled factory jobs which do not require a university degree.



The industry's current strength is a genuine success story, with a precipitous decline in the late 1970s before revival in the 1980s and 1990s. Of Britain's leading manufacturing sectors, it is one of the few not directly propped up by public spending, unlike aerospace or pharmaceuticals.

While the industry has weathered recent plant closures, if Britain were to lose a major producer like Nissan in Sunderland, with around a third of the country's car production, it could be the tipping point which threatens the viability of the entire industry. On the other hand, if technological and co-ordination challenges can be solved, the industry could have a bright future. A clean, technologically advanced car industry would play to Britain's strengths in technology and software.

# Challenges for Britain's car industry

492,000 cars were produced in the first eight months of 2025

# High power costs

Britain continues to depend on gas for a large proportion of its power and to balance supply and demand on the electricity grid. This has left the economy more exposed to soaring gas prices than other comparable European countries since Russia's invasion of Ukraine. Although prices have fallen from the record highs of 2022 they remain above pre-energy crisis levels. Network charges, which make up around 20 per cent of bills, and decisions by successive governments to pay for energy policies through levies on bills, have also contributed to higher relative costs. 12

This combination of factors has left the country with the highest industrial electricity prices of any advanced economy in the International Energy Agency. As energy is the second biggest input for automotive manufacturers and British costs are higher than for international competitors, the industry has warned that high electricity costs will imperil its competitiveness. 4

# Chinese competition

Western manufacturers, not just in Britain, face intense competition from low cost Chinese EVs. <sup>15</sup> The meteoric rise of China's industry over the past few years could help to accelerate Britain's green transition by putting more EVs on the roads, but it could also mean the end of domestic mass car production unless legacy carmakers adapt to compete.

Low production costs and established supply chains have given Chinese brands enormous price advantages in overseas markets. Many EVs from the leading Chinese brands are technologically superior, thanks to continuous innovation in, for example, super-fast charging, with BYD recently unveiling a new charging technology as fast as filling up at a pump. <sup>16</sup> As a result of these advantages, British sales of Chinese brands, like BYD, Xpeng, NIO and Leapmotor, rose from two per cent in 2019 to 18 per cent in 2023. <sup>17</sup>

By comparison, British car production (all types) roughly halved between 2019 and 2025. Industry data shows that 492,000 cars were produced in the first eight months of 2025, a fall of almost six per cent on the same period the year before. Of these, 77.5 per cent were exported. 19

Upmarket brands are most exposed to tariffs and likely to shift production elsewhere."

# Trade barriers

Britain's car market is very trade exposed, as it exports around 80 per cent of the vehicles it makes but imports around 90 per cent of its car sales. President Trump's imposition of a ten per cent tariff on automotive imports to the US will disrupt sales and investment as the US accounts for around 17 per cent of Britain's car exports.

If tariffs remain in place over the long term, British-based automotive firms will face the dilemma of whether to switch production to the US or target markets elsewhere. Upmarket brands, like Aston Martin and JLR, are most exposed to tariffs and likely to shift production elsewhere. That could leave British carmakers centred around the mid-market, ie brands like Nissan and Honda, which are highly vulnerable to Chinese competition. Chinese carmakers, facing high tariffs and with little penetration into the US market, are likely to give up on the US and focus a renewed export drive on Europe.

Trading challenges are also present closer to home. Rules of origin in Britain's trade and co-operation agreement with the EU, coming into effect from January 2027, could use tariffs to penalise manufacturers who do not make enough of their vehicles, battery packs or battery cells in Britain or EU.

The European Commission has included a 'lock mechanism' to prevent further changes until 2032. But early warnings suggest that Britain's industry is not moving fast enough on compliance, when 55 per cent of the vehicle's value will need to be made domestically or in the EU to avoid a ten per cent tariff.<sup>20</sup>

# Low demand

The British car industry faces a volume crisis. In previous decades, the country sold many more cars than it does now, with a particular contraction because of Covid-19 and production in recent years failing to bounce back to pre-pandemic levels.<sup>21</sup> According to SMMT data, 779,584 cars were built in Britain in 2024, almost 14 per cent down on 2023 levels. As recently as 2018, British OEMs were producing well over 1.5 million cars per year.<sup>22</sup>

A range of factors affect the volumes of vehicles produced. Reports suggest that capacity utilisation rates, or the proportion of an OEM's productive capacity being used to produce a given product, have fallen dramatically, from 65 per cent in 2019 to 54 per cent in 2023. Therefore, some of the blame must be shouldered by the OEMs for failing to plan for an evolving market.

