

# PLUGGING THE GAP

March 2022

In association with:





“Together we can plug the gap between ambition and achievement – and deliver a prosperous, inclusive zero emission mobility future.”

One year on from SMMT’s first Electrified Blueprint, it is abundantly clear that great progress is being made, but delivering zero-emission mobility still poses challenges for every stakeholder. The automotive industry has a critical role to play, of course, but to end the sale of new petrol and diesel cars and vans in less than eight years requires a significant commitment from all parties and a coordinated approach that ensures everyone can make the transition.

As we began to emerge from the second lockdown in March 2021, there was reason for optimism. Electric vehicle uptake had broken all records during a torrid year for the industry. Drivers had the widest choice of EV models ever and investments in infrastructure – especially on the strategic road network – were being made. Yet there was also a note of caution: concerns remained over affordability, the provision and ease of charging – especially on street charging, and the ability of the UK supply chain to adapt to a new future and new trading requirements.

In 2022, we face a similarly mixed picture, with some challenges receding, others emerging.

The health impacts of the pandemic appear to be receding as vaccinations prove their effectiveness. Under normal conditions this would restore consumer confidence – but recent geopolitical events have thrown some certainties into disarray. Supply chains are more at risk than ever, as acute shortages of key commodities and components continue. Global logistics are incredibly difficult and expensive. And rising fuel prices and energy costs are exacerbating inflationary pressures and putting a squeeze on millions of household incomes.

While these major headwinds continue, however, the EV transition is continuing its success. Plug-ins accounted for more than one in six new car registrations in 2021 – a figure that would have been unimaginable even two or three years ago. More than 140 vehicle models are available as plug-in cars. The commercial vehicle sector remains behind cars in terms of EV adoption, but battery electric van uptake grew by more than 140% and took a new market share of 3.6% last year, while the HGV sector now has a target – albeit a challenging one – for all new registrations to be zero emission from 2040. And in terms of UK manufacturing capability, more than £10.8 billion has been invested in UK EV and battery development and production over the past decade.

The automotive sector faces binding targets on the delivery of zero emission mobility. Most other sectors have no such regulatory deadlines. But mandates alone do not make markets. Delivering the most radical transition in automotive history means convincing the consumer. Every stakeholder must play their part by matching the commitments made by the industry, by incentivising consumer uptake, by dramatically expanding infrastructure, and by ensuring that Britain remains an attractive location in which to invest.

By doing so, together we can plug the gap between ambition and achievement – and deliver a prosperous, inclusive, zero emission future.

A handwritten signature in blue ink, appearing to read 'MH', with a long horizontal line extending to the right.

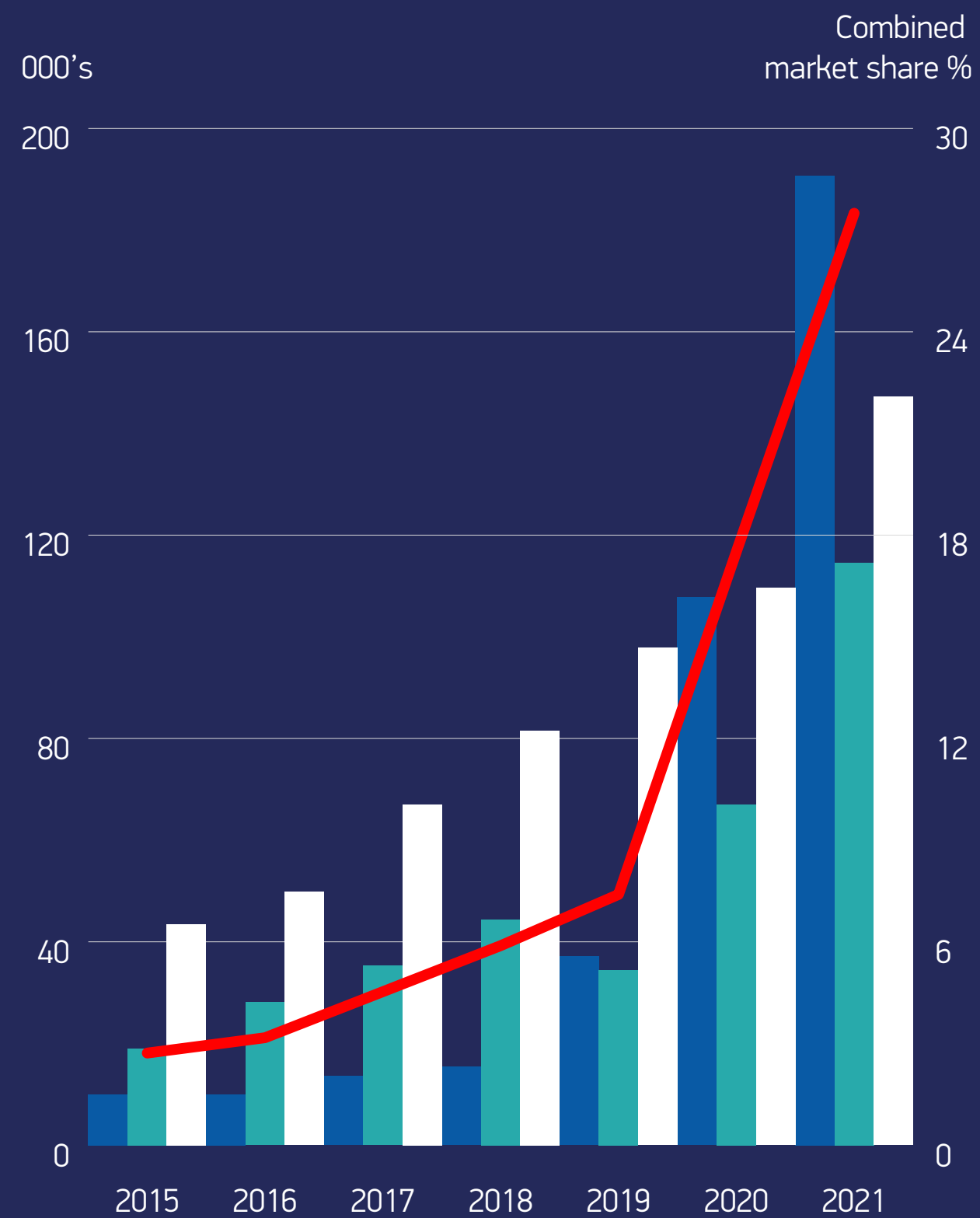
**Mike Hawes, Chief Executive**  
The Society of Motor Manufacturers and Traders (SMMT)

