

China's green expansion and the EU: Hungary and Spain as strategic gateways

Amrita Jash

In evaluating the progress of “Made in China 2025” (MIC), the U.S.-China Economic and Security Review Commission recently noted:

China hit all key targets ahead of schedule for “energy-saving and new energy vehicles,” a category that includes EVs, hybrids, and fuel-efficient internal combustion engine (ICE) vehicles and has increasingly prioritized EVs [electric vehicles] over the course of MIC2025 [...] The sheer volume and acceleration of China's production is nonetheless staggering: the global market for EVs totaled three million sales in 2020, with 1.1 million of those Chinese sales; China met its goal of producing three million EVs domestically just one year later. BYD is perhaps the most

Amrita Jash is an Assistant Professor at the Department of Geopolitics and International Relations, Manipal Institute of Social Sciences, Humanities and Arts, Manipal Academy of Higher Education (MAHE), Manipal, India. She holds a PhD in Chinese Studies from Jawaharlal Nehru University, New Delhi. Prior to joining MAHE, she was a Research Fellow at the Centre for Land Warfare Studies (CLAWS), New Delhi.

Dr. Jash has been a Pavate Fellow at the University of Cambridge and an IAS Visiting Fellow under the Open Programme at Loughborough University. She has authored: *Mao Zedong & China's Foreign Policy: The Man, the Mind, and Vietnam* (Palgrave Macmillan/Springer, 2025), *China's Japan Policy: Learning from the Past* (Palgrave Macmillan/Springer, 2023), and *The Concept of Active Defence in China's Military Strategy* (Pentagon Press, 2021).

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notable example of MIC2025's success in EVs—in 2015, BYD sold a total of 69,222 NEVs, including commercial vehicles; in 2024, it sold 4,272,145 units.¹

This dramatic rise in Chinese EV exports exemplifies the “second ‘China Shock.’”² In 2024, Chinese brands accounted for 62 per cent of the global EV market share. Of the 17.3 million EVs produced worldwide that year, China alone produced 12.4 million—more than 70 per cent of global production.³

With its massive production capacity and technological prowess, China has become the world's largest EV manufacturing hub and exporter—supplying 31 per cent of global demand and producing twice as much as the automobile industry in the European Union (EU).⁴ Today, the EU ranks second in EV manufacturing and is the largest recipient of Chinese EV exports. Meanwhile, China is the third largest market by value for EU vehicle exports after the United States and the United Kingdom. The market share of Chinese brands in the EU grew from less than 1 per cent to 8 per cent in four years; in April 2025, BYD outsold Tesla in Europe for the first time, with full EV sales growing almost ten times faster than overall European EV market growth.⁵ According to the European Automobile Manufacturers' Association, in 2023, the EU imported around 438,034 EVs (valuing €9.7 billion) from China and exported 11,499 EVs (valuing €852.3 million) to China.⁶

These developments indicate that China has outmanoeuvred the EU in its own turf. European automakers are struggling to compete with Chinese manufacturers, both domestically and in China. While its low production cost and battery manufacturing provide a significant comparative edge to China, making it difficult for the EU to compete. To maintain a leading automotive industry on its soil, the EU must develop competitive EV production capabilities to rival Chinese competitors.⁷ Additionally, Europe faces the risk of becoming dependent on Chinese supply chains and locked into low-value assembly operations. The integration of digital technologies in EVs also raises cybersecurity concerns, adding another layer of vulnerability.

¹ U.S.-China Economic and Security Review Commission. (2025, November 14). *Made in China 2025: Evaluating China's Performance*. <https://www.uscc.gov/research/made-china-2025-evaluating-chinas-performance>

² Ibid.

³ International Energy Agency. (2025). *Global EV Outlook 2025: Expanding Sales in diverse markets*. <https://iea.blob.core.windows.net/assets/7ea38b60-3033-42a6-9589-71134f4229f4/GlobalEVOutlook2025.pdf>

⁴ Rémi Tamin and Louis Burnett. (2024, July 31). *The EU's Anti-Subsidy Policy Towards Chinese Electric Vehicles: Navigating the Risks of Escalating Trade Tensions*. EIAS-UEA Special Briefing Series. <https://eias.org/policy-briefs/the-eus-anti-subsidy-policy-towards-chinese-electric-vehicles-navigating-the-risks-of-escalating-trade-tensions/>

⁵ U.S.-China Economic and Security Review Commission. (2025, November 14). *Made in China 2025*.

⁶ ACEA. (2024, June 12). *Fact sheet: EU-China vehicle trade*. <https://www.acea.auto/fact-sheet-eu-china-vehicle-trade-2024/>

⁷ Coface. (2025, March 11). *Electric vehicles: Competition between China and Europe in an age of mobility transition*. <https://www.coface.com/news-economy-and-insights/electric-vehicles-competition-between-china-and-europe-in-an-age-of-mobility-transition>

Given this context— especially in light of the EU’s proposals for ‘de-risking’ from China—it becomes imperative to study China’s growing prominence and dominance in EVs and green technology within the EU. For Europe at large, there is a looming risk that domestic manufacturers may be outpaced by Chinese competitors. Effectively managing these risks requires a comprehensive understanding of the scale and scope of the Chinese investments and involvement in clean-tech in the EU. Accordingly, this paper examines three key aspects: first, China’s pursuit of clean tech manufacturing; second, its clean tech investments and manufacturing footprint in the EU; and third, EV and battery investments in Hungary and Spain, which are emerging as new manufacturing destinations for China in the EU.

China’s quick catch-up with clean tech

China is reshaping the global clean energy landscape. Green and clean tech industries have become a central pillar of China’s economic and industrial development, providing the country with a significant stake in the global transition to clean-energy technologies. In 2023, the clean tech sector contributed an estimated 11.4 trillion yuan (US\$1.6tn) to China’s economy—an increase of 30 per cent year-on-year—and accounted for 9.0 per cent of China’s GDP, up from 7.2 per cent in 2022,⁸ making it one of the top drivers of China’s overall economic growth.

