Automotive Geopolitics

How Germany Can Respond to China

As the global automotive industry rapidly electrifies, China's consolidation of electric vehicle supply chains has caused geopolitical tensions. This has led both the United States and European Union to raise import tariffs on Chinese EVs – risking a possible trade war. This DGAP Policy Brief compares the approaches of the US and EU and recommends how Germany can support the EU's position while ensuring fair competition for its automotive industry.

- State support has facilitated the aggressive expansion of Chinese EV capacity, which has begun to push foreign brands like Volkswagen out of the Chinese market.
- German political indecisiveness on tariffs undermines European legitimacy and German credibility as a supporter of fair trade.
- The hawkish stance of the United States provides an opportunity for the EU and German automakers to attract Chinese investments to the European market.
- Spurring Chinese investment to Europe provides a degree of de-risking and the possibility to learn from Chinese technology.
- Rising restrictions on market access among these three economies could drive aggressive competition for expansion in other markets.



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The global auto market is currently valued at \$4 trillion and is expected to surge to \$6 trillion by 2030¹ – the year when more than 60 percent of vehicle sales are projected to be electric.² Competition to seize this opportunity is ongoing, especially among the United States, China, and Europe. In 2023, these markets accounted for 95 percent of the 14 million electric vehicles (EVs) sold globally.³ Of these, Europe sold 3.4 million and the US 1.6 million. Although these shares were significant, they were dwarfed by the 8.1 million sold in China.⁴

As China's presence in this industry grows, countries that have historically dominated the auto industry are concerned. The automotive industry is a staple for a strong industrial economy. The sector is capital, research, resource, service, and skill intensive. Investments in this sector add significant trade value and have knock-on effects throughout an entire region's economy. The German automotive industry, for example, generated over €560 billion in revenue in 2023⁵ while accounting for €94 billion of the €177 billion in European auto exports⁶ as well as several million direct and indirect jobs across the continent.⁷

Such a footprint is vulnerable to major disruptions, and the rise of EVs can be counted as one. Preeminence in the production of internal combustion engines (ICEs) does not ensure continued success. For example, stiff competition has pushed Volkswagen to even consider shuttering factories in Germany.⁸ Unlike ICEs where value is added across the supply chain, EVs are consolidated with batteries accounting for 40 percent of a unit price.⁹ The nature of this has helped several top-tier battery producers capture the market.¹⁰ Chinese companies have the most dominant role here, which is compounded by their consolidation over most other segments of the EV supply chain.¹¹

China has built this lead over the past two decades with a robust industrial policy – positioning the country to become the center of global exports. The surge of export capacity, especially from Chinese companies, has become a serious concern that has triggered strong reactions from many governments, particularly those in Washington and Brussels. This DGAP Policy Brief takes stock of how Chinese companies rose to prominence and the implications this is having, and it compares what the United States and European Union are doing in response. This analysis is followed by recommendations on what Germany can do to strengthen its own position, as well as the position of Europe, in the global automotive sector.

1 "Automotive Industry Research Report Information by Vehicle Type, by Propulsion Type, and by Region – Forecast Till 2030," Market Research Future: <u>https://www.marketresearchfuture.com/reports/automotive-industry-7683</u> (accessed April 22, 2024).

- 3 "Global EV Outlook 2024: Trends in Electric Cars," IEA: https://www.iea.org/reports/global-ev-outlook-2024/trends-in-electric-cars (accessed July 15, 2024).
- 4 "Electric Vehicles," IEA: https://www.iea.org/energy-system/transport/electric-vehicles (accessed April 22, 2024).
- 5 "Revenue in the Automobile Industry in Germany from 2013 to 2023," Statista: <u>https://www.statista.com/statistics/657398/automobile-industry-germany-sales/</u> (accessed July 15, 2024).

^{2 &}quot;By 2030 EVs Represent More than 60% of Vehicles Sold Globally, and Require an Adequate Surge in Chargers Installed in Buildings," IEA, September 2022: <u>https://www.iea.org/reports/by-2030-evs-represent-more-than-60-of-vehicles-sold-globally-and-require-an-adequate-surge-in-chargers-installed-in-buildings</u> (accessed May 14, 2024).