# INDUSTRY UPDATE

## NEW BATTERY ELECTRIC, PLUG-IN HYBRID AND HYBRID ELECTRIC VEHICLES REGISTRATIONS

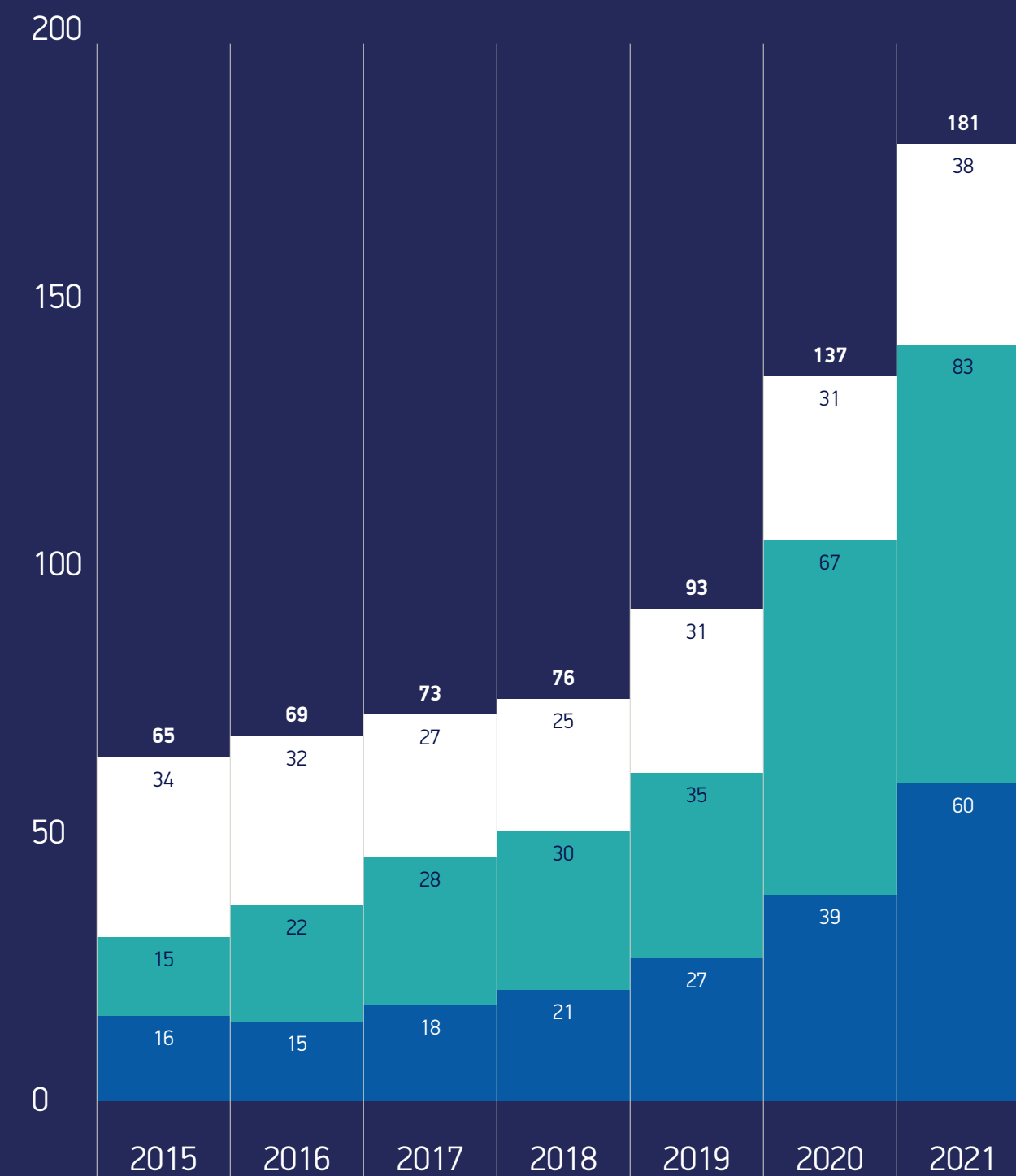
BEVs PHEVs HEVs Market share

Source: SMMT data



## MODELS OF BATTERY ELECTRIC, PLUG-IN HYBRID AND HYBRID ELECTRIC VEHICLES AVAILABLE IN UK

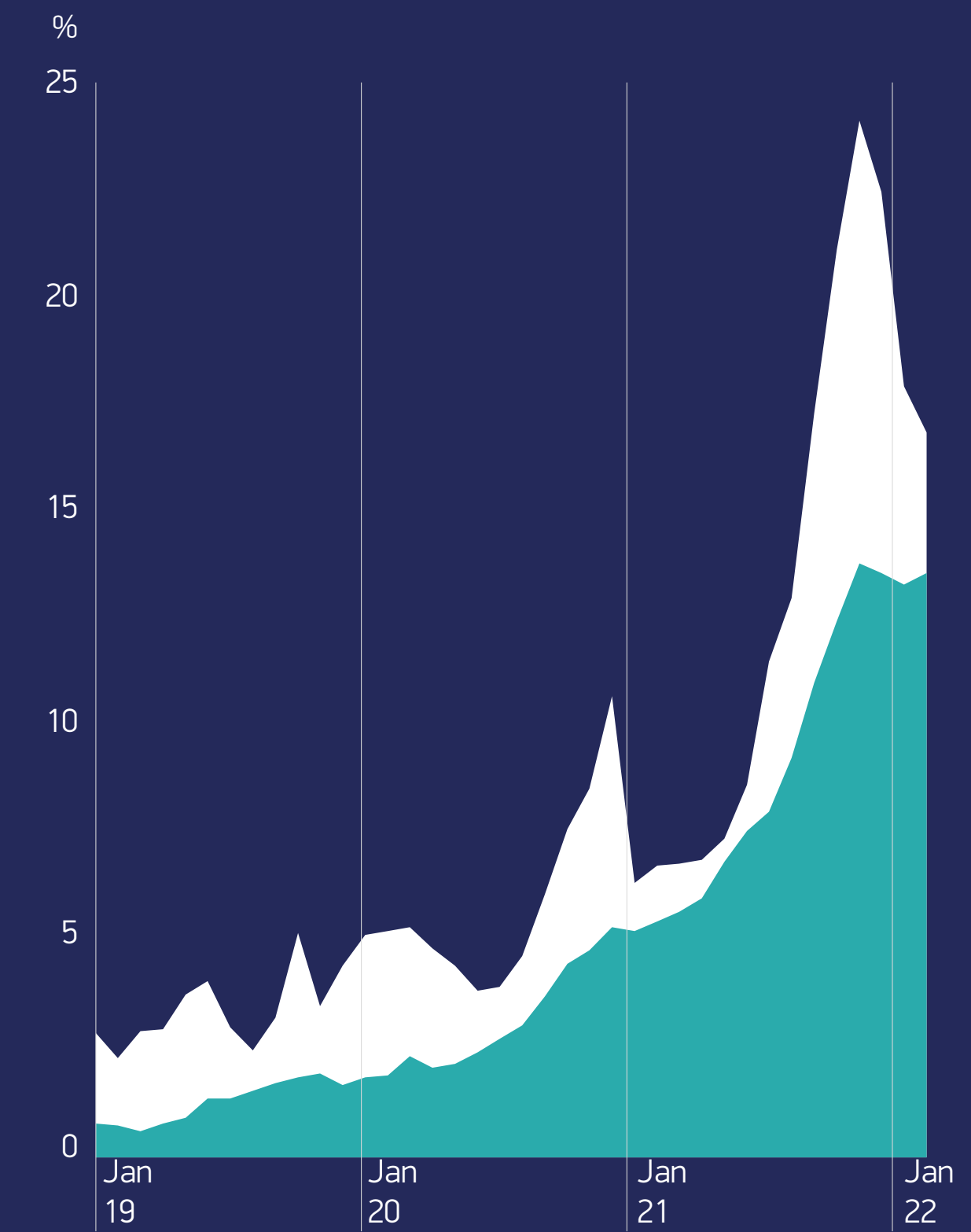
BEVs PHEVs HEVs



## PROPORTION OF BUYERS ENQUIRING ABOUT NEW BATTERY ELECTRIC VEHICLES

New Used

Source: Auto Trader



## TOP 5 ELECTRIC VEHICLES REGISTERED IN 2021

01 Tesla Model 3



02 Kia e-Niro



03 Volkswagen ID.3



04 BMW 3 Series



05 Nissan Leaf



# 01 MARKET TRANSITION SUPPORTING CONSUMERS

↳ The automotive industry is fully committed to zero-emission mobility and has invested heavily in electrification – with around £400 billion expected to be spent globally in the next five to 10 years to bring even more electric vehicle models to market. Several manufacturers have already announced that their brands will become fully electric between 2025 and 2030.

However, for the UK to become an exemplar market for clean and sustainable mobility, plugging the affordability gap is essential, making the switch accessible for all consumers, regardless of where they live, or their income.

Most EV buyers are more affluent than the national average. Ian Plummer, commercial director, Auto Trader, says, “We can see a very distinct picture of the average consumer considering an EV purchase on our marketplace. Not only are they older than the average visitor, but they’re significantly more affluent too, and are typically located within the wealthiest postcodes. This very specific demographic, which doesn’t have the same concern over the upfront cost as the average car buyer, or other key barriers to adoption such as access to off-street charging, represent a relatively small proportion of the 11 million people that use our marketplace every month.”

While EV uptake has rocketed in the past two years to more than one in six new car registrations in 2021, reducing purchase incentives could stall this growth by preventing EVs appealing to a broader market, putting the delivery of net zero at risk.

For private consumers, BEVs are more expensive to own than their ICE equivalent. Despite lower overall running costs and attractive leasing offers, the total cost of ownership for an average BEV across every segment is still higher than for an ICE vehicle on a like-for-like basis. BEVs accounted for 8.7% of new private car

registrations in 2021 – but 14.3% of new business and fleet car registrations. In short, just one in three new BEV registrations is made by a private consumer.