In recent years, Chinese investments in clean tech have surged, driven by rapid development in the “New Three” (新三样) industries: EVs, lithium-ion batteries, and solar cells. Since 2022 alone, Chinese investments have surged past US\$220 billion (with a high-end estimate of USD 250 billion), spanning sectors such as batteries, solar, wind, new energy vehicles (NEVs), and green hydrogen.⁹ These figures surpass the United States’ US\$200 billion investments over the four years of the Marshall Plan (in 2024 dollars), at a time when America dominated manufacturing in key industries.¹⁰ These investments have also contributed to reducing emissions abroad by more than 1 per cent in 2024 alone.¹¹

⁸ Lauri Myllyvirta et al. (2024, January 25). Analysis: Clean energy was top driver of China’s economic growth in 2023. Carbon Brief. <https://www.carbonbrief.org/analysis-clean-energy-was-top-driver-of-chinas-economic-growth-in-2023/>

⁹ Xiaokang Xue and Mathias Larsen. (2025). China’s Green Leap Outward: The rapid scale-up of overseas Chinese clean-tech manufacturing investments. Geopolitical Brief. Net Zero Industrial Policy Lab. p. 1. <https://www.netzeropolicylab.com/china-green-leap>

¹⁰ Xue and Larsen. (2025). China’s Green Leap Outward.

¹¹ Belinda Schäpe. (2025, November 05). A Shared Green Future: Why the EU and China need each other in the energy transition. Heinrich Böll Stiftung. <https://www.boell.de/en/2025/11/05/shared-green-future-why-eu-and-china-need-each-other-energy-transition>

How did China catch up so quickly? This has been enabled by the creation of an extensive vertical value chain integrating extraction, refining, and manufacturing, supported by strong financial backing from the Chinese central government. There has also been a marked shift in Chinese manufacturing from labour-intensive, low-cost production to higher-value products, as industries—household appliances, furniture, and clothing—give way to the high-tech “New Three.” Sectoral diversification is evident: pre-COVID, solar dominated investment, but since 2021, capital has flowed into battery materials, full battery plants, NEVs, charging equipment, wind, and early-stage green hydrogen.

China’s expansion is not limited to domestic production. Overseas foreign direct investment (FDI) by Chinese green technology manufacturers has accelerated, supporting a “produce globally, serve globally” model. In 2023, Chinese companies occupied six of the top 10 positions in global power battery installations, with a market share of 63.5 per cent.¹² Currently, Chinese Companies—Contemporary Amperex Technology Co Ltd (CATL) and BYD—are the world’s largest and second largest EV battery makers,¹³ supplying not only to Chinese automakers, but also foreign brands like Tesla, Volkswagen and BMW. BYD surpassed Tesla in global exports for the first time in the final quarter of 2023. In the words of BYD CEO, Wang Chuan-fu: “BYD has become an industry leader in every sector from batteries, electronics to new energy vehicles, breaking the dominance of foreign brands and reshaping the new landscape of the global market.”¹⁴ To note, the UK has become BYD’s biggest market outside China, after sales in September surged tenfold compared with 2024.¹⁵ Alongside established players such as BYD, SAIC and Geely, newer entrants like Leapmotor, Li Auto and Xiaomi are also contributing to China’s rapidly growing EV market.¹⁶

¹² Cheng Yu. (2024, September 30). No longer merely world’s factory, China also sets trend. *China Daily*. <https://global.chinadaily.com.cn/a/202409/30/WS66fa2cb2a310f1265a1c5b75.html>

¹³ Xiaoying You. (2025, November 13). ‘They’re just so much further ahead’: How China won the world’s EV battery race. *BBC*. <https://www.bbc.com/future/article/20251110-how-china-won-the-worlds-battery-race>

¹⁴ BYD Company Limited. (2025, March 24). Annual Report 2024. <https://www1.hkexnews.hk/listedco/listconews/sehk/2025/0324/2025032401238.pdf>

¹⁵ Jasper Jolly. (2025, November 07). Driving competition: China’s carmakers in race to dominate Europe’s roads. *The Guardian*. <https://www.theguardian.com/business/2025/nov/07/china-in-push-to-dominate-europe-electric-vehicle-market-with-uk-as-gateway>

¹⁶ Indrabati Lahiri. (2025, January 3). Chinese EV giant BYD beats domestic players to hit record 2024 sales. *Euro News*. <https://www.euronews.com/business/2025/01/03/chinese-ev-giant-byd-beats-domestic-players-to-hit-record-2024-sales#:~:text=The%20company%20sold%204.27%20million%20new%20energy,from%20the%20same%20period%20last%20year%2C%20as>

The EU has emerged as a key market for China’s “New Three”, with Chinese exports to Europe growing each year substantially.¹⁷ Between 2020 to 2023, China’s global EV exports increased by 851 per cent, with the largest share of those exports (nearly 40 per cent) going to Europe.¹⁸ In addition, Europe has also become a crucial arena for Chinese companies seeking expansion, exemplified by CATL’s five consecutive years of investment in the region—representing 16 per cent of all Chinese FDI in Europe in 2024.¹⁹

The rapid rise of low-priced Chinese EV exports has alarmed Brussels. In response, the European Commission launched anti-subsidy probes into Chinese EVs in September 2023,²⁰ where the findings,²¹ have led to definitive countervailing duties on imported Chinese EVs for a period of five years in October 2024.²² For instance, BYD, Geely and SAIC were subjected to duties of 17.0, 18.8, and 35.3 per cent, respectively. The duties combined with weakening demand as well as reluctance among European consumers to Chinese EV brands have resulted in a fall of Chinese exports from over 70 per cent in 2021 to roughly 40 per cent in 2024. However, it would be an error to see this momentary decline as a guarantee for the long-term success of the EU’s de-risking strategy against China.