^{6 &}quot;EU Trade Since 1999 by SITC," Eurostat: https://ec.europa.eu/eurostat/databrowser/view/ds-018995 custom 12026893/default/table?lang=en (accessed July 15, 2024).

^{7 &}quot;Number of Employees in the Automotive Industry in Germany from 2005 to 2023," Statista: <u>https://www.statista.com/statistics/587576/number-employees-german-car-industry/</u> (accessed July 15, 2024).

⁸ Ryan Hogg, "Volkswagen considers first German factory closure in 87-year history," Fortune, September 3, 2024: <u>https://fortune.com/europe/2024/09/03/volkswagen-german-factory-closure-ev-layoffs/</u> (accessed September 5, 2024).

⁹ Adrian König et al., "An Overview of Parameter and Cost for Battery Electric Vehicles," World Electric Vehicle Journal 2021, 12(1), 21: <u>https://doi.org/10.3390/wevj12010021</u> (accessed April 20, 2024).

¹⁰ As of April 2024, Benchmark Mineral Intelligence identified nine tier one companies. Five of these originated from China, three from South Korea, one from Japan, and one from Sweden. See: "Gigafactory Assessment Methodology," Benchmark Mineral Intelligence: <u>https://www.benchmarkminerals.com/</u> <u>methodologies/market-assessments/gigafactories/</u> (accessed April 22, 2024).

¹¹ This includes material mining, reprocessing, anode and cathode production, battery cell production, and EV assembly. See: "Global Supply Chains of EV Batteries," IEA: <u>https://www.iea.org/reports/global-supply-chains-of-ev-batteries</u> (accessed April 22, 2024).

DECARBONIZING PERSONAL MOBILITY

Decarbonizing how we move is crucial for realizing the Paris Agreement. In 2022, transport was responsible for 20.7 percent of global CO2 emissions.¹² Personal mobility (cars and vans) represented half of them. Although the number is lower than the sector's peak in 2019, the decline is marginal¹³ and offset by rising sales of sport utility vehicles (SUVs).14 The sector is, however, rapidly deploying cleaner technology, particularly battery electric vehicles. In 2012, there were some 190,000 battery and plug-in hybrid electric vehicles globally; by 2022, this reached 25.9 million.¹⁵ While this only accounted for 2.1 percent of the global vehicle stock, EVs accounted for 14 percent of all new vehicle sales that year¹⁶ – a 60 percent rise from 2021.¹⁷ Government subsidies and regulations have been key drivers of this growth. Overall, this trend has established personal mobility as one of the only sector segments on track to reach the Net Zero Emissions scenario of the International Energy Agency (IEA) by 2050.18

THE RISE OF CHINESE ELECTRIC MOBILITY

Throughout the 2000s, China was one of many countries exploring EV deployment. While others abandoned the technology, China doubled down – with a 2009 strategy outlining how a strong domestic EV market could "revitalize" the Chinese auto industry.¹⁹ These policies were unrelated to climate outcomes. Beijing's priority was to reduce energy (oil) imports, maximize economic gains, and consolidate industrial leadership in the sector.²⁰ As of 2009, Chinese governments have provided from \$29 billion²¹ to \$230 billion²² in incentives to fuel this growth.

The allure of this growing market spurred Tesla to establish its largest Gigafactory in Shanghai. While subsidies and cheap labor gave Tesla an edge, Chinese companies also learned from its example. As reporter Zeyi Yang argues in *MIT Technology Review*, Tesla's entry in the Chinese market triggered the "catfish effect" – where the presence of a strong competitor spurred Chinese brands to rapidly innovate to compete on price and technology with the established market leader.²³ This was facilitated by central government policies such as China's ban of ICEs as of 2035²⁴ that signal where Beijing wants its auto market to go.

The culmination of this and other factors²⁵ allowed Chinese companies to consolidate leadership across the supply chain. By mid-2022, Chinese automotive manufacturer BYD surpassed Tesla as the world's leader in global EV sales, representing one fifth of the

¹² Anna Fleck, "Cars Cause Biggest Share of Transportation CO2 Emissions," Statista Daily Data, September 22, 2023:

https://www.statista.com/chart/30890/estimated-share-of-co2-emissions-in-the-transportation-sector (accessed February 18, 2024). 13 In 2022, cars and vans emitted 3.53 GT of CO2. This is a modest decline from the 2019 peak of 3.61 GT.

