



**Batteries for electric vehicle manufacturing  
BEIS Committee  
West Midlands Gigafactory: evidence**

**February 2023**

1. Without urgent action, the UK will lose out in the global race to develop electric vehicle batteries at scale. Should this happen, the West Midlands will be hit hard – undermining not just automotive jobs, but a vast supply chain stretching right across the UK and the tens of thousands of jobs it supports.
2. The delivery of UK gigafactories is fundamental to securing battery manufacturing and associated supply chains. Gigafactories are not only important as facilities which manufacture batteries, they also anchor a wider value chain, creating huge economic benefits both regionally and nationally.
3. The UK will need as many as 10 gigafactories by 2040 to meet domestic demand. Additionally, we consider demand for batteries to be much broader than simply automotive and will include energy storage and domestic requirements.
4. The West Midlands Gigafactory is now the only immediately deliverable gigafactory opportunity in the UK, since the collapse of BritishVolt in January 2023. Investment in the project is critical if the UK is to secure battery supply and meet targets to phase out new petrol and diesel vehicles by 2030.
5. Without battery manufacturing and supply, the UK automotive sector will be fatally undermined. In 2022, the production of new cars fell by 9.8% to its lowest in 66 years. This follows year on year falls in production since 2017. The Society of Motor Traders & Manufacturers (SMMT) has called for a rapid upscaling of UK battery production to help address this collapse.

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**Global Battery Manufacturing**

6. China currently dominates the battery market, delivering 77% of global supply according to BloombergNEF's lithium-ion supply chain rankings. For comparison, Poland and the US are the next largest producers, currently each delivering around 6% of global supply.
7. At current rates, China is expected to maintain its dominance in global markets by 2027 with US battery capacity expected to grow over 10 times. Germany, Hungary, and Sweden are also expected to have significant capacity come online.
8. Other countries, particularly in Europe, are currently offering considerable subsidies to investors. For example, Tesla was offered over €1bn in subsidies to set up production near Berlin. This was largely from the German federal government but also from the state government of Brandenburg.<sup>1</sup>
9. The US Inflation Reduction Act will leverage subsidies to drive further investment in domestic battery and EV manufacturing within the country. The EU is currently considering a retaliatory trade response.

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<sup>1</sup> <https://www.reuters.com/article/us-germany-tesla-funding-idUSKBN2A12SF>



10. In the meantime, Rules of Origin requirements, resulting from the Trade and Cooperation Agreement between the EU and the UK, will require electric vehicles with 55% UK/EU content and an originating battery pack by 2027.
11. Given the UK's current reliance on global battery manufacturing, particularly from China, we are highly exposed to global trading relationships and potential protectionist policies. This has the potential to put the UK at a significant competitive disadvantage as a place to manufacture electric vehicles for export.

### **UK battery manufacturing**

12. There are currently no operational gigafactories in the UK. This compares with 300 globally and 40 in Europe. By 2040, UK demand for electric vehicle battery manufacturing capacity is expected to reach 200GWH – equivalent to 10 gigafactories, each with a 20GWH output.
13. Should this demand be met in the UK, the automotive industry could employ 170,000 people in EV manufacturing, 35,000 in gigafactories, and 65,000 in the battery supply chain. This only reflects automotive demand. Additional capacity will be needed for other sectors such as rail and maritime.
14. Of the UK's major automotive manufacturers, only Nissan has made a firm commitment to establish battery supply from within the UK. If other manufacturers were to enter long-term relationships with overseas suppliers, the UK would miss out on a £10bn market. It is also likely that – over time – re-configured supply chains would deplete the UK automotive sector.
15. For example, since 2018 Jaguar Land Rover has manufactured the I-Pace in Graz, Austria. The battery for this model is manufactured by LG Chem in Poland, fewer than 300 miles from I-Pace manufacturing. Already we are seeing a shift away from UK EV manufacturing.
16. As part of a package of support the Polish government planned to grant €95m to LG Chem to expand its existing facilities in Wroclaw. The European Commission found that 'without the €95m of Polish support, LG Chem would have opted to invest outside the EEA.'

### **Current Government policy**

17. The UK Government has pledged just £1 billion for the sector despite a stated ambition to host seven gigafactories by 2027. This target now looks challenging, especially when competitor nations are offering support of around £750m per gigafactory.
  18. In addition, UK energy prices are almost 60% higher than the European average – 34% of electricity costs are tax, compared with a European average of 21%. However, UK energy is 12% greener on average, which is a marginal competitive advantage.
  19. To give international battery manufacturers the full confidence to invest – particularly the substantial investment needed to deliver a gigafactory – the Government must play a robust role as facilitator. Otherwise, major commitments – for example to phase out new petrol and diesel cars by 2030 – may be missed.
  20. Currently, the UK will not have sufficient battery supplies by 2030 to meet not only the Government's phase-out plans for petrol and diesel vehicles, but also to meet the growth in demand for batteries from UK automotive manufacturers.
  21. The SMMT, amongst others, has called on the Government to 'drive rapid upscaling of UK battery production and the shift to the electric vehicles' as part of a wider levelling-up, net zero, and advanced manufacturing strategy.
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### **The West Midlands Gigafactory**

