

Written evidence submitted by Institute for Public Policy Research (IPPR) to the Business and Trade Committee 'China and the UK economy' inquiry

1. The UK government's approach to China is guided by the 'three Cs': challenge, compete, and cooperate. When it comes to industrial and trade policy, the three Cs pull in different directions, and the government needs to make sector-specific choices about which to prioritise. In clean energy supply chains, where Chinese production is dominant, the UK faces genuine trade-offs between cooperating with China to access cheaper technologies and competing to build domestic industrial resilience. Making these choices proactively should be a central goal of UK China strategy.

China's changed role in the global economy

2. In the year 2000, China produced 6% of the world's manufacturing output whilst the G7 collectively produced over 50%. In 2024, China over a third of the world's manufacturing output and overtook the entire G7.¹ For most of this period, China's industrial growth was complementary to the UK economy. Chinese capacity was concentrated in lower-value manufacturing. Western economies, including Britain, were organising production around disaggregated global supply chains: economic activity shifted towards logistics, finance, and information management. Cheaper Chinese manufactured goods flowed to British consumers. The benefits outweighed the localised costs of deindustrialisation.
3. That has changed. China's 'Made in China 2025' strategy has generated strong capabilities in high-value sectors, particularly in what might be called modern 'electro-tech': solar panels, wind turbines, batteries, and electric vehicles. Chinese cost advantages are not simply the product of low wages or state subsidies. In battery manufacturing, the IEA finds that manufacturing efficiencies and automation explain a significant amount of the cost advantage with Europe.² This is a sign of genuine technological and manufacturing competitiveness.
4. The success of 'Made in China 2025' has also created significant challenges for China related to overheating industrial competition and investment outpacing global demand. This is known in Chinese policy circles as 'involution' and was identified as the top economic challenge at the 2024 Central Economic Work Conference.³ Nearly 30 per cent of Chinese industrial firms now operate at a loss, rising to 34 per cent in high-growth sectors prioritised under Made in China 2025.⁴ Within this economic backdrop, export growth is the only way for Chinese industry to sustain their manufacturing capacity. Chinese producers therefore have strong incentives to expand into international markets, bringing them into direct competition with western incumbents across a growing range of sectors.

¹Gasperin, Narayanan and Pultz (2026), figure 1.2. IPPR analysis of UNIDO National Accounts Database.

²IEA (2026), Energy Technology Perspectives 2026

³ Carnegie Endowment for International Peace (2025) 'What's new about involution?'.
<https://carnegieendowment.org/posts/2025/08/whats-new-about-involution>

⁴Federal Reserve Bank of Dallas (2025) 'China manufacturing overcapacity boosts output, stagnation fears'.
<https://www.dallasfed.org/research/economics/2025/1230>

Direct competition with UK industry

5. The UK's car industry is anchored by a handful of large multinational auto manufacturers - Jaguar Land Rover, Nissan, BMW (Mini) and Toyota. These companies built their businesses around combustion engine vehicles. None can currently match Chinese manufacturers on cost and scale in electric vehicles (EVs), with CATL becoming the world's largest battery maker. Western auto makers historically invested heavily in NMC battery technology, which has proved costlier and less versatile than the LFP chemistry favoured by Chinese producers.⁵ The UK already manufactures a small fraction of the cars sold domestically: car registrations are 2.5 times higher than domestic production, which supplies just 9 per cent of the market.⁶ Chinese brands are growing fast on top of this base - BYD's UK market share rose from 0.42 per cent to 3.6 per cent in a single year and the UK is now BYD's largest international market.⁷
6. A similar pattern is emerging in the wind energy supply chain. Chinese wind turbine makers such as Goldwind are entering the European market at 15-30 per cent below European competitors on price, capturing approximately 6 per cent of new EU turbine orders.⁸ The UK has the second-highest rate of wind installation in Europe but has captured very little of the associated manufacturing value: average annual UK wind manufacturing output between 2008 and 2022 was €119.5 million, compared to €4.1 billion in Denmark, €2.3 billion in Germany, and €1 billion in Spain.⁹ Chinese competition puts pressure on European companies who are dominant in the wind supply chain, including those with facilities based in the UK such as Siemens and Vestas.
7. There are areas where the UK retains industrial advantages over China. Aerospace is the clearest example: Rolls-Royce powers around one-third of the global widebody fleet, and jet engines remain an area where China has struggled to develop indigenous capability.¹⁰ But in the sectors where Chinese firms are competing directly against UK-based manufacturers - automotive and increasingly wind energy - the competitive gap could be widening.