^{14 &}quot;Cars and Vans," IEA: https://www.iea.org/energy-system/transport/cars-and-vans (accessed April 22, 2024).

^{15 &}quot;Global EV Data Explorer," IEA: https://www.iea.org/data-and-statistics/data-tools/global-ev-data-explorer (accessed April 22, 2024)

¹⁶ Ibid.

^{17 &}quot;Global EV Outlook 2023: Executive Summary," IEA: <u>https://www.iea.org/reports/global-ev-outlook-2023/executive-summary</u> (accessed April 22, 2024).

^{18 &}quot;Electric Vehicles" (see note 4).

^{19 &}quot;汽车产业调整和振兴规划" [Automobile Industry Adjustment and Revitalization Plan], Chinese Government: https://www.gov.cn/zwgk/2009-03/20/content 1264324.htm (accessed April 22, 2024).

²⁰ Li Shuo, "Is China Really Leading the Clean Energy Revolution? Not Exactly," The Guardian, July 6, 2023:

https://www.theguardian.com/commentisfree/2023/jul/06/china-clean-energy-revolution-coal-power (accessed February 22, 2024). 21 Zeyi Yang, "How Did China Come to Dominate the World of Electric Cars?", *MIT Technology Review*, February 21, 2023:

https://www.technologyreview.com/2023/02/21/1068880/how-did-china-dominate-electric-cars-policy/ (accessed February 22, 2024). 22 Scott Kennedy, "The Chinese EV Dilemma: Subsidized Yet Striking," CSIS Trustee China Hand Blog, June 20, 2024:

https://www.csis.org/blogs/trustee-china-hand/chinese-ev-dilemma-subsidized-yet-striking (accessed July 16, 2024).

²³ Yang, "How Did China Come to Dominate the World of Electric Cars?" (see note 20)

²⁴ Any car sold after this date must be categorized as "new-energy." See: Sean Fleming, "China Joins List of Nations Banning the Sale of Old-Style Fossil-Fueled Vehicles," World Economic Forum Agenda, November 11, 2020: <u>https://www.weforum.org/agenda/2020/11/china-bans-fossil-fuel-vehicles-electric/</u> (accessed July 15, 2024).

²⁵ For example, the strategic acquisition of relevant intellectual property and a range of long-term investments in the mining and mineral reprocessing industries.



Monthly Share of Automotive Sales in China by Company Country of Origin

Source: Authors' assessment of Chinese Association of Automotive Manufacturers (CAAM) data

global market.²⁶ In the first half of 2022, BYD's sales had grown by 320 percent over the first half of the previous year,²⁷ solidifying China as the leader in EV exports. The surge pushed through 2023, when China became the largest exporter of passenger vehicles, outcompeting Japan for the first time²⁸ – and Chinese output has not peaked. BYD²⁹ and CATL, already the world's largest battery producers, plan continued growth.³⁰ Expansion is also a key priority identified in the central government's latest work report.³¹ As the United States becomes harder for Chinese companies to access, Europe becomes a clear destination for these exports. Acquired Western companies bolster this expansion. Volvo, for example, is now a subsidiary of Chinese auto manufacturer Geely (see box on page 5 for details). Together, they co-own the brands Lynk & Co and Zeekr. Unsurprisingly, when Zeekr was launched in 2021, it was done in Sweden and the Netherlands. Expansions across the EU are expected in 2024.³² The culmination of these dynamics could lead China to capture up to 15 percent of the EU's EV market by 2025 – up from the less than one percent it held in 2019.³³

32 Johan Ahlander and Sameer Manekar, "China's EV Maker Zeekr Opens Orders for Two Luxury Cars in Sweden, Netherlands," *Reuters*, June 28, 2023: <u>https://www.reuters.com/business/autos-transportation/chinas-ev-maker-zeekr-opens-orders-two-luxury-cars-sweden-netherlands-2023-06-28/</u> (accessed April 22, 2024).

33 Yanmei Xie, "China's Cull of EV Overcapacity Will Bring Little Relief to Europe," Financial Times, February 4, 2024: https://www.ft.com/content/608c4b00-8efb-4322-9318-f6249096e3fe (accessed April 22, 2024).