China’s strategy of smart manufacturing

Why does China invest in manufacturing? At the outset, by investing in manufacturing, China secures its position as a global powerhouse in high-tech industries and global supply chains, while also enhancing its economic and political influence. The key is to master large-scale production capabilities that meet global demand. To this, building industrial modernisation through the manufacturing sector lies at the core of Beijing’s priority list. Specifically, clean tech is now the ‘central industry’ which is mobilising China’s shift from heavy industry to high-tech manufacturing, supporting its economic security in an increasingly volatile world.²³

¹⁷ Lin, Y., Lai, F., Liu, X., Shi, Z., & Chen, D. (2024). Examining trend and synergistic development of China’s ‘new three’ industries, China-Europe trade, and China Railway Express. *All Earth*, 37(1), p. 4. <https://doi.org/10.1080/27669645.2024.2435754>

¹⁸ Stephen Ezell. (2024, July 29). How Innovative Is China in the Electric Vehicle and Battery Industries? Information Technology & Innovation Foundation. <https://itif.org/publications/2024/07/29/how-innovative-is-china-in-the-electric-vehicle-and-battery-industries/>

¹⁹ Geopolitical Futures. (2025, October 24). Chinese EV Investment in Europe May Have Plateaued. <https://geopoliticalfutures.com/chinese-ev-investment-in-europe-may-have-plateaued/>

²⁰ European Commission. (2023, October 04). *Commission launches investigation on subsidised electric cars from China*. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_4752

²¹ The investigation found that the China’s EV value chain benefits from Beijing’s unfair subsidisation which is causing threat of economic injury to EU producers of EVs.

²² European Commission. (2024, October 29). *EU imposes duties on unfairly subsidised electric vehicles from China while discussions on price undertakings continue*. https://ec.europa.eu/commission/presscorner/detail/en/ip_24_5589

²³ Schäpe. (2025, November 05). A Shared Green Future.

In furthering the goal to “build a modernized industrial system and reinforce the foundations of the real economy,” the Communiqué adopted at the Fourth Plenary Session of the 20th Central Committee of the Communist Party of China on 23 October 2025 categorically outlined that, China should:

continue to pursue smart, green, and integrated development, and work faster to boost China’s strength in manufacturing, product quality, aerospace, transportation, and cyberspace. The share of manufacturing in the national economy should be kept at an appropriate level, and a modernized industrial system should be developed with advanced manufacturing as the backbone. We should upgrade traditional industries, foster emerging industries and industries of the future, promote high-quality, efficient development in the service sector, and develop a modernized infrastructure system.²⁴

This recommendation stresses the importance of cultivating its industrial base under China’s 15th Five-Year Plan (2026-2030)—in line with Chinese President Xi Jinping’s push towards ‘high-quality development’²⁵ by building a stronger manufacturing industry. As for Xi, this is the “right path” that has transformed China “from the past reliance on imported matches, soap and iron, to now becoming the world’s largest manufacturing country with the most complete industrial categories.”²⁶ It further overlaps with Beijing’s “Made in China 2025”²⁷ (MIC, 中国制造) initiative, one of the most important industrial policies formulated in 2015 for upgrading China’s manufacturing sector. The official “Notice of the State Council on the Publication of Made in China 2025” categorically states: “Manufacturing is the mainstay of the national economy, the basis on which the nation is established (立国之本), an instrument of

²⁴ Ministry of Foreign Affairs of the People’s Republic of China. (2025, October 23). *Communiqué of the Fourth Plenary Session of the 20th Central Committee of the Communist Party of China*. https://www.fmprc.gov.cn/eng/xw/zyxw/202510/t20251023_11739505.html

²⁵ Here, ‘high-quality development’ refers to moving the economy up the value chain, transitioning from reliance on traditional, labor-intensive manufacturing and infrastructure-led growth to a more sophisticated, high-value, innovation-driven model. This involves efforts to digitize, automate, and green traditional industries, and developing sectors such as advanced manufacturing, high-end technology, and modern services as the new engines of growth. See, China Briefing. (2025, October 28). *China’s 15th Five-Year Plan Recommendations – Key Takeaways for Foreign Businesses*. <https://www.china-briefing.com/news/chinas-15th-five-year-plan-recommendations-key-takeaways-for-foreign-businesses/>

²⁶ The State Council of the People’s Republic of China. (2025, May 20). *Xi calls for stronger manufacturing industry to advance Chinese modernization*. https://english.www.gov.cn/news/202505/20/content_WS682c1878c6d0868f4e8f2b18.html

²⁷ MIC 2025 is said to be inspired by Germany’s “Industry 4.0” plan (first discussed in 2011 and later adopted in 2013), embedded in the idea of intelligent manufacturing—applying the tools of information technology to production. See, Scott Kennedy. (2015). *Made in China 2025*. Center for Strategic & International Studies. <https://www.csis.org/analysis/made-china-2025>

rejuvenation, and the foundation of a world power.”²⁸ With MIC, China aims to move away from its long-held status of being the ‘world’s factory’²⁹ to “being innovation-driven”³⁰ to ‘strive to achieve the strategic goal of becoming a manufacturing powerhouse through the “three steps to take” (“三步走”’, which include: enter the ranks of the manufacturing powerhouses over by 2025; join the middle ranks of the world’s manufacturing powerhouses by 2035; and that China’s status as a manufacturing industry power must be consolidated, and its comprehensive strength must enter the forefront of the world’s manufacturing powerhouse by 2049.³¹

For industrial modernisation, Beijing is advancing “smart manufacturing,” as put by former Chinese Premier Li Keqiang, for upgrading the manufacturing industry from its traditional labour- and resource-intensive outlook to one that is innovation-driven, harnessing intelligent manufacturing leveraging technologies such as “the internet, cloud computing and big data.”³² Owing to this, MICS 2025 has five core objectives (Figure 1) and targets 10 strategic industries (Table 1). To this, in the last decade, China has leveraged FDI, accelerated its AI ambitions, responded swiftly to geopolitical disruptions, and achieved notable advances in areas such as EV production, infrastructure expansion, and frontier AI development.