Supply chain concentration

8. Beyond direct competition, the sheer concentration of clean energy production in China creates a structural vulnerability. China holds approximately 84 per cent of global battery cell manufacturing, over 96 per cent of solar PV wafer production, and near-monopoly positions in some critical minerals processing.¹¹ The IEA's 'N-1' assessment confirms that each of the four main clean energy supply chains contains at least one stage where production outside the largest exporter is insufficient to meet demand, reflecting significant levels of supply chain concentration. No major improvement is expected this decade.¹²

⁵IEA (2025) Global EV Outlook 2025. <https://www.iea.org/reports/global-ev-outlook-2025>

⁶Gasperin and Narayanan (2025) figure 2.2.

⁷Financial Times (2025) 'UK becomes BYD's largest international market after sales surge'. <https://www.ft.com/content/8eb39d5f-724b-4679-aaab-710ae633882a?syn-25a6b1a6=1>

⁸EU Perspectives (2026) 'Commission launches probe into wind turbine manufacturer'. <https://euperspectives.eu/2026/02/commission-launches-probe-wind-turbine-manufacturer/>

⁹Gasperin and Emden (2024), figure 3.1.

¹⁰CSIS (2024) 'Powering proliferation: The global engine market and China's indigenization'. <https://www.csis.org/analysis/powering-proliferation-global-engine-market-and-chinas-indigenization>

¹¹Gasperin, Narayanan and Pultz (2026), chapters 3, 4 and 6.

¹²IEA (2026), chapter on supply chain risks.

9. Critical minerals are extracted globally, but their transformation into usable products - battery materials, permanent magnets for wind turbines and military equipment - is overwhelmingly concentrated in China. In response to US tariff threats in 2025, China imposed export controls on rare earth elements, battery manufacturing technologies, and cathode and anode materials, extending restrictions to the skills and capital equipment required to produce them.¹³ Some of these controls were subsequently suspended as part of the US-China trade deal reached in October 2025.¹⁴ The episode demonstrated how quickly supply chain concentration can be converted into geopolitical leverage.
10. IPPR estimates that a severe battery component disruption from 2030 could cost up to 583,000 units of lost EV production and approximately 90,000 jobs; a full disruption of solar panel imports could add £1.6 billion per year to energy spending.¹⁵ The net zero transition offers the UK a chance to replace imported fossil fuels with domestically generated electricity. But if China remains the marginal supplier across clean technology supply chains, the UK risks swapping one form of economic dependence for another.