^{26 &}quot;BYD Widens Gap with Tesla in Q3 2022, Leads Global EV Market," Counterpoint, December 1, 2022:

https://www.counterpointresearch.com/insights/global-ev-sales-q3-2022/ (accessed April 22, 2024)

²⁷ EV Volumes: https://ev-volumes.com/ (accessed April 22, 2024).

²⁸ Evelyn Cheng, "China Comes Just Shy of Japan as the World's Largest Car Exporter," CNBC, February 1, 2024:

https://www.cnbc.com/2024/01/31/china-comes-just-shy-of-japan-as-the-worlds-largest-car-exporter.html (accessed April 22, 2024). Peter Johnson, "BYD to Kick off EV Production at New Thailand Plant in Q3 as Overseas Expansion Accelerates," *Electrek*, March 29, 2024:

https://electrek.co/2024/03/29/byd-kick-off-ev-production-new-thailand-plant-q3/ (accessed April 22, 2024).

³⁰ Gloria Li et al., "China's 'Battery King' Dismisses Solid-State EV Commercialisation as Years Away," Financial Times, March 27, 2024: <u>https://www.ft.com/content/7a8207d9-b2e0-4969-a10a-2c41e8639fb7</u> (accessed April 22, 2024).

^{31 &}quot;最全! 50个动态场景看2024《政府工作报告》全文___中国政府网" [The most complete! 50 dynamic scenarios to see the full text of the 2024 "Government Work Report"], Chinese Government: <u>https://www.gov.cn/yaowen/liebiao/202403/content_6936260.htm</u> (accessed April 22, 2024).

VOLVO

In 2010, Volvo was acquired from Ford by Zhejiang Geely Holding Group. Shortly thereafter, Geely and Volvo set up a joint R&D center, CEVT, in Gothenburg in 2013. CEVT employed multiple engineers who previously worked for Saab. Volvo's headquarters and most of its manufacturing stayed in Sweden,³⁴ with new factories being built in China for the Chinese market. After the acquisition, there was little interference from Geely. Volvo maintained its autonomy and Swedish identity, which was unique for a Chinese acquisition.³⁵ The acquisition boosted Volvo sales in China, which drove more production to China.³⁶ Geely even left the Volvo brand intact while using the technologies developed by CEVT to create new projects with the brands Lynk & CO and Zeekr. Nevertheless, while the M&A by Geely was initially supported by most Swedes, increased trade tension with China - and the looming possibility of a merger - has created doubts about Volvo's future.37

Such developments are occurring while Western brands lose market share in China. In 2024, Chinese brands account for two thirds of the domestic market, a near ten percent climb from 2023. In contrast, German brands have fallen from a 24.8 percent share of the Chinese market in 2020³⁸ to 15.4 in 2024.³⁹ Part

of this trend is due to Western companies, such as Volkswagen, not understanding Chinese consumers who prefer a new high-tech model intended to be quickly replaced rather than something built to last.⁴⁰ This inclination is demonstrated by the centrality of "infotainment" systems; Chinese systems are all Chinese-made and cheaper while still coming with higher computing power than foreign models.⁴¹ Chinese consumers also prefer mid-range vehicles with more gadgets, something that Western brands, such as Volkswagen, misjudged. China's ability to compete with foreign brands will likely continue as competition moves beyond its domestic market.

US EFFORTS TO BUILD CAPACITY AND CURTAIL CHINA

The administration of US President Joe Biden has two broad aims for the EV industry: (1) to build a supply chain to service the US market and (2) to ensure the "security" of this market.⁴² These were outlined in the 100-day strategic review under Executive Order 14017⁴³ and the subsequent National Blueprint for Lithium Batteries 2021–2030 released by the Department of Energy.⁴⁴ Following this, Congress passed the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA), which include a range of incentives to boost investment into the North American EV ecosystem with the goal of creating a supply of and demand for vehicles made within the continent.⁴⁵ This legislation will impact EV deployment and production in the United States – with the IRA alone potentially boosting EVs

36 "Volvo Cars to Take Full Ownership of Its Chinese Manufacturing and Sales Operations," Volvo Cars Global Newsroom, July 21, 2021: <u>https://www.media.volvocars.com/global/en-gb/media/pressreleases/285269/volvo-cars-to-take-full-ownership-of-its-chinese-manufacturing-and-sales-operations</u> (accessed March 17, 2024).