22. The West Midlands Gigafactory project is one of only two sites in the UK with planning consent for a gigafactory.
23. At 60GWh of capacity, the proposed West Midlands Gigafactory could be the largest such facility in Europe. Across more than 5 million sq ft of space, it would create 6,000 new jobs and represent an investment of £2.5bn in the West Midlands region, as well as £450m of GVA for the UK economy.
24. In discussions with potential gigafactory investors, there are several well-repeated factors which will influence an investment decision. This includes:
  - a) Proximity to customers
  - b) Investment incentives
  - c) Timely site planning and permitting arrangements
  - d) Cheap and clean energy
  - e) Skilled and productive workforce available
25. The West Midlands Gigafactory can offer access to all these elements and is therefore a compelling gigafactory opportunity and has the ability to make the UK competitive with other battery producing nations.

### **Heart of the UK automotive sector**

26. The West Midlands is the obvious location in which to develop battery manufacturing in the UK. There are 800,000 people with the skills to work in a gigafactory. The region ranks first in most indicators when compared against both the north east and south west regions.
27. It is the heart of the UK automotive sector employing 46,500 people and contributing £3.2bn in GVA. The region is also home to more than 430 specialist automotive firms, including 35 of the top 50 global suppliers such as Jaguar Land Rover, BMW, Aston Martin Lagonda, Lotus, and LEVC – potential gigafactory customers.
28. According to figures from the SMMT, Jaguar Land Rover manufactured over 200,000 cars during 2022. This makes it the second biggest manufacturer in the UK, as well as producing four of the top 10 most popular cars for export. In 2021, the company was the largest UK automotive manufacturer by output.

### **An R&D powerhouse**

29. Coventry and Warwickshire – the location of the proposed West Midlands Gigafactory – have also emerged as the UK's R&D centre for battery technology. It is home to the Advanced Propulsion Centre (APC), the National Automotive Innovation Centre, two exceptional universities, and the UK Battery Industrialisation Centre (UKBIC).
  30. The sub-region is also home to major OEMs already active in developing electric vehicle technologies. This includes the global headquarters of Jaguar Land Rover, as well as LEVC, and Lotus Engineering.
  31. With outline planning consent already secured for a gigafactory on the site of Coventry Airport, the West Midlands is now the only location which can immediately support the delivery of a gigafactory and is the obvious focus of investment.
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### **Enabling the West Midlands Gigafactory**

32. If the UK is to deliver adequate battery supply to meet even domestic demand, the Government must oversee a step up in the support it is currently offering the industry. This must include significant backing for the West Midlands Gigafactory as the UK's primary deliverable opportunity.
33. No gigafactory, anywhere in the world, has been delivered without significant government support. The UK will be no different. The West Midlands Gigafactory project has made an ask of Government, as follows:
  - f) Engage with local partners in advance of an investor being secured to develop a framework package of support.
  - g) Commit to £200m in funding to ensure the UK is comparable to EU competitors and considered a viable location for global gigafactory investors.
  - h) Grant special economic status for the gigafactory site, like Enterprise Zones, Freeports, or the proposed Investment Zones.
  - i) Appoint a senior Government Minister, ideally the Secretary of State for Energy Security and Net Zero, as a Champion to promote the UK as a globally competitive gigafactory location, acting as a conduit for potential investors.
  - j) Prioritise and invest in National Grid's Extra High Voltage Infrastructure to enable significant economic growth and job creation through projects such as the West Midlands Gigafactory.
  - k) Realign and enhance policy to ensure the remaining £850m in the Automotive Transformation Fund can be used by sectors beyond automotive (e.g., domestic energy storage).
34. Should the Government make these commitments, it would be in addition to an unprecedented regional incentives package, including market-leading land costs and favourable local conditions – including benefiting from a gigafactory site with outline planning consent.

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### **Conclusion**

35. The West Midlands Gigafactory is the only proposed gigafactory in the UK which is immediately deliverable.
36. The UK is well behind in its development of a battery manufacturing supply chain. China currently dominates the market and potential restrictive trade policies in the US and EU could risk further alienating the UK from global battery supplies.
37. If we continue to miss out on global investment, not only will we fail to capture a £10bn market but our automotive sector will – over time – move to where battery supply can be secured. The sector has already faced steep reductions in output during 2022.
38. No gigafactory, anywhere in the world, has come forward without state support. If the UK Government is serious about securing battery manufacturing, it must back the West Midlands Gigafactory as the only immediately deliverable opportunity.
39. This should include additional financial support, as well as further investment in power supply and non-automotive battery users. This would be in addition to an unprecedented regional incentives package.

Written evidence from West Midlands Gigafactory (BEV0017)



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