Implications for the UK

11. Applying the government's three Cs to clean energy supply chains reveals some tensions. Cooperating with China means accessing cheaper technologies that benefit consumers and accelerate the energy transition. Competing means building domestic industrial capacity and reducing dependency. Challenging means confronting unfair practices and defending against economic coercion. In practice, these objectives are often in conflict. Protecting domestic auto manufacturing from Chinese competition would be a 'compete' objective. But if incumbents in domestic industry are too far behind, protection leads to managed decline at growing public cost. Welcoming Chinese EV manufacturers to set up production in the UK is a 'cooperate' move that could secure the auto industry for the future but carries national security risks and no guarantee that Chinese firms would meaningfully integrate into the wider UK supply chain.
12. These choices are further complicated by the UK-EU relationship. The EU has taken a harder line on Chinese competition than the UK: it has imposed countervailing duties of up to 35.3 per cent on Chinese-made EVs,¹⁶ opened a Foreign Subsidies Regulation investigation into Chinese wind manufacturer Goldwind,¹⁷ and introduced a battery passport requiring transparency on origin and carbon footprint from 2027. The UK currently has no equivalent instruments. A UK approach that is significantly more permissive towards Chinese investment and market access than the EU's risks being seen as a backdoor into the European market.¹⁸ Given that a closer economic relationship with the EU is a substantially larger prize than any bilateral arrangement with China - and that on Chinese industrial competition, the UK and most EU member states face the same pressures - alignment matters.

¹³MOFCOM (2025); Baskaran and Schwartz (2025) CSIS. <https://www.csis.org/analysis/consequences-chinas-new-rare-earths-export-restrictions>

¹⁴White House (2025) Fact Sheet, 1 November 2025. <https://www.whitehouse.gov/fact-sheets/2025/11/fact-sheet-president-donald-j-trump-strikes-deal-on-economic-and-trade-relations-with-china/>

¹⁵Gasperin, Narayanan and Pultz (2026), tables 3.5 and 4.4.

¹⁶European Commission Implementing Regulation (EU) 2024/2754, 30 October 2024.

¹⁷European Commission (2026), 3 February 2026. https://ec.europa.eu/commission/presscorner/detail/en/ip_26_265

¹⁸European Council on Foreign Relations (2025). <https://ecfr.eu/article/britains-risky-re-engagement-why-its-china-policy-could-strain-the-eu-uk-reset/>

13. Navigating these trade-offs requires a sector-by-sector assessment. Where credible allied alternatives exist, they should be pursued first. In wind energy, the government's recent decision to block Mingyang's planned £1.5 billion nacelle and blade factory at Ardersier in Scotland illustrates the trade-offs involved.¹⁹ The decision, taken on national security grounds, meant forgoing up to 1,500 jobs and significant manufacturing capacity. Mingyang is now reportedly considering Spain instead.²⁰ But it was accompanied by Vestas's announcement of a €250 million nacelle factory in Scotland - the UK's first - producing components for its 15MW offshore turbine.²¹ This could be seen as a move that balanced tensions of domestic industrial development with broader supply chain and economic resilience. However, the UK will need to leverage its industrial strategy to ensure that Vestas follows through with this commitment.
14. Automotive presents a harder case. No allied producer currently matches Chinese cost and scale in LFP batteries, and UK-based manufacturers are falling behind in EVs. Given the current trajectory, Chinese investment in the UK electric vehicle supply chain may be one of the more realistic routes to securing the long-term future of the industry. It could bring manufacturing know-how, accelerate the development of a domestic battery supply chain, and sharpen competitive incentives for existing producers. But it carries risks that need to be managed carefully. Approximately 77.5 per cent of cars manufactured in the UK are exported, with the EU as the primary destination.²² Under the Trade and Cooperation Agreement, EVs must meet local content requirements for tariff-free EU access, with more stringent rules from January 2027.²³ The government would need to ensure that Chinese-supplied components meet these thresholds and that any investment involves genuine integration into the UK supply chain. It would also need to manage the EU dimension: a UK approach that appears significantly more open to Chinese EV producers than the EU's could complicate the wider relationship reset, even if it is the right call for UK industry.
15. These are genuinely difficult choices. Attempting to protect incumbents who cannot compete, without a credible plan for how they catch up, amounts to subsidising managed decline. But embracing Chinese investment without conditions risks creating dependencies that are difficult to reverse. The government needs to make these choices proactively, sector by sector, rather than allowing them to be resolved by default.