³⁴ Thomas Erdbrink and Christina Anderson, "Fears for Volvo Expose Sour Turn in Sweden's Ties With China," The New York Times, June 14, 2020: <u>https://www.nytimes.com/2020/06/14/world/europe/sweden-china-volvo.html</u> (accessed March 17, 2024).

³⁵ Peter Sigal, "How Geely Quietly Built a Far-Reaching European Footprint," Automotive News Europe, June 7, 2022: https://europe.autonews.com/automakers/how-geely-quietly-built-far-reaching-european-footprint (accessed March 17, 2024).

³⁷ Erdbrink and Anderson, "Fears for Volvo Expose Sour Turn" (see note 33).

^{38 &}quot;2020年1–10月乘用车分国别销售情况简析" [Brief Analysis of Passenger Car Sales by Country, January to October 2020], China Association of Automobile Manufacturers: <u>http://www.caam.org.cn/chn/4/cate_39/con_5232434.html</u> (accessed July 15, 2024).

^{39 &}quot;中国汽车流通协会乘用车市场信息联席分会" [China Automobile Dealers Association Passenger Vehicle Market Information Joint Branch], China Passenger Car Association: <u>http://data.cpcadata.com/CountryMarket</u> (accessed July 15, 2024).

⁴⁰ William Boston, "Volkswagen's Elusive Quest to Make an EV for the Masses," Wall Street Journal, December 31, 2023:

https://www.wsj.com/business/autos/volkswagens-elusive-quest-to-make-an-ev-for-the-masses-b6d24b47 (accessed July 18, 2024).

^{41 &}quot;Western Firms Are Quaking as China's Electric-Car Industry Speeds Up," The Economist, January 11, 2024: https://www.economist.com/briefing/2024/01/11/western-firms-are-guaking-as-chinas-electric-car-industry-speeds-up (accessed July 18, 2024).

 ⁴² As outlined in the US Department of Energy's National Blueprint for Lithium Batteries 2021–2030. The complete report can be found on the website of the Federal Consortium for Advanced Batteries:
bttps://www.pogruppi.compartment.complete.complet

https://www.energy.gov/mesc/federal-consortium-advanced-batteries-fcab (accessed August 5, 2024).

^{43 &}quot;Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth," The White House, June 2021: https://www.whitehouse.gov/wp-content/uploads/2021/06/100-day-supply-chain-review-report.pdf (accessed May 21, 2024).

^{44 &}quot;National Blueprint for Lithium Batteries" (see note 41).

^{45 &}quot;Building a Clean Energy Economy: A Guidebook to the Inflation Reduction Act's Investments in Clean Energy and Climate Action," The White House, January 2023, Version 2: <u>https://www.whitehouse.gov/wp-content/uploads/2022/12/Inflation-Reduction-Act-Guidebook.pdf</u> (accessed May 22, 2024).

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New Projects in US Lithium-Ion Battery Supply Chain by Company Country of Origin – Top 5



to over 50 percent of vehicle sales by 2030.⁴⁶ For perspective, the 1.4 million new EVs sold in the US in 2023 represented 9 percent of new vehicle sales.⁴⁷

The IRA's local content requirements - or purchase incentives for vehicles made in North America - are a major factor here as they make battery cell production on the continent very cost competitive. Together, the BIL and IRA have accelerated efforts to friendshore, nearshore, and reshore industry aiming to serve the US market.48 For auto supply chains, nearand reshoring have been most prominent. Nearshoring is occurring in Canada and Mexico who benefit from the tax credit linked to the regional content requirement.⁴⁹ For example, in 2023, nearly 100 large investments were announced in Mexican EV production,⁵⁰ and Volkswagen prepared to invest \$14.8 billion to build a battery factory in Canada.51 The EV purchase credit is compounded by the advanced manufacturing credits to have a reshoring pull. Within one year of adopting the IRA, the American EV production capacity pipeline to 2030 almost doubled - from 700 gigawatt hours (GWh) to near 1,200.52 This represented nearly \$100 billion in private investments announced by the fourth quarter of 2023.53