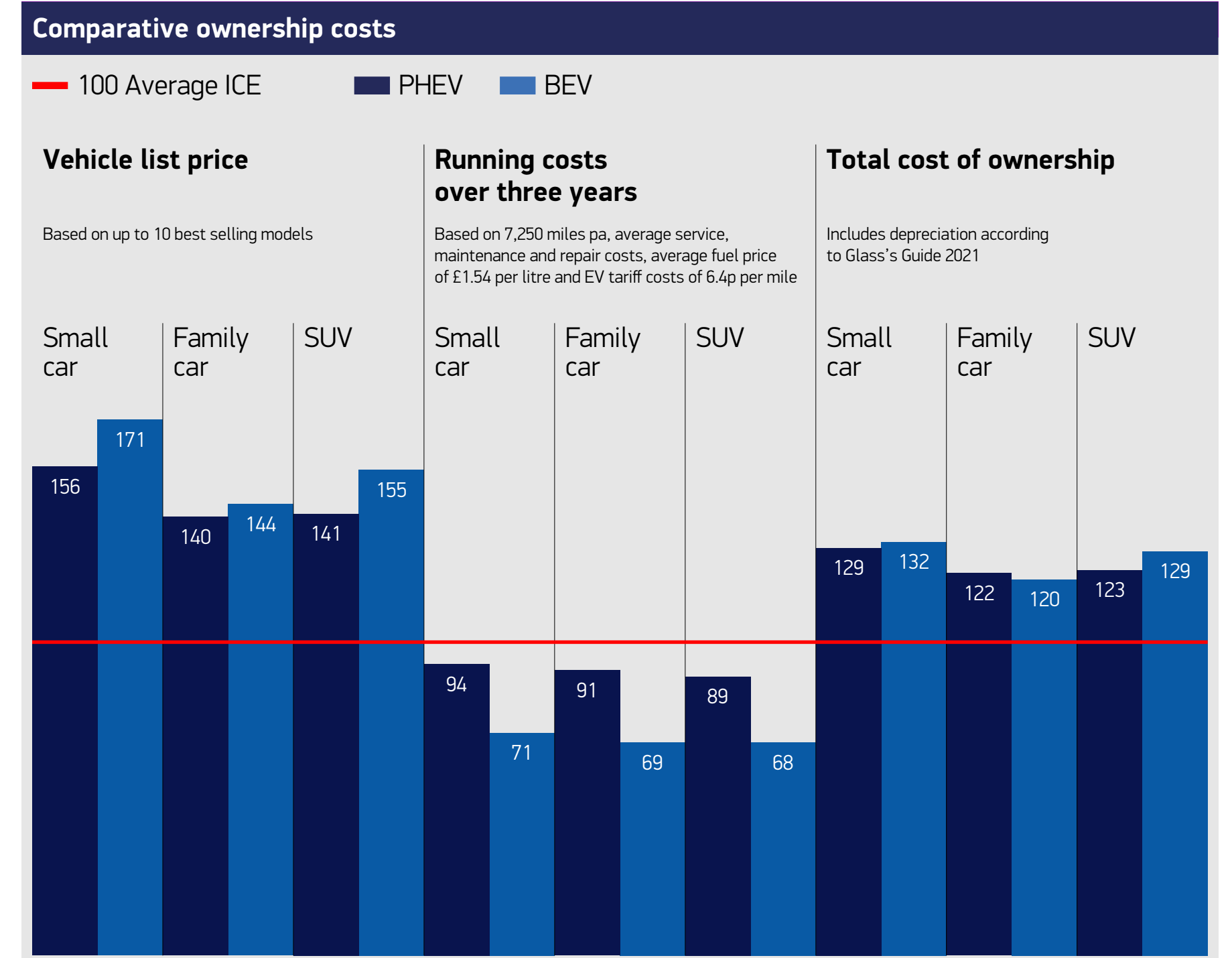
BEVs are currently more expensive for manufacturers to produce, largely due to battery costs. It is impossible to predict with any certainty when list price parity may be reached between like-for-like BEVs and ICE vehicles, given variables such as raw material prices, demand levels and production efficiencies. Earlier predictions that this might happen by 2025<sup>1</sup> have since been pushed back to 2026-2027.

The supply and cost of critical raw materials for batteries are outside the influence of the automotive industry. Sky-rocketing prices of lithium carbonate, nickel and cobalt in the last 24 months may further delay price parity, while rising energy costs increase expenses. New geopolitical concerns put these supply chains at further risk.

Government policy should plug the affordability gap through a range of consumer incentives. Cutting the Plug-in Car Grant twice in 2021, while governments in other major European markets are actively incentivising uptake, was the wrong move at the wrong time. The UK’s market shares of plug-ins and BEVs are now falling behind those of several major markets which offer more generous incentives.

Instead of a blanket cut to vehicle grants, government should look at targeted grants and VAT reductions so that every market segment – and every purchase type – can be adequately incentivised. The extension of favourable Benefit in Kind and Company Car Tax regimes for EVs beyond 2025 is key to supporting the business user segment but the private consumer still needs attractive purchase incentives.

<sup>1</sup> Bloomberg New Energy Finance (2021), Hitting the EV Inflection Point



Market	Purchase incentives	Market % of plug-in registrations in 2021
UK	£1,500 for BEV cars valued at less than £32,000, up to £5,000 for vans, and £16,000-£25,000 for trucks	18.5%
Germany	€9,000 for BEVs under €40,000 and €7,500 above €40,000	26.0%
France	€7,000 for cars and vans <20g CO2/km, up to €50,000 for HGVs, plus scrappage scheme	18.3%
Italy	€6,000 for low carbon vehicles less than €50,000	9.4%
Spain	€4,500 to €7,000 for BEV cars and up to €9,000 for BEV vans and trucks	7.8%

Source: ACEA



# 02 LEVELLING UP INFRASTRUCTURE

↳ The UK is facing a charging equity challenge which could slow down plug-in vehicle adoption.

Manufacturer investment in battery technologies and efficiency optimisation means range anxiety has been replaced by charging anxiety – the fear that a charging point will not be conveniently available or working on demand.