Recent sales figures, however, reveal an obvious solution: electrification. Year to date sales from August 2025, show that British EVs sales have grown by 26 per cent, with plug-in hybrids growing by 29 per cent and hybrids by 12 per cent compared to the year before. <sup>24</sup> Petrol and diesel cars, on the other hand, have declined by 27 per cent and 12 per cent respectively. The story is similar in Europe, where over half of UK produced cars are exported, with a 34 per cent increase in EV registrations on the year before. <sup>25</sup>

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# How to protect British car manufacturing

Addressing the wider costs of the power system must be at the heart of the government's clean energy mission."

# **Short term strategy**

For Britain's automotive sector to survive and thrive in the coming decades, its position needs to be secured urgently to provide a base to build on. Below, we suggest five stabilising actions to weather the immediate challenges, while the government works with the industry, trade unions and communities on a longer term strategy.

# Cut energy costs

The recent Industrial Strategy promised a welcome new British Industrial Competitiveness Scheme (BICS) to reduce electricity costs by up to £40 per megawatt hour for automotive and other sectors by shifting some of policy costs from their bills. But this is only scheduled to start in 2027. The government should fast track the consultation, so it can be introduced from April 2026 and funded in a way that does not impact other billpayers. It should also extend compensation for network charges currently only offered to more energy intensive industries. More generally, a review and public debate is needed around how the costs of the energy system can be distributed more fairly across consumers and taxpayers.

If fast tracking the BICS process is not possible, the government should evaluate whether there is scope for more immediate emergency support to reduce manufacturers' bills during this turbulent period of tariff wars and continued high gas prices. In the autumn 2025 budget, the chancellor could consider providing a temporary reduction in the rate of VAT for some industrial users to five per cent, until policy levies are reduced and while gas prices remain high. This would bring the rate of VAT paid by businesses into line with the rate household consumers pay, boosting the government's faltering growth mission.

Addressing the wider costs of the power system is a longer term project that must be at the heart of the government's clean energy mission. Progress has been made through, for instance, the adoption of longer term contracts for difference (CfDs) for renewable energy generators to cut wholesale costs. However, other solutions are needed to reduce the influence of gas prices on the wholesale price of all power.

Cutting VAT on public charging from 20 to five per cent could save British EV drivers £85m in 2025, rising to

£315m

by 2030

In the meantime, the government should fast track conversations promised in the Industrial Strategy around how to make greater use of corporate Power Purchase Agreements (PPA). These are a way to offer stable power prices to manufacturers, less affected by the price of gas, and could be underwritten by the government.<sup>26</sup>

# Stabilise policy

Businesses need certainty to plan and invest. The ZEV mandate is crucial across automotive and related sectors, like charging, to know that there will be future demand. But two changes in under two years to the headline phase out date and mandate have changed the goalposts for investors. The first by the former Conservative government, which changed the 2030 phase out date for sales of pure petrol and diesel vehicles, and the second by the current government, extending regulatory flexibilities for a further three years.

The government should be clear in its commitment to the ZEV mandate and that no further flexibilities will be offered to prop up underperforming OEMs. Instead, a focus on demand side measures, such as the recent electric car grant, would be more appropriate (see below).

# Stimulate demand

The new electric car grant of between £1,500 and £3,750 will support both domestic OEMs and consumers, allowing more people to access cleaner, cheaper to run vehicles and ensuring more cars flow into the second hand market in the coming years.  $^{27}$  It is welcome that the government is targeting the highest grant for vehicles built to higher environmental standards. However, the list of vehicles eligible for each grant shows that most EVs only qualify for the lower grant, limiting the extent to which it will stimulate additional demand.

It is worth noting that purchase grants for first hand vehicles are not the most efficient use of public money. Analysis suggests around 47,000 additional vehicles might be put on the road each year because of this policy, but a French-style social leasing scheme could, for the same cost, put 93,000 new vehicles on the road. The new grant is forecasted until 2028-29, or when the £650 million investment is exhausted. This could create a cliff edge when the flexibilities in the ZEV mandate end in 2029-30. At this point, carmakers will need to have invested enough to reach ZEV mandate targets based on existing demand.