²⁸ See, Centre for Security and Emerging Technology. (2022, March 10). Translation: Notice of the State Council on the Publication of “Made in China 2025” 国务院关于印发《中国制造2025》的通知. <https://cset.georgetown.edu/publication/notice-of-the-state-council-on-the-publication-of-made-in-china-2025/>

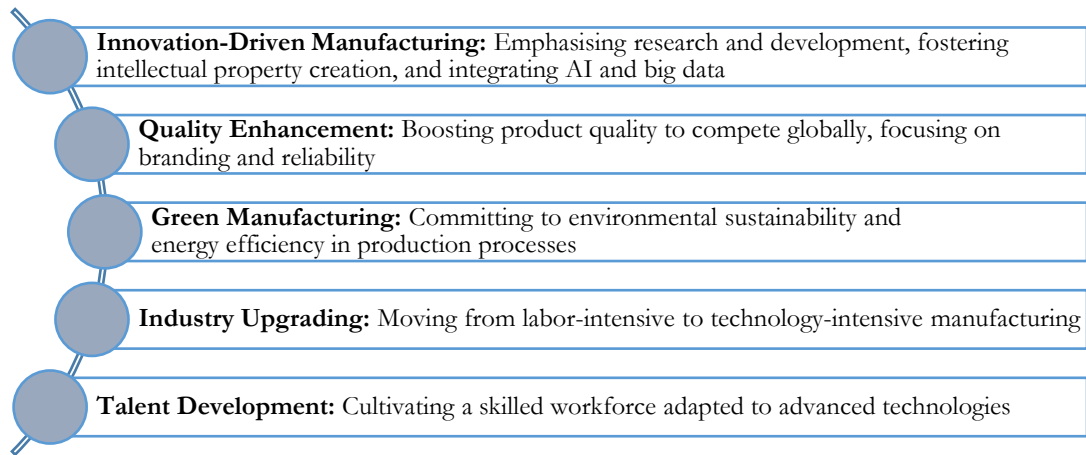
²⁹ One that is identified with producing cheap, low-quality goods due to lower labour costs and supply chain advantages.

³⁰ One that is identified with production of higher-value products and services.

³¹ Centre for Security and Emerging Technology. (2022, March 10). Translation: Notice of the State Council.

³² Nistha Kumari Singh & Amrita Jash. (2025, October 8). Made in China 2025: From Assembly Lines to Innovation Frontiers. ISDP Voices. Institute for Security & Development Policy. <https://www.isdp.eu/made-in-china-2025-from-assembly-lines-to-innovation-frontiers/>

Figure 1. Core objectives of MIC 2025



Source: HROne³³

Table 1. Ten Strategic industries targeted under MIC 2025

| Strategic Industry | Focus |
|--|--|
| Advanced Robotics | Automating manufacturing to improve precision and efficiency |
| Aerospace and Aeronautical Equipment | Developing domestic capabilities in aircraft and aviation technologies |
| Maritime Engineering | Innovations in shipbuilding and related technologies |
| Rail Transport Equipment | Enhancing high-speed rail and urban transit infrastructure |
| New-Energy Vehicles (NEVs) | Targeting 20 per cent penetration of NEVs in new car sales by 2025 |
| Power Equipment | Improving efficiency and sustainability in power generation and distribution |
| Agricultural Machinery | Modernising farming equipment and practices through smart technology |
| New Materials | Innovating advanced materials for versatile industrial applications |
| Biomedicine and Advanced Medical Devices | Producing high-end healthcare technologies |
| Advanced Information Technology | Developing semiconductors, software, and telecommunications |

Source: Compiled with reference to HROne³⁴

While MIC 2025 does have some similarity in terms of the industries but it is distinct in multiple ways from the '2010 plan to support Strategic Emerging Industries'³⁵ (SEI), such as: 1) it focuses

³³ See, HROne. (n.d.). Made in China 2025 Initiative: Transforming China's Manufacturing Landscape. <https://hrone.com/blog/made-in-china-2025-initiative-transforming-chinas-manufacturing-landscape/>

³⁴ See, HROne. (n.d.). Made in China 2025 Initiative.

³⁵ On 10 October 2010, China issued the *State Council's Decision to Accelerate the Development of Strategic Emerging Industries*, which included seven SEI: new-generation information technology, energy-saving and

on the entire manufacturing process and not just innovation; 2) it promotes the development of not only advanced industries, but traditional industries and modern services; 3) there is still a focus on state involvement, but market mechanisms are more prominent than in SEI; and 4) there are clear and specific measures for innovation, quality, intelligent manufacturing, and green production.³⁶

Important to note, manufacturing and logistics are not just key industries to China's national economy but also significant for realisation of Beijing's carbon neutral targets. The marked shift in China's policy has enhanced the economic and political relevance of the clean-energy sector, given the rapid growth in Chinese FDI in this sector. China's energy and climate efforts and its broader economic and industrial policy are going hand-in-hand. Such as, China's flagship Belt and Road Initiative (BRI) adopted a 'green' outlook in 2017, with Xi's pronouncement that "[e]fforts should be made to strengthen cooperation in environmental protection and build a sound ecosystem to realize the goals set by the 2030 Agenda for Sustainable Development",³⁷ and this followed the launch of BRI International Green Development Coalition (BRICG) in 2019. And Beijing's newly launched Global Governance Initiative (GGI)³⁸, further emphasises the 'implementation of the U.N. 2030 Agenda for Sustainable Development.'

Undoubtedly, China is championing itself as a new global environmental leader. With an all-government approach, China has spent more than twice as much on its green transition in 2023 than any other country, and this investment has made it a global powerhouse in clean energy production. This quest is driven by its ambitious commitment, as Xi Jinping pledged in 2020, to 'peak carbon dioxide emissions before 2030 and carbon neutrality before', by implementing a "1+N"³⁹ policy system, which is backed with building green technology manufacturing to reshape the global clean-tech landscape. To this, the overarching objective of the 14th Five Year Plan aimed to "accelerate" the development of a modern energy system"

environment protection, new energy, biology, high-end equipment manufacturing, new materials, and new-energy cars.

³⁶ Scott Kennedy. (2015). *Made in China 2025*.

³⁷ Yamei. (2017, May 14). Full text of President Xi's speech at opening of Belt and Road forum. *Xinhuanet*. http://www.xinhuanet.com/english/2017-05/14/c_136282982.htm

³⁸ Ministry of Foreign Affairs of the People's Republic of China. (2025, September 01). *Concept Paper on the Global Governance Initiative*. https://www.fmprc.gov.cn/eng/xw/wjbxw/202509/t20250901_11699912.html

³⁹ Within this framework, "1" stands for the guiding principles and top-level design for achieving peak carbon and carbon neutrality, and "N" encompasses action plans for peak carbon and carbon neutrality in key sectors, industries, and administrative units. For details, see, The State Council of the People's Republic of China. (2025, November 8). *Full text: Carbon Peaking and Carbon Neutrality China's Plans and Solutions*. https://english.www.gov.cn/archive/whitepaper/202511/08/content_WS690ee812c6d00ca5f9a076cd.html