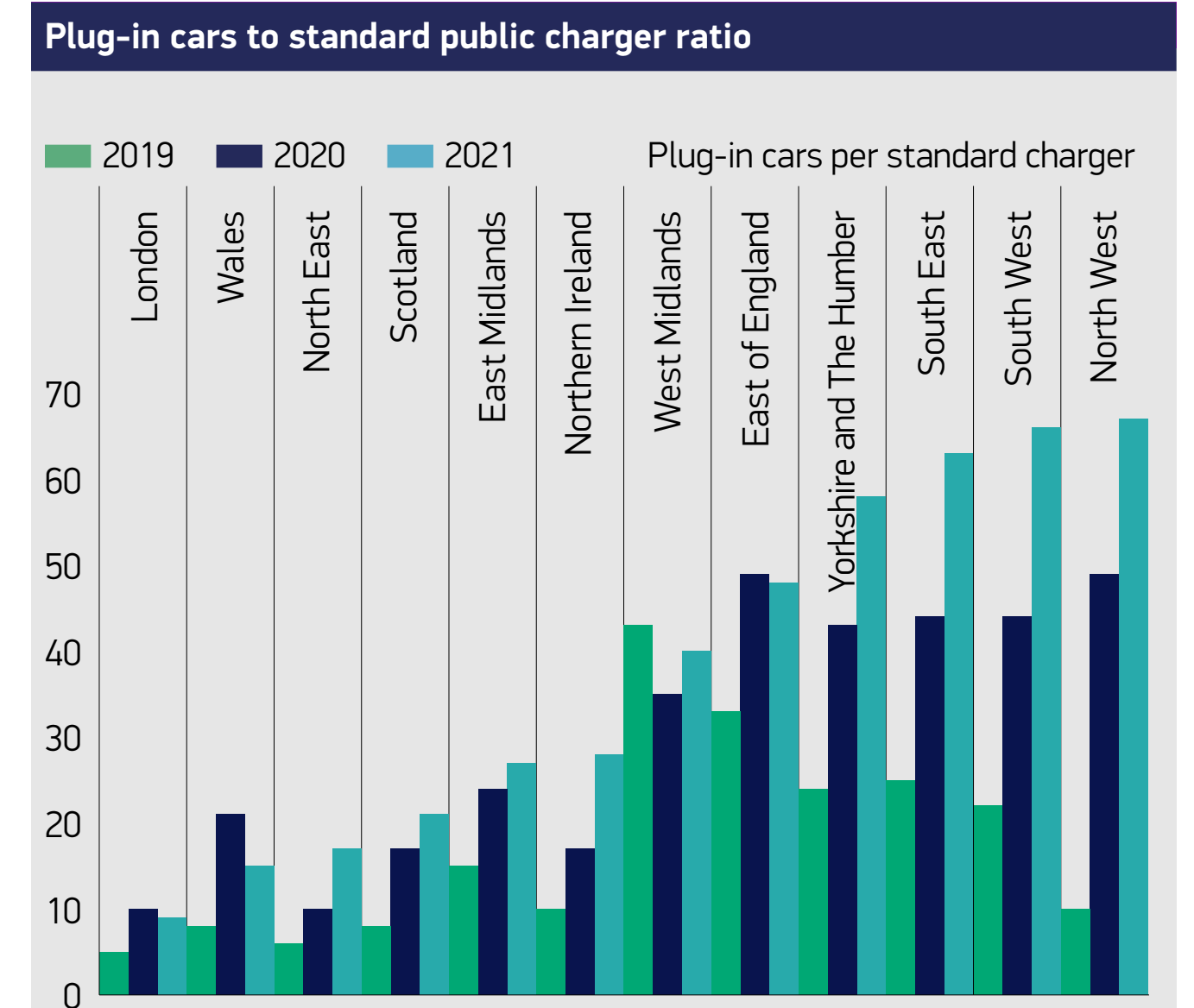
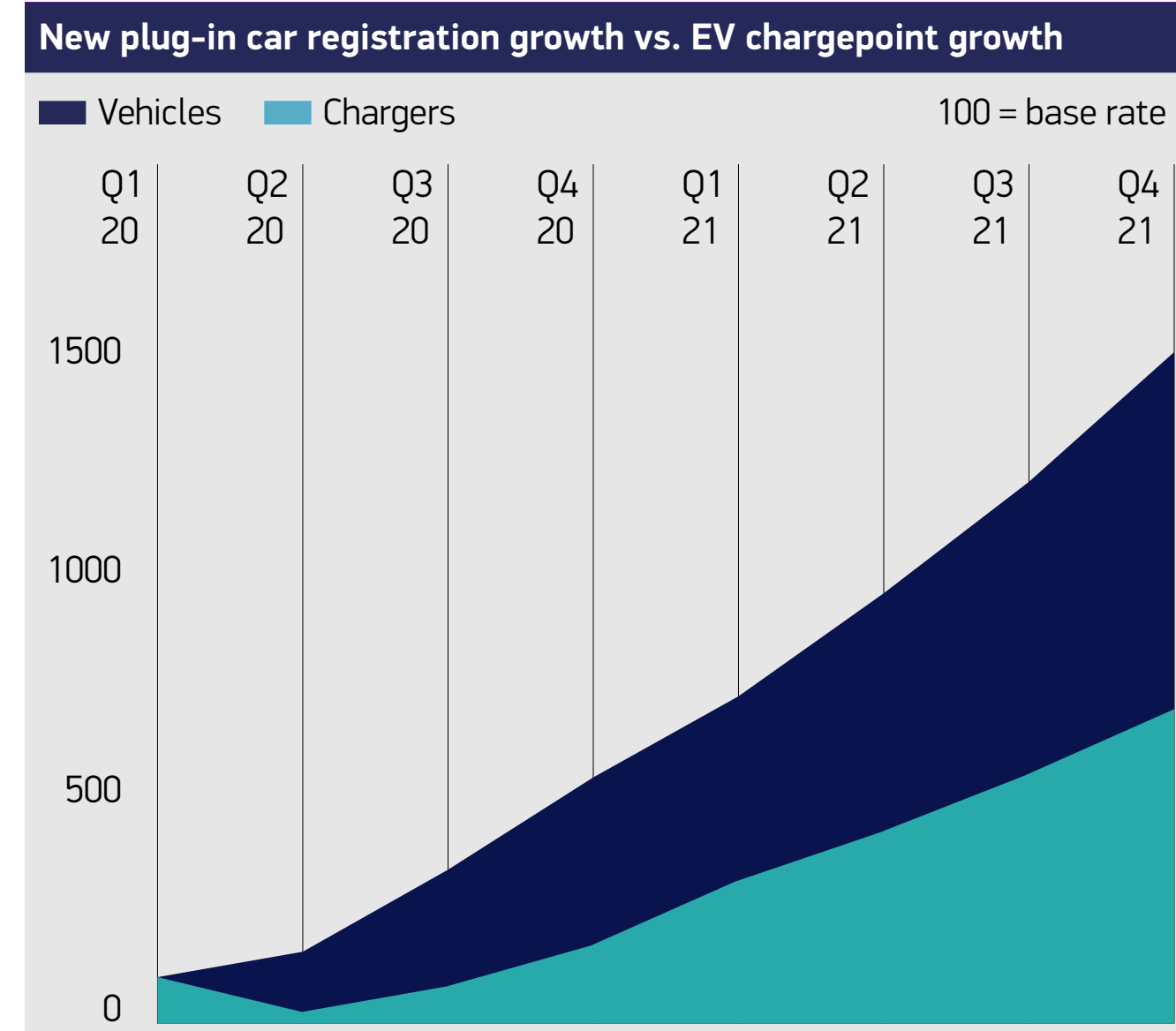
Despite a commendable growth of more than 3,000% in public charging infrastructure since 2011, inadequacy of infrastructure provision is still a concern for consumers and is a barrier to mass uptake.