Targeted financial support could encourage EV uptake in other ways. Reducing the disparity between the cost of home driveway charging with on-street charging would make EVs more attractive to households without a driveway. Cutting VAT on public charging from 20 to five per cent could save EV drivers £85 million in 2025, rising to £315 million by 2030.<sup>29</sup> Continuing to support the widespread rollout of charging infrastructure could also help persuade more drivers to switch. Reducing annual capital spending investment in charging, from £200 million in 2025-26 to £400 million over four years, as the 2025 comprehensive spending

**66**Charging coverage remains one

of the biggest

perceived barriers

to EV adoption."

review appears to have done, is not sensible when charging coverage remains one of the biggest perceived barriers to EV adoption.<sup>30</sup>

The government should monitor EV registrations based on tax status. Low 'benefit in kind' (BiK) tax rates, for example, have stimulated company EV fleet growth, with hybrids and ICE cars demanding higher rates. Currently, BiK rates will increase by one per cent to 2027, when they will reach five per cent and then increase at two per cent a year until they reach nine per cent in 2029. While these are still significantly lower than rates for ICE vehicles, the policy should remain under review in case EV sales fail to grow as expected.

# Protect domestic manufacturing

Although the US ten per cent tariff for British exports is damaging, it is still below the levels the US has levied on the EU and China.<sup>31</sup> Maintaining this advantage will require continued diplomacy.

The government must also act decisively to examine impending rules of origin (ROO) changes as part of the trade and co-operation agreement with the EU. The priority should be to onshore supply chains where possible, with investment in all areas, from gigafactories to battery recycling. However, if it is not possible to meet the vehicle value or battery ROO targets, then the government should discuss deferring targets with the EU as they could punish OEMs on both side of the channel.

Furthermore, the level of Chinese state support for EV production has been significant and our interviews with industry insiders reveal that British and European manufacturers have struggled to compete on price. In this context, the EU and US have placed tariffs on Chinese vehicles, and Britain must recognise that intervention is required to support its industry. We suggest a minimum price on imported Chinese made vehicles, allowing British manufacturers to produce competitively priced vehicles as the industry scales up. This would be less confrontational than a conventional tariff.

# Attract new OEMs

The government should encourage new investment in domestic EV production by major overseas OEMs. While setting a minimum price for imports may sound contradictory to this aim, the government should make it clear to foreign companies that their operations based in Britain would be exempt. New British based manufacturers are also likely to benefit from the electric car grant. Another important condition should be for OEMs to use a proportion of domestic suppliers, which would require sharing intellectual property to the benefit of the whole industry. They should also adhere to established British labour standards.

Together, the range of interventions we describe, including action on energy costs, a commitment to the ZEV mandate and a favourable pricing architecture, including the minimum price and electric car grant, could make Britain a more attractive investment

Major new foreign investment would need secretary of state level engagement."

opportunity. If a leading Chinese brand were to set up a British production facility, it would benefit the domestic industry through technology spillovers and by protecting the market for suppliers.

But major new foreign investment, like that of Nissan in Sunderland in 1984, would require a bespoke deal. This would need secretary of state level engagement with a company's hierarchy, and the government should actively pursue such discussions.

Nissan's decision to open its Sunderland factory has been credited with reviving the UK car industry after the slump caused by the collapse of British Leyland. Major investment by a Chinese company could have a similarly galvanising effect.

# Long term strategy

Short and medium term stabilisation of the industry over the next five years would allow central government, OEMs, suppliers, trade unions and local economic agencies time to work together on a long term strategy to build British comparative advantage in the future global car market. This needs to be supported by delivery frameworks, with options for parts of the sector with no long term future, and skills programmes to match the new opportunities.

# Strategic planning

Long term plans set over five to 15 years should have two main objectives. First, to help regions, industries and workers deal with any negative fallout from the transition; second, to prepare the industry for the era of electrification.

# Regional adjustment

A forward looking Industrial Strategy should develop regional adjustment plans now for the coming decades, as industries prepare for the future. These have two necessary components: funding for subsidies and research and region specific plans.

**Support for subsidies and research:** central and local governments should use subsidies and research funding to induce companies to develop capacity across the EV sector (ie in batteries, materials and AI), and R&D capacity in relevant fields (even when there is currently no manufacturing counterpart to adopt them).

**Regional plans:** a bottom-up process in which local stakeholders, encompassing businesses, chambers of commerce, local economic development and investment agencies and trade unions, should develop region specific strategic plans. Many will have shared interests but different problems to solve, so buy-in from all parties and solutions with widespread backing should be sought.