– which stands for a “clean, low-carbon, secure and highly efficient” energy system.⁴⁰ In September 2025, China announced a new goal of cutting its global emissions by 7 per cent to 10 per cent by 2035. More recently, its white paper on “Carbon Peaking and Carbon Neutrality China’s Plans and Solutions”, released in November 2025, categorically states:

China no longer approves energy-intensive projects with high emissions and outdated technology. [...] China is shifting key industries towards green and low-carbon development and has continued to establish benchmarks in green manufacturing. [...] China has established the world’s largest and most complete industrial chains of clean energy, and the “New trio” of new energy vehicles, lithium-ion batteries, and photovoltaic products has become a new calling card for Chinese manufacturing.⁴¹

The Chinese government sees the “new trio” or “new three”, as opposed to the “old three”, as the core drivers of expanding China’s industrial capacity and of playing a pivotal role in shaping the country’s economic landscape.⁴² Today China boasts of having the world’s largest and most complete new-energy industrial chain, home to 70 percent of the photovoltaic components equipment worldwide.⁴³ In battery technology, China is home to the world’s largest suppliers of components for lithium-ion batteries, which are primarily used in EVs. In August 2025, as per the data released by the General Administration of Customs, China exported 410 million lithium-ion batteries last month, up 25.4 percent from 2024, and the value of those exports surged 31.7 per cent to more than US\$ 7 billion.⁴⁴ China is also dominant in low-emission hydrogen, running the largest green hydrogen project on the planet.⁴⁵ Since batteries account for as much as 60 per cent of a typical EV’s sticker price, China’s competitive

⁴⁰ Carbon Brief. (2022, March 24). China Briefing, 24 March 2022: 14FYP energy plan; More plans on energy storage and hydrogen; China’s emission analysis. <https://www.carbonbrief.org/china-briefing-24-march-2022-14fyp-energy-plan-more-plans-on-energy-storage-and-hydrogen-chinas-emissions-analysis/>

⁴¹ The State Council of the People’s Republic of China. (2025, November 8). *Full text: Carbon Peaking*.

⁴² Alexander Lipke, Janka Oertel, and Daniel O’Sullivan. (2024, May 29). Trust and trade-offs: How to manage Europe’s green technology dependence on China. *European Council on Foreign Relations*. <https://ecfr.eu/publication/trust-and-trade-offs-how-to-manage-europes-green-technology-dependence-on-china/>

⁴³ The State Council of the People’s Republic of China. (2025, March 4). *How does China’s green development contribute to global climate action?* https://english.www.gov.cn/news/202503/04/content_WS67c66db6c6d0868f4e8f0493.html#:~:text=Boasting%20the%20world’s%20largest%20and,million%20tons%20in%20recipient%20countries.

⁴⁴ Fang Yiming and Han Wei. (2025, August 19). China’s ‘New Three’ Exports Power Ahead, but Trade With U.S. Slumps. *Caixin Global*. <https://www.caixinglobal.com/2025-08-19/chinas-new-three-exports-power-ahead-but-trade-with-us-slumps-102353155.html>

⁴⁵ Bonnie Y Chan.(2025, January 17). How China is helping power the world’s green transition. *World Economic Forum*. <https://www.weforum.org/stories/2025/01/why-china-matters-to-the-worlds-green-transition/>

advantage in lithium-ion battery cell production also gives its automakers an edge in terms of EV production costs.⁴⁶

Trends in Chinese investments in the EU

China’s clean tech investments in Europe highlight the following three key trends.

First, there is a clear shift in China’s investment strategy with greenfield projects as the new and dominant format (see Table 2). Rather than acquiring existing companies and assets, China is establishing a global manufacturing and supply chain presence by building new facilities and end-to-end supply chains abroad. As Rhodium Group’s 2025 report suggests: in 2024, Chinese FDI in the EU and UK rose by 47 per cent, reaching €10 billion—the first notable rebound since 2016—primarily driven by greenfield projects and mergers and acquisitions (M&A). Of which, greenfield hit a record of €5.9 billion, while M&A activity surged 114 per cent y/y to €41 billion in 2024.⁴⁷ To note, the share of greenfield investments shot up to 78 per cent in 2023—an increase from 51 per cent in 2022.⁴⁸

Table 2. China’s Greenfield investments in Europe

| Chinese Investor | Investment | Country(s) |
|------------------|---------------|------------------|
| CATL | Battery Plant | Germany, Hungary |
| AESC | Battery Plant | France |
| Huayou Cobalt | Battery Plant | Hungary |
| Volvo (Geely) | EV Plant | Slovakia |

Source: Compiled by Author

Second, China is building an end-to-end value chain—from raw material processing (cathodes and anodes- upstream) to cell production and final vehicle assembly (downstream). China, therefore, is investing in both upstream and downstream in the EU. For example, CATL-supplier Sempcorp commenced operations of its €340 million lithium-ion separator factory in Hungary in 2023; while two

⁴⁶ Citi. (2024, January 8). China Economics: Out With the Old Three and In With the New Three. <https://www.citigroup.com/global/insights/china-economics-out-with-the-old-three-and-in-with-the-new-three>

⁴⁷ Rhodium Group. (2025, May 21). Chinese Investment Rebounds Despite Growing Frictions: Chinese FDI in Europe in 2024. <https://rhg.com/research/chinese-investment-rebounds-despite-growing-frictions-chinese-fdi-in-europe-in-2024/>

⁴⁸ Agatha Kratz et al. (2024, June 06). Dwindling investments become more concentrated - Chinese FDI in Europe: 2023 Update. A report by Rhodium Group and the Mercator Institute for China Studies (MERICS). <https://merics.org/en/report/dwindling-investments-become-more-concentrated-chinese-fdi-europe-2023-update>

Chinese firms, Putailai and Shanshan, have made significant investments in Sweden (€1.5 billion) and Finland (€1.3 billion) on anode material production.⁴⁹ Downstream investments include EV assembly plants, as seen with companies like BYD and Volvo.