Although most current EV users charge at home, they also still routinely use public chargepoints. These are fundamental to consumer confidence and will be essential for the one-third of British households that do not have off-street parking. Many commercial and grey fleets will also heavily rely on this network. Battery electric LCV uptake is growing but remains low, accounting for 3.6% of new registrations in 2021. For the many thousands of van owner-operators or small fleets, a reliable, accessible public charging network will be vital.

Public charging infrastructure expansion has failed to keep pace with EV uptake. While the UK has the best ratio of rapid chargers to battery electric cars in the Western world, plug-in cars on the road have grown by a phenomenal 280.3% between 2019 and 2021, but standard (3–22kW) public chargepoints grew by just 69.8% in the same period.

Public charger provision varies regionally, with one standard public charger for every 67 plug-in cars in the North West, compared with one for only nine in London. But EV uptake must be viable and attractive for everyone, regardless of where they live.

Left entirely to market forces, investment in chargepoints will naturally prioritise commercial



As plug-in vehicle registrations surged, public charging infrastructure expansion has failed to keep pace.



interests, focusing on the more profitable chargers and high-utilisation locations.

The problem may not be a lack of chargepoints, but that public chargers will be increasingly inadequate, inequitable and disproportionately distributed as plug-in vehicle uptake accelerates. Both the Competition and Markets Authority and government have identified that a lack of regulation has resulted in a poor consumer experience.

Charging infrastructure expansion must place consumers at the heart of strategy, and must be accessible and affordable for all, based on adequacy (ease of finding an available, working chargepoint); experience (charging should be at least as easy as refuelling); and equity (an evenly distributed network where users are not unfairly financially penalised compared with those who have home chargers).

**We propose the following seven-point plan to deliver consumer-centric charging infrastructure that is pivotal to a successful transition to zero emission vehicles:**

- 01 Embed consumer-centricity in policy and a national plan on charging infrastructure
- 02 Develop and implement a nationally coordinated but locally delivered infrastructure plan
- 03 Invest significantly to uplift all types of charging infrastructure, particularly public chargers, ahead of need
- 04 Set binding targets to ensure adequate public chargepoint provision and social equity
- 05 Enact proportionate regulation to deliver the best outcomes for consumer experience and expansion of provision
- 06 Provide adequate enabling support to incentivise and facilitate delivery of charging infrastructure
- 07 Ensure electricity networks are future-proofed and fit for purpose for zero emission mobility

# 03 TRANSITIONING PRODUCTION

↳ The UK is a major market and a major manufacturer of vehicles. So while delivering a zero emission market transition is essential, it is equally important that the switch creates jobs and opportunities in production.

During Britain's 'electric decade' from 2011, approximately £10.8 billion has been invested in electric vehicle production and gigafactories, demonstrating the industry's robust commitment to the transition and creating skilled, well-paid jobs to level up the UK.

Battery electric vehicle production hit record

growth levels, increasing by 72.0%, and reached record highs – although overall BEV production still comprises just 8.2% of UK output. Electric commercial vehicle production is also set to grow, with plans in place for UK production of some key BEV LCV models, and new players entering the truck market with long-term goals to mass produce electric HGVs.

With the UK's automotive manufacturing industry heavily reliant on the EU, accounting for 55.0% of exports, the Trade and Cooperation Agreement (TCA) has provided a framework for future growth. Under the TCA, by 2027 any electric vehicle

produced in the UK and exported to the EU will incur tariffs, unless the battery is made in either the UK or EU, along with 55% of the vehicle's overall content. Furthermore, to be able to take full advantage of the UK's trade ambitions with other countries, domestically produced batteries will be all but essential if Rules of Origin are to be met and tariff-free trade assured.

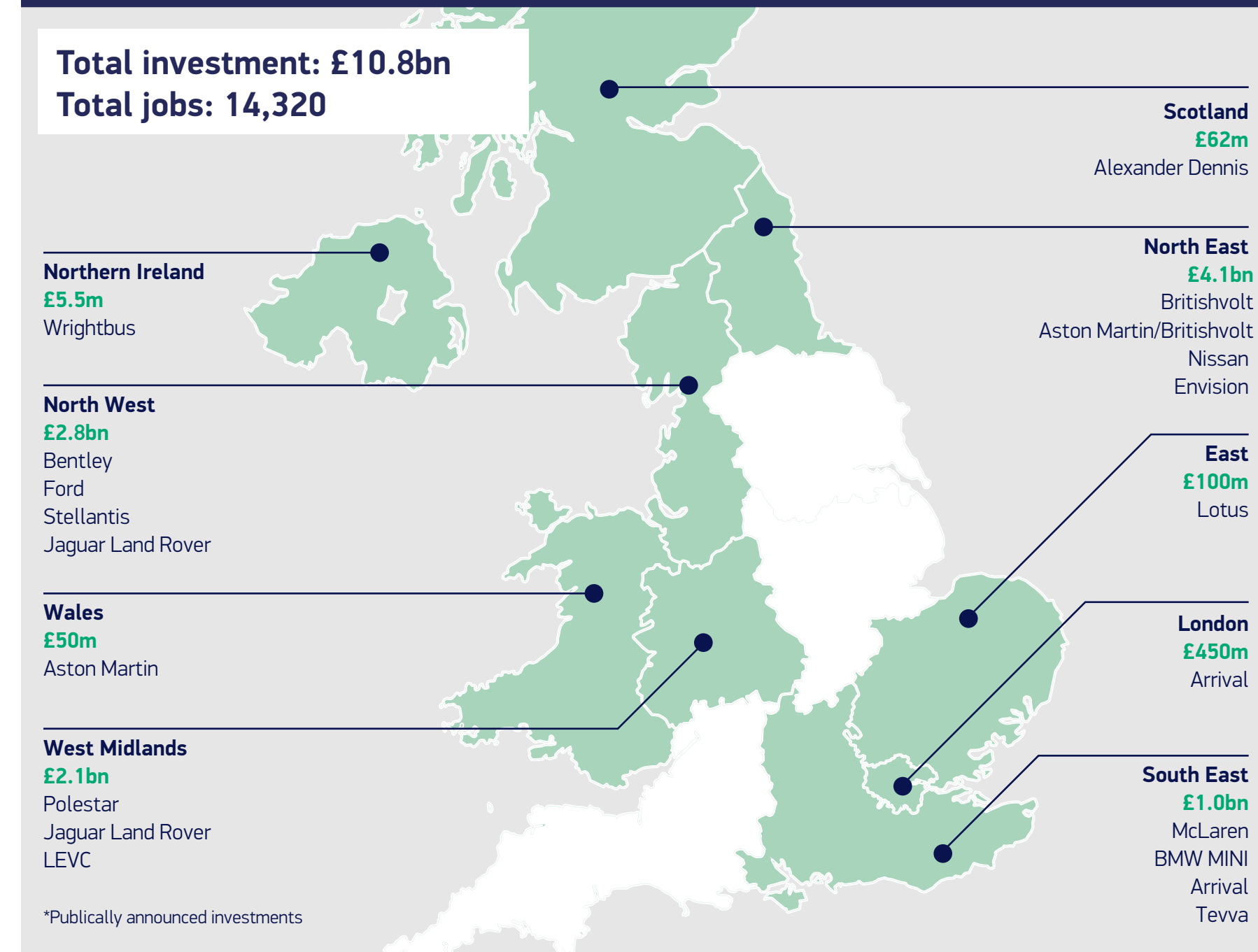
The UK's current gigafactory capacity is approximately 2GWh – approximately enough to produce around 33,000 battery electric vehicles a year, although recent investment announcements will increase capability to at least 41GWh in the next five years. However, SMMT estimates that by 2030, this capacity will need to increase by a factor of 30 to reach at least 60GWh to manufacture of approximately one million BEVs a year.