Regional adjustment plans are likely to find a place in, or be complemented by, industrial adjustment plans (see page 12), which address the organisational challenges of the EV transition and its impacts. Designing and implementing these plans should

be the main task of a beefed-up Automotive Council, overseen by the new Industrial Strategy Council, in conjunction with local and regional government and training bodies like Skills England.

Local ZEV partnerships should play a central delivery role over the first few years of the strategy. They know the local actors, constraints and opportunities and are best placed to tailor policy instruments to their needs. These partnerships should feed into policy developments to regenerate regional economies.

# Industrial adjustment

Britain can learn from the experiences of other European car producing nations, like Germany, France and Italy, which all have larger domestic industries and, in some cases, embarked earlier on the transition to EVs. <sup>32</sup> A likely consequence of the transition in Britain is that traditional car manufacturing regions will experience significant dislocation through a combination of job creation, upgrading and cuts, as supply chains are reconfigured. A study of the transition in Germany, using the example of Volkswagen, predicts employment in the industry will be 12 per cent lower by 2029 than at the start of the decade, partly because manufacturers will automate repetitive manual tasks. <sup>33</sup>

The UK can plan this adjustment through a two-pronged process:

# Proactive support for the transition

The government should identify positive lessons it could import from other countries. The experience of coal and steel transitions offer examples: Britain, Germany and France all went through parallel crises in these sectors in the 1970s and 80s. But, in Germany, local partners developed plans to manage redundancies, including through early retirement, social plans and retraining, and local economic redevelopment schemes. The French experience was similar, a government agency for regional development, DATAR, set up local employment and industrial branches, although the process was more centralised and technocratic than in Germany.

The outcome in Germany was that heavy industry regions, primarily the Ruhr, remained wealthy, with low levels of inequality and deprivation. And political alienation in that region (expressed in vote share for the AfD today) has remained low. In France, localities where adjustment was a relative success have remained socially inclusive and wealthy; but where the adjustment was not managed through retraining and investment schemes, harming livelihoods, discontent has been reflected in higher far right and far left vote shares.

Britain, by contrast, has tended to leave processes like these largely to the market, sometimes weakly supported by local actors, but with no responsibility at the central level.<sup>34</sup> At Redcar, in the north east, where the closure of the steelworks in 2015 led to the loss of 40,000 jobs, only an estimated 20 per cent of workers who received help with retraining found another job, mostly on lower wages than before.<sup>35</sup> This has been blamed on the lack of a guiding strategy to bring in alternative investment and prepare the workforce. But, through proper planning and co-ordination, such

A job retention scheme could cover the salaries of affected workers for a limited period."

community impacts could be avoided in future where the car industry is undergoing similar adjustment.

To cope with loss of employment during the transition and preserve workers' skills, the government should consider a furlough scheme, along the lines of Germany's Kurzarbeit system, or a similar scheme in Italy, which both subsidise the wages of laid off workers while they are retrained. A job retention scheme could be linked with the costs of transition to cover the salaries of affected workers for a limited period to prevent the loss of jobs and skills.

# **Exploiting comparative advantage**

The second necessary element in a long term industrial strategy for the car industry is to identify areas in the value chain where Britain has comparative advantage or the resources to develop it easily. This should build on lessons from regional adjustment plans regarding the strengths of particular areas and the potential for R&D hotspots.

One important factor is that, over the next decade or so, the adjustment process could, paradoxically, lead to growth in employment and value added in fossil fuel vehicle-based employment and revenues remaining stable to 2030, alongside rising EV production, as the two types of vehicle require largely separate production lines. Policy makers should resist complacency and prepare for the long term adjustments necessary for an EV based industry.

# Managing parts of the sector with no long term future

Some specialised ICE vehicle related products and processes may not be salvageable in an all electric car industry, even in modified form: for example, exhausts, cylinders, axles and injection electronics. These producers may be at risk before the transition is complete, so it will be necessary to create a register of affected companies and explore parallel technologies where their existing technology and skills could be redeployed. Many existing processes require sophisticated knowledge of materials, machines, treatments and processing which could be a good foundation for a shift into new sectors beyond the car industry, eg in medical equipment, machine tools or heat pumps.<sup>36</sup>

The TUC is calling for the government to host a new 'automotive supply chain taskforce' (wider than the existing industry dominated Automotive Council) bringing together OEMs, suppliers, unions and experts to map out the at-risk supply chain and develop sub-sectoral transition plans.