To secure this market, the IRA aims to strategically exclude Foreign Entities of Concern (FEOC). FEOCs are non-state actors controlled by, owned, or subject to the jurisdiction of a country that could threaten American economic, security, and foreign policy interests.54 Primary targets are Chinese55 companies looking to invest in the North American EV supply chain.⁵⁶ If designated an FEOC, these companies would not benefit from IRA tax credits - even if their batteries or EVs were made in North America. While some exceptions have been made, this has caused issues for Chinese companies. The Biden administration has gone further by raising the Trump-era Section 301 tariffs⁵⁷ on Chinese-made EVs from 25 to 100 percent and on Chinese-made lithium-ion batteries and battery parts from 7.5 to 25 percent.⁵⁸ This will raise tariffs on Chinese EVs to 102.5 percent when combined with the standard import rate for passenger vehicles.⁵⁹ These challenges can even extend to Chinese customers who buy components for vehicles entering the North American market. For example, Volkswagen cars containing Chinese parts were barred entry to the United States.⁶⁰ Washington is also pressuring its neighbors, having pushed Mexico to halt incentives for Chinese EV makers⁶¹ while

51 Steve Scherer and Victoria Waldersee, "Canada, Volkswagen to Invest More than C\$20 Billion in EV Battery Gigafactory," *Reuters*, April 22, 2023: https://www.reuters.com/business/autos-transportation/volkswagen-canada-battery-plant-targets-90-gwh-capacity-its-biggest-yet-2023-04-21/ (accessed May 21, 2024).

<u>https://source.benchmarkminerals.com/article/one-year-on-the-ira-has-changed-the-battery-landscape-in-the-us</u> (accessed May 22, 2024).
"Treasury Releases Proposed Guidance to Continue US Manufacturing Boom in Batteries and Clean Vehicles, Strengthen Energy Security," US Department of the Treasury, December 1, 2023: <u>https://home.treasury.gov/news/press-releases/jy1939</u> (accessed May 22, 2024).

56 "Mexican Automotive Industry Report 2024" (see note 49).

 ⁴⁶ Peter Slowik et al., "Analyzing the Impact of the Inflation Reduction Act on Electric Vehicle Uptake in the United States," The International Council on Clean Transportation, January 2023: <u>https://theicct.org/wp-content/uploads/2023/01/ira-impact-evs-us-jan23.pdf</u> (accessed May 22, 2024).
47 Aph Bui and Peter Slowik "Electric Vehicle Market and Policy Developments in US States 2023" International Council on Clean Transportation, June

⁴⁷ Anh Bui and Peter Slowik, "Electric Vehicle Market and Policy Developments in US States, 2023," International Council on Clean Transportation, June 4, 2024: <u>https://theicct.org/publication/ev-ldv-us-major-markets-monitor-2023-june24/</u> (accessed July 15, 2024).

⁴⁸ Stefan Ellerbeck, "What's the Difference between 'Friendshoring' and Other Global Trade Buzzwords?", World Economic Forum Agenda, February 17, 2023: <u>https://www.weforum.org/agenda/2023/02/friendshoring-global-trade-buzzwords/</u> (accessed July 15, 2024).

⁴⁹ IRA tax credits are only issued for vehicles that reach the qualifying regional value content requirement, which is set to gradually increase. These requirements compound the 75 percent minimum regional content requirements by value outlined in the 2020 United States-Mexico-Canada Agreement. See: "United States-Mexico-Canada Trade Fact Sheet: Rebalancing Trade to Support Manufacturing," Office of the United States Trade Representative: https://ustr.gov/trade-agreements/free-trade-agreements/united-states-mexico-canada-agreement/fact-sheets/rebalancing (accessed July 15, 2024).

^{50 &}quot;Mexican Automotive Industry Report 2024," Prodensa, March 20, 2024: https://www.prodensa.com/insights/blog/mexican-automotive-industryreport-2024 (accessed May 21, 2024).