Protecting the investments made by the automotive industry in electrification – and the jobs they create – means maintaining the UK's competitiveness. The sector has a disadvantage

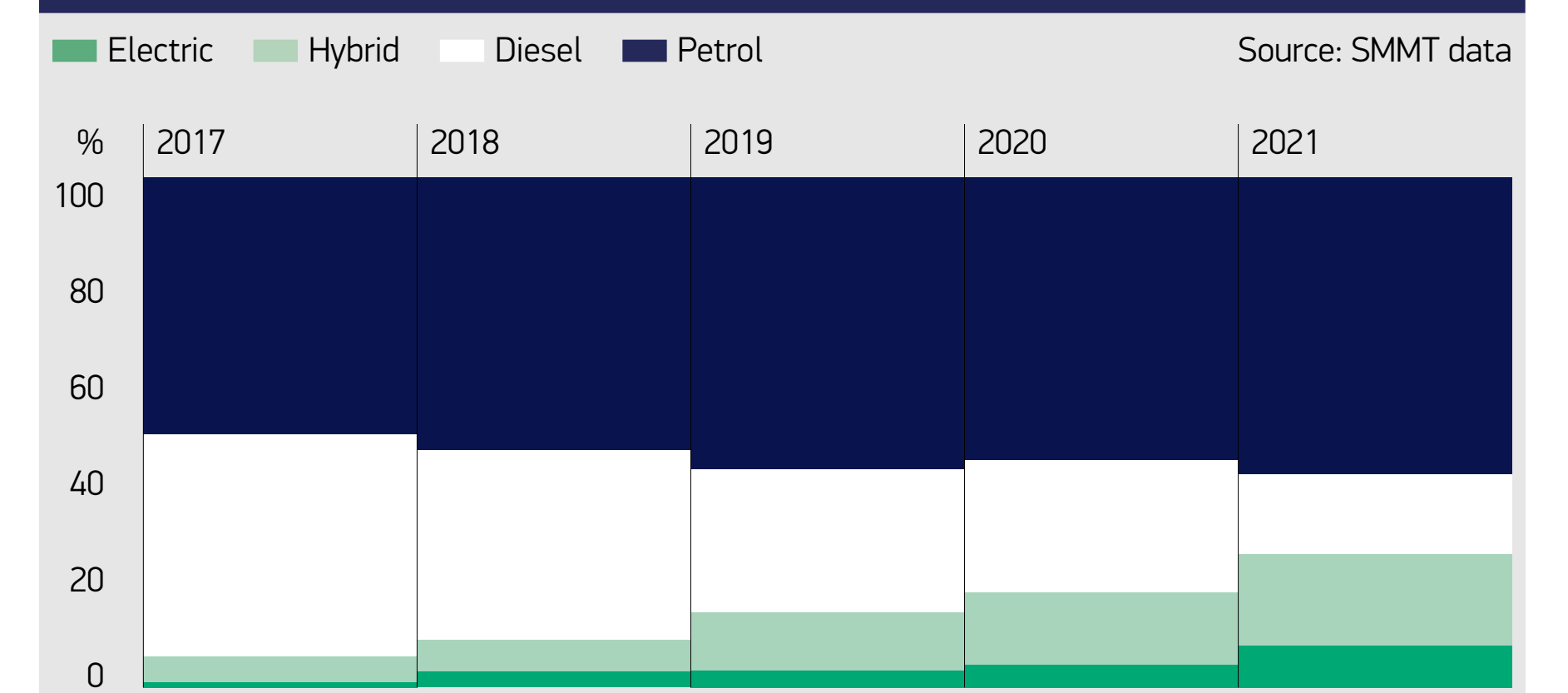
as the UK has the highest electricity costs in Europe, 87% above the EU average in 2020, and rising. This deprives companies of funds that could be used for zero emission vehicle production. Net zero critical and trade intensive industries such as automotive manufacturers should get the same benefits and support as Energy Intensive Industries, to mitigate some of the non-commodity costs. The government must do all it can to support and encourage investment at a critical point in the industry's investment cycle.