# Technology, skills and training

New skills that will be required for EV manufacturing in future are uncertain. However, the government should be building capacity now for likely future manufacturing skills while also developing stronger R&D.

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Britain can learn

from the experiences

of other European car

producing nations."

# Manufacturing skills

Future jobs in the industry are likely to need skills acquired through higher education rather than vocational schemes, which are the main form of training for the industry now.<sup>37</sup>

In addition, since EVs integrate previously unrelated disciplines and require workers who are familiar with these, there will be demand for new low level integrated engineering degrees that combine software, chemical, electric and mechanical engineering content.

Ideally, new skills should be delivered through two year degrees taught by Further Education colleges, in conjunction with local universities, as well as newly created technical institutes that are a feature of successful higher education systems in India, Germany, South Korea and Ireland.

Particularly good models for these are the applied engineering schools in Germany (Fachhochschulen or trade universities). These train most of the production engineers for the German car industry, which is still Europe's biggest. Courses should be co-designed with employers through mechanisms like degree apprenticeships and make use of Lifelong Learning Entitlements to retrain older workers.<sup>38</sup>

Significant technological breakthroughs are being made on components such as batteries, raw materials, recycling, charging technology and stable energy storage, and this is expected to continue. Skills development needs to anticipate this dynamism. Although the remit of Skills England is still being developed, planning for these changes over the long term should be central to its mission.

## **R&D** capacity

**Britain should push** 

ahead to leapfrog

other countries."

There is a risk that just following trends set elsewhere could leave Britain as a peripheral R&D outpost in the industry, as has been the case since the decline of British Leyland in the 1980s. Instead, Britain should push ahead and marshal its academic and educational resources to leapfrog other countries like France and Germany which, with larger existing industries, could be less commercially nimble.

The government and the industry should look far enough ahead to make Britain an engineering and science and technology (S&T) hub for advanced car technology, building on the country's existing strengths in research-led engineering.

Establishing British S&T leadership in fifteen years' time requires significant investment in STEM now, to develop a critical mass of high end and applied engineers. Research universities, like Imperial College, Cambridge and other leading institutions, will be at the core of the research-led leg of this revitalisation strategy, but the role of newer universities, like Coventry, which have close links with their local car industry, will also be important. These institutions should liaise closely with vocationally oriented technical colleges, particularly over skills development and the rapid adoption of new technologies.

# Our recommendations

The government should actively pursue a deal with a major foreign EV investor."

The British car industry is a success story that has generated high employment, billions of pounds in export earnings and brought prosperity to many communities. But it faces a raft of challenges that are complicating the necessary switch to EV production. Companies, trade unions and local and national government must collaborate on short and long term strategies to get the industry ready for an electric future. The following measures should be prioritised:

Cut electricity costs for automotive manufacturers and their supply chains
This is the most urgent immediate step to help British carmakers
survive. Ministers should fast track the British Industrial
Competitiveness Scheme to move policy levies from electricity
bills onto general taxation from April 2026, rather than waiting
until 2027 as proposed. If this is not possible, the chancellor
should provide emergency relief in the autumn 2025 budget, such

## Expand incentives to buy electric vehicles

To ensure the benefits of owning an EV are available to everyone, wherever they live, VAT on public charging should be cut from 20 to five per cent, to bring it in line with off street home charging costs. Capital spend on charger installation should be increased, focused on underserved parts of the country. These interventions should be paired with a commitment that no further flexibilities will be introduced into the ZEV mandate, so the supply of EVs can keep up with demand.

## Create generous trade policy for British manufacturing

as a temporary VAT cut on energy for industrial users.

Ministers should continue to break down trade barriers with the US and alleviate the threat of impeding rules of origin penalties as part of its trade and co-operation agreement with the EU. It should set a minimum price for Chinese made vehicles that is regularly reviewed so domestic manufacturing is competitive and Britain remains an attractive market. The government should actively pursue a deal with a major foreign EV investor to base their European operations in Britain.

## Develop long term strategy for the next wave of EV innovation

The recommendations above should help to stabilise the industry over the next few years. But with OEMs currently considering future rounds of investment, the government should be investing in the skills and technologies for an automotive industry where much of the value will be in software and sophisticated electronics, and it should develop proportional transition plans for suppliers and regions to help them adapt.