What the government should do

16. The government should set out a clear position on the level of tolerance for Chinese investment within priority supply chains, sector by sector. This would give businesses the certainty to plan and invest. It would also help provide market signals for where investors should prioritise their focus on alternative supply chains outside of China. A

¹⁹UK Department for Energy Security and Net Zero (2026), statement by Minister of State Lord Whitehead, 25 March 2026. <https://renews.biz/110740/london-bans-mingyang-turbines-from-uk-waters/>

²⁰Bloomberg (2026) 'China wind turbine maker eyes Spain for factory after UK snub', 22 April 2026. <https://www.bloomberg.com/news/articles/2026-04-22/china-wind-turbine-maker-eyes-spain-for-factory-after-uk-snob>

²¹Vestas (2026) 'Vestas sets out plans to build nacelle factory in Scotland', 25 March 2026.

<https://www.vestas.com/en/media/company-news/2026/vestas-sets-out-plans-to-build-nacelle-factory-in-scotland>

²²Gasparin and Narayanan (2025), figure 2.2.

²³EU-UK TCA Partnership Council Decision No 1/2023. <https://www.gov.uk/government/publications/trade-and-cooperation-agreement-partnership-council-decision-number-1-2023-electric-vehicle-rules-of-origin>

pragmatic approach is essential: full disengagement from China is neither possible nor desirable, but policymakers should be prepared to explain and defend the choices they make.

17. To UK should aim to diversify import sources through focused international partnerships on a supply-chain-by-supply-chain basis. For example, with South American 'Lithium Triangle' countries for battery materials, India, Vietnam and Malaysia for solar PV, and mineral-rich economies in Africa for critical minerals refining. The Global Clean Power Alliance (GCPA) could serve as a vehicle for collective investment and stockpiling.
18. In batteries, the immediate priority should be to build out the domestic supply chain in battery components and cells. Existing producers AESC (Sunderland) and Agratas (Somerset) could meet approximately 53 per cent of projected UK demand by 2030.²⁴ An additional gigafactory could generate both growth opportunities and improve resilience. There are greater vulnerabilities upstream: the UK has no anode production and the only planned cathode facility (Altilium, Teesside) may only meet approximately 20 per cent of demand.²⁵ The UK should seek out investment from leading global battery producers, and should seriously consider Chinese producers whilst accounting for any potential risks. This acknowledges the realities of the battery supply chain today – AESC is already Chinese owned and will potentially be partnered with Agratas.
19. In critical minerals, the UK has limited domestic extraction potential in lithium that should be actively supported.²⁶ Concessional finance should be deployed to de-risk refining investments outside China. A gap exists in UK public finance institutions: no single body can currently take equity risk, operate internationally, and step outside ODA requirements. A pilot equity facility within UK Export Finance for the battery supply chain would address this.
20. In solar, where the UK has no manufacturing base and the product is highly commoditised, the priority should be securing diverse import sources and coordinated stockpiling with partner countries. This would mean providing finance for solar manufacturing projects in countries outside of China with the potential to develop them and potentially establishing a global 'virtual stockpile' of solar panels where governments incentivise companies in the solar supply chain to hold additional buffer stocks of solar panels.

About IPPR

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²⁴Faraday Institution (2024). https://www.faraday.ac.uk/wp-content/uploads/2024/09/Gigafactory-Report_2024_final_17Sept2024.pdf

²⁵Altilium (2025). <https://altilium.tech/2025/03/17/altilium-and-ukbic-announce-successful-production-of-uks-first-ev-battery-cells-made-from-recycled-materials/>

²⁶Zylinski S (2025) Common Wealth. <https://www.common-wealth.org/publications/cornish-lithium-a-public-mineral-development-fund-supporting-green-industrialisation-in-the-uk>

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- a renewed democracy which gives everyone a voice in society and passes power down to people, places, and communities, alongside a fair and compassionate immigration system which supports social integration.
- a modern, green economy that delivers prosperity and justice to all people and places through actively shaping markets for social good and tackling concentrations of wealth and power.