Equally important is plugging the gap in the automotive supply chain. While some key investments have been made, the UK urgently needs more parts suppliers for the EV supply chain. Boosting their presence will be essential for Britain's BEV exports beyond the EU. In addition to the full £1 billion commitment of the Automotive Transformation Fund, government should develop a new Build Back Better or 'Levelling Up' fund for advanced manufacturing, to support and encourage investment and decarbonisation in the UK and transform the supply chain.

**UK Investment in electrified vehicle production, research and battery development since 2011**



**UK automotive production by fuel type, 2017-2021**



# THE SECOND ELECTRIC DECADE

↳ The UK's first electric decade has exceeded all expectations. In the past 10 years, Britain has gone from vehicle production that was almost entirely fossil fuel-based, to a major manufacturer of electric cars, vans, buses and trucks that are exported worldwide. In terms of demand, Britain is now the second largest major EV market in Europe, with the most ambitious end of sale targets.

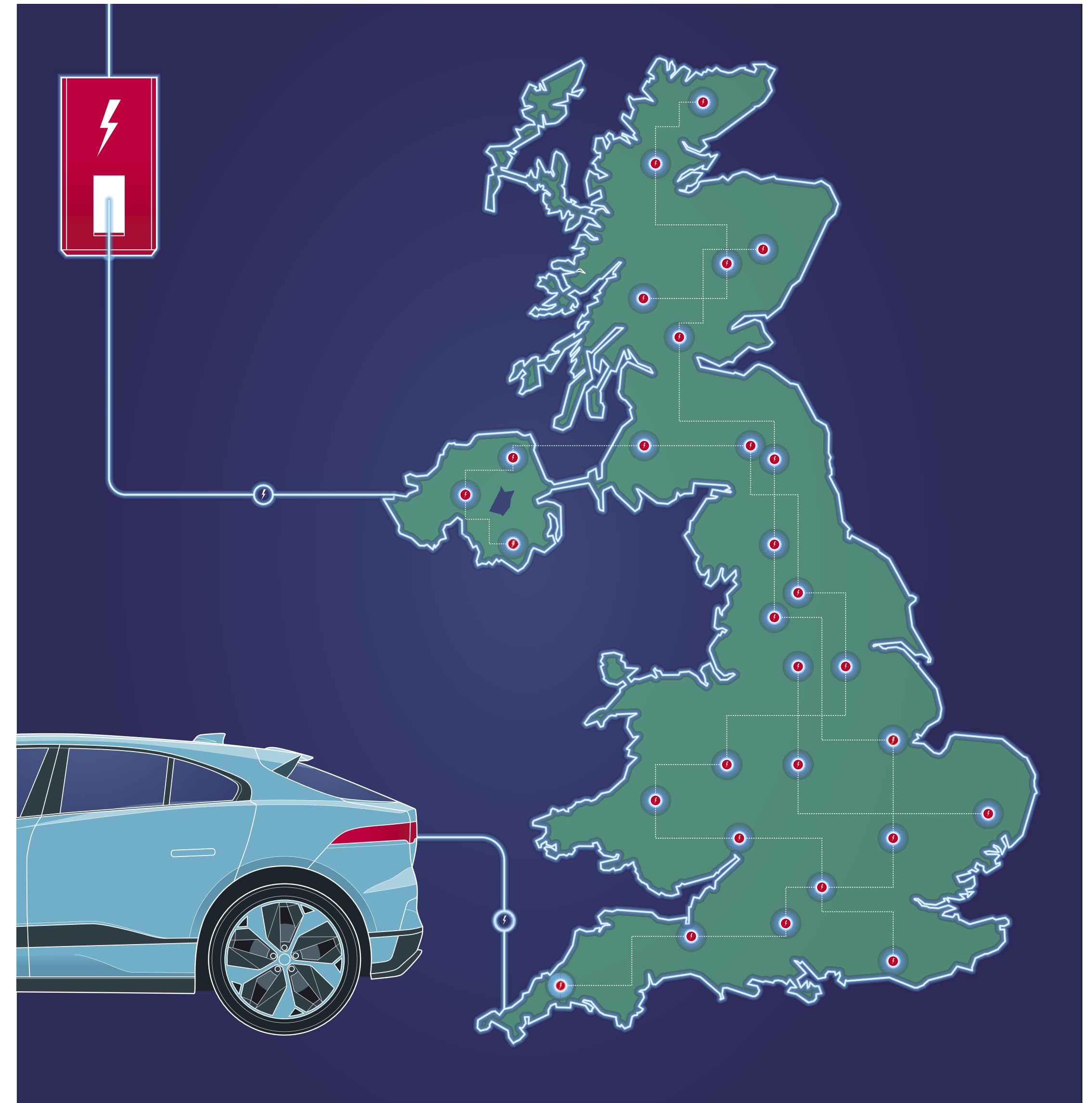
But success is testament to the commitment of the automotive industry, which has invested more than £10.8 billion in Britain alone during its first electric decade and created around 20,000 jobs.

With the second electric decade now underway, it is crucial that every sector matches automotive's commitment to plug the gaps that remain between the nation's ambition, and its achievements.

While EV uptake continues to accelerate, without corresponding growth in infrastructure, large sections of society risk being left behind in our transition. The generous incentives for business drivers to switch to electric are clearly driving a transition, and should be replicated for private buyers. And with energy prices rocketing beyond all historic levels, action is needed to improve the competitiveness of UK manufacturing. We already have the highest energy costs in Europe and the current price spikes will only exacerbate that differential. This is particularly important if we are to secure the additional investment in gigafactories that will sustain existing vehicle production.

But manufacturing competitiveness is more than energy and more than vehicle manufacturing. We need to make the UK the most attractive place for net zero manufacturing, whether in finished vehicles, batteries, supply chain or emerging technology. No business should be left behind as we move away from the internal combustion engine.

Britain has set the bold ambition of being the first major market to end the sale of new petrol and diesel cars and vans, and to phase out new fossil fuel HGVs just 10 years later. The industry, as ever, is ready to take on the challenge, but we cannot do it alone. With targets and matched commitments for every stakeholder, we can plug the gap and deliver zero emission mobility for all.



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