# **Endnotes**

- Department for Energy Security and Net Zero (DESNZ), 2025, 'Final UK greenhouse gas emissions statistics: 1990 to 2023'
- 2 Climate Change Committee (CCC), 2025, *Progress report to parliament on reducing emissions*
- 3 BloombergNEF, 2025, 'Electric vehicles outlook'
- 4 Mobility Portal Europe, 1 July 2025, 'Norway reached 96.9 per cent market share for EVs in June'
- 5 Energy and Climate Intelligence Unit (ECIU) and CBI Economics, 2024, Electrifying growth: exploring what electrification could mean for the UK's car industry
- 6 Statista, 'Yearly number of passenger cars produced in the United Kingdom (UK) between 2003 and 2023'
- 7 Reuters and Global Data, 25 September 2024, 'Volkswagen's labour clash spotlights Europe's car factory conundrum'
- 8 Political Economic Analysis, Consulting and Strategy (PEACS), 2020, 'The just transition in the car industry'
- 9 ECIU and CBI, 2024, op cit
- 10 ONS, May 2025, *The impact of higher energy costs on UK businesses: 2021 to 2024*; Carbon Brief, May 2025, 'Factcheck: Why expensive gas not net-zero is keeping UK electricity prices so high'
- 11 House of Commons Library, June 2025, 'Gas and electricity prices during the 'energy crisis' and beyond'
- 12 Make UK, June 2025, 'Tackling electricity prices for manufacturers'
- 13 DESNZ, May 2025, 'Industrial electricity prices in the IEA'
- 14 Society of Motor Manufacturers and Traders (SMMT), January 2023, 'Energy costs remain a threat to competitiveness'; Green Alliance interviews with Honda and SMMT, May and June 2025
- 15 IEA, July 2025, 'Global EV data explorer data tools'
- 16 S&P Global, 2 April 2025, 'BYD Charges ahead in the EV race with super e-platform'
- 17 GMAP Analytics, November 2023, 'The growth of Chinese brands in the UK electric vehicle market'
- 18 SMMT, July 2025, 'UK car manufacturing & production data | UK car exports statistics'
- 19 Ibid
- 20 European Parliament, February 2024, 'EU UK rules of origin for electric vehicles and batteries'
- 21 Statista, 25 December 2024, 'Yearly number of passenger cars produced in the United Kingdom (UK) between 2003 and 2023'
- 22 SMMT, 30 January 2025, 'Vehicle production dips amid EV transformation and intense market pressure'

- 23 V Waldersee and N Carey, 25 September 2024, 'Volkswagen's labour clash spotlights Europe's car factory conundrum', Reuters.
- 24 New Automotive, August 2025, 'Annual BEV growth exceeds 20% as manufacturers gear up for a strong end to the year. Electric Car Count'
- 25 European Commission, 26 July 2025, 'European battery electric vehicle market surges 34% in first half of 2025, led by Volkswagen'
- 26 Green Alliance, June 2024, briefing, 'Using power purchase agreements to decarbonise steel'
- 27 Gov.uk, 15 July 2025, 'Discount of up to £3,750 on electric cars set to slash costs for thousands'
- 28 Social Market Foundation, 15 July 2025, 'Electric car grants are step in the right direction, but wrong policy, says think tank'
- 29 J Jolly, 11 February 2025, 'EV drivers spend extra £85m on VAT when using public chargers', *The Guardian*
- 30 YouGov, October 2024, 'Barriers to EV adoption: a reality check for the industry'
- 31 L O'Carroll and J Jolly, 30 June 2025, 'Shiploads of cars ready to set sail for US from UK as trade deal kicks in'. *The Guardian*
- 32 B Galgóczi (editor), 2023, 'On the way to electromobility a green(er) but more unequal future?', European Trade Union Institute
- 33 Fraunhofer Institute for Industrial Engineering, 2020, 'Effects of electric mobility and digitalisation on the quality and quantity of employment at Volkswagen'
- 34 D Coats, 2020, A just transition?, Community Trade Union
- 35 Green Alliance, October 2024, Ensuring fairness in the net zero transition
- 36 PEACS, 2020, op cit
- 37 Ibic
- 38 S Coulter, 2025, 'Higher education expansion as a growth strategy', chapter in: G Atherton and P John, *Making equal: new visions for opportunity and growth*, Emerald Publishing, London



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# A plan to support electric vehicle manufacturing in the UK

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#### **Green Alliance**

Green Alliance is an independent think tank and charity focused on ambitious leadership for the environment. Since 1979, we have been working with the most influential leaders in business, NGOs and politics to accelerate political action and create transformative policy for a green and prosperous UK.

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