Third, there is a geographical shift in Chinese investments. Primarily focused on the traditional ‘Big Three’- Germany, France, and the UK, China is increasingly investing in relatively smaller European nations- mainly Central and Eastern European Countries. In 2024, Hungary accounted for 31 per cent of FDI flows into the EU- the highest in the region, while at €4.2 billion, Spain recorded the highest level of prospective Chinese FDI in the EU in 2024. Especially in terms of EV, in May 2025, BYD announced plans to make Hungary its European hub for producing e-buses in addition to passenger cars; however, the production has been delayed until 2026 due to the EU’s probe against BYD. While Spain is the second-best option for China.

Drawing from the above trends, China’s investments in clean-tech manufacturing in the EU can be explained in two ways: First, applying the normative logic, China sees a commonality with the EU in viewing climate change as a crucial issue in global governance and investing more resources in reducing emissions. In its 2025 ‘GGI Concept Paper,’ Beijing explicitly mentions that issues such as “climate change are becoming more salient,” and that priority will be given to areas where governance is in urgent need and scant supply, such as climate change, among others.⁵⁰ It is largely argued that, given both promote clean energy and green transition—this provides China and the EU with greater scope for cooperation on green finance and disinvestment. Pointing out that “neither can realise the full benefits of this wager alone,” Belinda Schäpe explicitly argues that: Europe cannot achieve its climate targets without access to affordable Chinese technologies; similarly, China cannot sustain its export-driven clean tech expansion without advanced markets, stable investment environments, and partners in setting global rules.⁵¹ For the EU, China currently appears as “an indispensable partner”—both in terms of global efforts to reduce emissions and in the internal dimension of the EU’s own energy transition.⁵² Additionally, the ‘circular economy’⁵³ has provided a platform of common

⁴⁹ Kratz et al. (2024, June 06). Dwindling investments become more concentrated.

⁵⁰ Ministry of Foreign Affairs of the People’s Republic of China. (2025, September 01). *Concept Paper on the Global Governance Initiative*.

⁵¹ Schäpe. (2025, November 05). A Shared Green Future.

⁵² Agata Łoskot-Strachota and Maciej Kalwasiński. (2025, November 07). The EU in the face of China’s growing role in global and European climate policy. OSW Commentary. <https://www.osw.waw.pl/en/publikacje/osw-commentary/2025-11-07/eu-face-chinas-growing-role-global-and-european-climate-policy>

⁵³ Circular economy is a central feature of the EU’s drive to achieve a zero-carbon economy by 2050 and is key to halting biodiversity loss and delivering zero pollution; while China has a long-standing interest in circular economy and has developed specific legislation supporting its transition. Both parties first signed the Memorandum of Understanding on Circular Economy in 2018.

interest for both Beijing and Brussels, evidenced by their ‘High-Level Dialogue on Circular Economy.’

Second, applying the logic of pursuing strategic interests. Europe’s high EV demand, driven by its green transition and a substantial customer base—represents a massive growing market for EV batteries—making Europe a key destination of China’s downstream battery strategy. Due to this, Chinese companies such as CATL, BYD, among others, are investing heavily to secure access to this market. Invariably, this provides Chinese companies with an opportunity to diversify their operations away from China and move closer to consumers by localising production—reducing transportation costs and gaining a foothold in a strategically important region.

Hungary and Spain: China’s ‘Made-in-EU’ manufacturing hubs

From the preceding sections, three key deductions are: first, the automotive sector comprising of EVs and batteries is the dominant sector of Chinese FDI in the EU; second, there is a shift in Chinese strategy—from acquiring technology to producing in Europe; and third, Chinese companies are moving closer to the carmakers, with major green field projects mainly concentrated in three countries—Hungary, Germany, and Spain. While Germany as a major destination is an obvious choice for Beijing, however, China’s newfound interest in Hungary and Spain is worth exploring. Hungary has become the top destination for Chinese greenfield investments, especially in the EV and battery sector, while Spain is showing signs of an emerging location in the Chinese strategic outlook, as noted in Table 2. Regarding China’s EV investments in Hungary, scholars such as Zoltán Kiszelly argue that: China sees it as “one of the few EU member states not to join the Clean Network Initiative and the only one where products from Russian-powered Chinese battery factories are supplied to German luxury carmakers—as a strategic foothold in Europe, if only for lack of better options.”⁵⁴

Table 3. Trends of Chinese EV investments in Hungary and Spain

| Focus | Hungary (Central Europe) | Spain (Western Europe) |
|-------------------|---|---|
| Battery Factories | <ul style="list-style-type: none"> • CATL’s €7.3 billion lithium battery plant in Europe is under construction in Debrecen, Hungary. <ul style="list-style-type: none"> ○ <i>This is the second factory, following the first in Germany.</i> | <ul style="list-style-type: none"> • CATL’s €4 billion joint venture with Stellantis to build a large EV battery plant in Zaragoza, Spain <ul style="list-style-type: none"> ○ <i>The production expected to begin around 2026, supplying an estimated 600,000 EVs annually.</i> |

⁵⁴ Zoltán Kiszelly. (2025, June 26). China’s European bridgehead. GIS. <https://www.gisreportsonline.com/r/china-hungary/>

| | | |
|--------------------|---|--|
| | <ul style="list-style-type: none"> ○ <i>This would be the largest battery plant in Europe and one of Hungary's largest ever greenfield investments.</i> | <ul style="list-style-type: none"> ○ <i>This would be CATL's third factory in Europe after Germany and Hungary</i> |
| EV Assembly Plants | <ul style="list-style-type: none"> ○ BYD is establishing a complete vehicle production base in Szeged, Hungary. <ul style="list-style-type: none"> • Designed for an initial annual capacity of 150,000 vehicles, with plans to expand to 300,000 vehicles. • <i>This will be the first passenger car factory of BYD in Europe.</i> | <ul style="list-style-type: none"> ○ China's Chery Automobile signed a US\$425 million pact with Spain's Ebro-EV Motors to develop and produce vehicles under the joint venture, the Ebro Factory, located in the Zona Franca of Barcelona. <ul style="list-style-type: none"> • <i>It aims to produce 50,000 vehicles per year by 2027, rising to 150,000 units per year from 2029.</i> • <i>With the launch of the s700 SUV in November 2024 as the factory's first output, Chery became the first Chinese automaker to produce vehicles in Europe.</i> ○ Spain is the frontrunner for BYD's third potential European plant. ○ <i>This will be the third car factory in Europe after Hungary and Turkey.</i> |

Source: Compiled by Author

While China's strategic diversification to look beyond the 'Big Three' in the EU is a recent trend, but indeed a significant one to watch. For China, investing in Hungary and Spain is a rational choice backed by considerations that (see Table 4)—not just provide China with an EV market, but also help leverage a highly integrated value chain and most importantly, Beijing enjoys a strong government support from both Budapest and Madrid.

Table 4. Hungary and Spain in China's investment priority list

| Determinant | Hungary | Spain |
|---------------------------------------|--|--|
| Membership | <ul style="list-style-type: none"> ○ Both countries are members of the EU and the North Atlantic Treaty Organization (NATO) | |
| Geography | <ul style="list-style-type: none"> ○ Hungary's central location is a "gateway of Europe" | <ul style="list-style-type: none"> ○ Spain's strategic location-gateway to Latin America and Africa |
| | <ul style="list-style-type: none"> • Through both countries, Chinese companies get access to the whole EU market | |
| Economic Ties with China | <ul style="list-style-type: none"> ○ For both countries, China is the largest trading partner outside the EU | |
| Potential in Automobile Manufacturing | <ul style="list-style-type: none"> ○ Both countries have an established Automotive Industry Infrastructure | |

| | | |
|----------------------------|--|---|
| | <ul style="list-style-type: none"> o Both countries offer skilled labour at a cost lower than the EU average | |
| Diplomatic Ties with China | <ul style="list-style-type: none"> o Have a 'Comprehensive Strategic Partnership' <i>In 2024, signed the All-Weather Comprehensive Strategic Partnership for the New Era</i> o Party to China's Belt and Road Initiative o Member of the Asian Infrastructure Investment Bank (AIIB) | <ul style="list-style-type: none"> o Have a 'Comprehensive Strategic Partnership' o Not party to BRI, but a key stop for BRI due to the ports of Valencia, Bilbao and Barcelona o Member of the AIIB |
| Political Alignment | <ul style="list-style-type: none"> o Victor Orban's strong pro-China policy o Eastern Opening Policy, launched in 2011, has a Beijing tilt. | <ul style="list-style-type: none"> o Pedro Sanchez's pro-China policy o New External Action Strategy, launched in 2025, has a Beijing tilt. |
| | <ul style="list-style-type: none"> • Both countries have a government that encourages Chinese investment and provides for a stable environment. | |
| Transport & Logistics Hubs | <ul style="list-style-type: none"> o Railways: Belgrade-Budapest Railway <ul style="list-style-type: none"> • Aligns with the EU's decarbonisation efforts o Logistics Centre: Budapest Intermodal Logistics Centre (BILK) Terminal <ul style="list-style-type: none"> • <i>The only major Chinese FDI in Hungary's transport infrastructure that has been realised.</i> • <i>BILK Terminal is located in Southern Budapest- one of the largest and most significant intermodal logistics hubs of Hungary, with a capacity to handle 220,000 TEU⁵⁵ containers annually.</i> • <i>COSCO has a minority stake in the BILK Terminal linked to Chinese interest in the rail freight terminal of Hungary- serves as a vital gateway between east and west.</i> • <i>Hungarian terminals represent a strategic node in the multimodal shipping route across Europe- connecting both land and sea routes.</i> | <ul style="list-style-type: none"> o Ports: Bilbao, Valencia and Barcelona o China's stakes: <ul style="list-style-type: none"> • <i>COSCO has the highest stakes in CSP Bilbao and CSP Valencia</i> • <i>Hutchinson Port Holdings has stakes in Barcelona</i> |

⁵⁵ TEU refers to Twenty-foot Equivalent Unit- a standard unit of measurement of the cargo capacity of container ships and container parts, based on a 20-foot-long container.

| | | |
|---|---|---|
| | | |
| <p>Telecommunications & Digital Infrastructure</p> | <ul style="list-style-type: none"> ○ Have investments of Huawei-5G network <ul style="list-style-type: none"> • In 2024, Huawei’s equipment made up 62 per cent of Hungary’s national 5G telecom networks. | <ul style="list-style-type: none"> ○ Have investments of Huawei-5G network <ul style="list-style-type: none"> • In 2025, Huawei won a €12.3 million contract from the Spanish Ministry of the Interior to store recordings of court-approved wiretaps used by both law enforcement agencies and intelligence services. |

Source: Compiled by Author.

Besides, with this new strategic outlook, China is also able to localise production within the EU to access the European market by selling products at more competitive prices, circumvent anti-subsidy tariffs, and navigate increasing geopolitical tensions. Some scholars also argue that Beijing views the region as a base to reinforce existing operations in Western Europe and deepen its reach across the Continent.⁵⁶ This only makes Hungary and Spain a lucrative choice for China.

More importantly, as EU-China relations have become increasingly complex, particularly following the shift in EU rhetoric that redefined China from a “strategic partner” to a “systemic rival”—the choice of Hungary and Spain yields political dividends for Beijing. An additional consideration is that China’s growing presence in the European EV sector represents a strategic effort to gain a foothold in one of the most important markets in the European economy. This sector is not only economically significant but also carries substantial social and political consequences—supporting jobs, enhancing industrial competitiveness, and shaping policy debates on climate, trade, and technological sovereignty. Moreover, because both Hungary and Spain are EU member states, they offer Beijing two key advantages: first, a friendly and stable environment for Chinese companies; and second, governments in Budapest and Madrid that are favourable to China and actively limit EU-level scrutiny of Chinese investments. Consequently, there is relatively little inconvenience for China; however, the implications for the EU are markedly different.

From the EU’s perspective, one of the many challenges with regard to China is the difficulty of maintaining a unified European position. This challenge stems from the divide between EU

⁵⁶ Geopolitical Futures. (2025, October 24). Chinese EV Investment in Europe May Have Plateaued. <https://geopoliticalfutures.com/chinese-ev-investment-in-europe-may-have-plateaued/>

member states that are critical of China and those that favour cooperation. This pattern has become increasingly pronounced, as countries such as Hungary, which rely heavily on Chinese investment, are often unwilling to criticise Beijing. Such discord among EU member states highlights Brussels' limited capacity to formulate and sustain a common position. In the past, China's investment strategy has contributed to the discord within the EU on issues related to Beijing. This was evident in the EU's response to the 2016 arbitral award of the South China Sea, when, after three days of negotiations, the EU issued a statement declaring:

The EU does not take a position on sovereignty aspects relating to claims. It expresses the need for the parties to the dispute to resolve it through peaceful means, to clarify their claims and pursue them in respect and in accordance with international law [...] The EU supports the swift conclusion of talks [...].⁵⁷

As noted, unlike the United States and Japan, which urged China to abide by the ruling, the EU's statement neither adopted a firm tone nor made any direct reference to Beijing. This outcome was largely the result of internal divisions within the EU. Greece, in particular, blocked a joint EU statement calling on China to respect the United Nations Convention on the Law of the Sea. While Croatia and Slovenia had also opposed the statement, Greece's position attracted attention, given its status as a senior EU member and a traditional defender of maritime law.

Athens' stance was closely linked to its economic ties with Beijing. In April 2016- finalised in August- China Ocean Shipping Company (COSCO), China's largest port and shipping conglomerate, acquired a 51 per cent⁵⁸ stake in the Piraeus Port Authority (PPA). Similarly, in 2017, Greece blocked an EU statement at the UN Human Rights Council in Geneva that criticised China's human rights record, dismissing it as "unconstructive criticism of China."⁵⁹ This marked the first time the EU failed to issue its annual unanimous statement—highlighting the absence of a 'single voice' within the Union. In both cases, Greece made an exception for China despite its consistent calls for other countries, especially Turkey, to respect international maritime law and human rights. Taken together, these cases demonstrate how China's

⁵⁷ Council of the European Union. (2016, July 15). *Declaration by the High Representative on behalf of the EU on the Award rendered in the Arbitration between the Republic of the Philippines and the People's Republic of China*. Press Release 442/16. <https://www.consilium.europa.eu/en/press/press-releases/2016/07/15/south-china-sea-arbitration/>

⁵⁸ COSCO later purchased an additional 16 per cent stake in October 2021, completing the 67 per cent majority stake purchase over time.

⁵⁹ Robin Emmott and Angeliki Koutantou. (2017, June 19). Greece blocks EU statement on China human rights at U.N. *Reuters*. <https://www.reuters.com/article/us-eu-un-rights/greece-blocks-eu-statement-on-china-human-rights-at-u-n-idUSKBN1990FP/>

investment strategy has contributed to divisions within the EU on issues related to Beijing. As Nicholas Becquelin argues, “a divided Europe cannot take measures to protect itself from China's economic aggression, security threats and so on.”⁶⁰

Viewed through this lens, Hungary and Spain raise similar red flags for the EU. Hungary already mirrors Greece in its approach, with scholars even designating Budapest as the “main defender of China’s interests and an advocate for it in the EU arena.”⁶¹ Between 2016 and 2022, Hungary used its veto power six times to block the EU Council’s decisions condemning China’s actions. For instance, in 2021, Budapest blocked an EU statement criticising China’s new security law in Hong Kong.⁶² In 2023, all EU countries except Hungary signed a joint declaration—the European Wind Charter—to protect the European wind industry from “unfair trading practices” by Chinese manufacturers.⁶³ In 2024, Hungary also vocally opposed the EU’s tariffs on Chinese EVs. These actions—by both Athens and Budapest—highlight their ‘appeasement policy’ and a deliberate approach to avoid offending Beijing, even at the cost of blocking EU positions.

In the case of Spain, Madrid has expressed its interest in playing a ‘constructive role’ in smoothing the differences so that the “relations between the two [China and the EU] are closer, richer and more balanced.”⁶⁴ This stance reflects Spain’s efforts to re-engage with China, driven by a desire to attract Chinese greenfield investment—marking a departure from its traditional EU-centric China policy. As a result, in 2024, Spain abstained in the EU vote on tariffs against China-made EVs, despite having been an early supporter of the EU investigation.⁶⁵

⁶⁰ Jan van der Made. (2025, May 24). EU struggles to come out on top in systemic rivalry with China. *RFI*. <https://www.rfi.fr/en/international/20240524-eu-struggles-to-come-out-on-top-in-systemic-rivalry-with-china>

⁶¹ Ilona Gizińska and Paulina Uznańska. (2024, April 12). China’s European bridgehead: Hungary’s dangerous relationship with Beijing. *OSW Commentary*. <https://www.osw.waw.pl/en/publikacje/osw-commentary/2024-04-12/chinas-european-bridgehead-hungarys-dangerous-relationship>

⁶² John Chalmers and Robin Emmott. (2021, April 16). Hungary blocks EU statement criticising China over Hong Kong, diplomats say. *Reuters*. <https://www.reuters.com/world/asia-pacific/hungary-blocks-eu-statement-criticising-china-over-hong-kong-diplomats-say-2021-04-16/>

⁶³ Hungary Today. (2023, December 20). Hungarian Government Declines to Join the European Wind Charter. <https://hungarytoday.hu/government-declines-to-join-the-european-wind-charter/>

⁶⁴ Joe Cash. (2024, September 9). China’s Xi, Spain’s Sanchez seek to ease EU-China trade disputes. *Reuters*. <https://www.reuters.com/world/asia-pacific/spanish-autos-pork-beijings-sights-with-pm-sanchez-china-2024-09-09/>

⁶⁵ Esther Goreichy et al. (2025, October 29). Profiling European countries’ resilience towards China - 2025 Update. *MERICs Europe-China Resilience Audit*. <https://merics.org/en/report/profiling-european-countries-resilience-towards-china-2025-update#hungary-19634>

Hungary and Spain's favourable tilt towards Chinese investments not only undermines EU de-risking and other protectionist policy measures but also raises the risk of China circumventing them altogether. For example, Chinese manufacturers could exploit these countries' direct grants, tax breaks and infrastructure support for a competitive advantage, using the manufacturing plants primarily as final assembly sites to bypass EU tariffs without meaningful technology transfer.⁶⁶ Additionally, with EVs and batteries, there is an inherent risk that these countries could become overly dependent on Chinese clean-tech supply chains, creating further vulnerabilities.

These cases demonstrate that China's investments carry significant ramifications for the EU, highlighting the consequences of the absence of a 'single voice.' It is therefore strategically sensible for China to invest in EU economies such as Hungary and Spain, as this approach yields substantial political and economic dividends.

⁶⁶ Ibid