^{52 &}quot;One Year on, Biden's IRA Has Changed the Battery Landscape," Benchmark Source, August 15, 2023:

⁵⁴ Nicholas E Buffie, "Foreign Entity of Concern Requirements in the Section 30D Clean Vehicle Credit," Congressional Research Service, February 28, 2024: https://crsreports.congress.gov/product/pdf/IN/IN12322; "Interpretation of Foreign Entity of Concern," US Department of Energy, December 4, 2023: https://www.federalregister.gov/documents/2023/12/04/2023-26479/interpretation-of-foreign-entity-of-concern (accessed May 22, 2024).

⁵⁵ As of May 2024, the other countries on this list include Iran, North Korea, and Russia.

⁵⁷ Section 301 of the 1974 Trade Act allows the United States to investigate and respond to a range of foreign trade practices. The most recent cases levied against China pertain to the violation of intellectual property rights and forced technology transfer. See: "Section 301 of the Trade Act of 1974," Congressional Research Service, May 13, 2024: <u>https://crsreports.congress.gov/product/pdf/IF/IF11346</u> (accessed July 18, 2024).

⁵⁸ These three provisions will enter into force in 2024. Starting in 2026, Chinese non-EV batteries will also be tariffed at 25 percent. See: "Fact Sheet: President Biden Takes Action to Protect American Workers and Businesses from China's Unfair Trade Practices," The White House, May 14, 2024: https://www.hitehouse.gov/briefing-room/statements-releases/2024/05/14/fact-sheet-president-biden-takes-action-to-protect-americanworkers-and-businesses-from-chinas-unfair-trade-practices/ (accessed July 24, 2024).

⁵⁹ The standard import rate for importing a passenger vehicle into the United States is 2.5 percent. See: "Importing a Motor Vehicle," US Customs and Border Protection: <u>https://www.cbp.gov/trade/basic-import-export/importing-car</u> (accessed July 15, 2024).

^{60 &}quot;Some Volkswagen Cars Delayed in US Ports over Chinese Part," *Reuters*, February 14, 2024: <u>https://www.reuters.com/business/autos-transportation/some-volkswagen-cars-delayed-us-ports-over-chinese-part-2024-02-14/</u> (accessed July 15, 2024).

⁶¹ Diego Oré, "Exclusive: Mexico, Facing US Pressure, Will Halt Incentives to Chinese EV Makers," *Reuters*, April 18, 2024: https://www.reuters.com/business/autos-transportation/mexico-facing-us-pressure-will-halt-incentives-chinese-ev-makers-2024-04-18/ (accessed July 15, 2024).

nudging Canada to align with its policy.⁶² Such efforts have been effective. As of August 2024, Canada has mirrored Washington with similar 100 percent tariffs on EV imports from China. The culmination of these moves opens the door for battery companies from Japan, Korea, and Europe to gain privileged access to the North American market.

EUROPEAN EFFORTS TO DE-RISK AND DECARBONIZE

Europe has largely used regulations to drive EV uptake. The EU has, for example, introduced a sales ban on new ICEs as of 2035⁶³ and regulation 2019/631 that tightened emission standards. The latter caused the EU's EV sales to rise from 700,000 in 2019⁶⁴ to near 2 million – or 21.6 percent of new car registrations – in 2022.⁶⁵ However, transitioning to EVs requires a simultaneous shift in manufacturing capacity. To ensure this buildout occurs in the EU, the institutions in Brussels have taken action in three primary ways: first, they set a strategic outline and platform for industry to build an EU battery ecosystem;⁶⁶ second, they linked this industrial expansion to sustainability;⁶⁷ and third, they attempted to coordinate government action to ensure European competitiveness.⁶⁸

European competitiveness has become an even more central issue since the United States passed the IRA in 2022. In its aftermath, early studies showed two thirds of the EU battery project pipeline at risk of moving to North America⁶⁹ rather than being completed in Europe.70 If exercised unilaterally, US subsidies are a risk to European projects. The European Commission has allowed EU member states to "match the aid received by competitors in third countries,"71 but any exceptions are unlikely to be EU-wide. Outside this exception, the EU has been more proactive with the Net-Zero Industrial Act (NZIA)72 and its anti-subsidy probes into Chinese goods.73 For example, the Commission initiated an ex-ante probe74 into EVs produced in China entering the EU last year⁷⁵ that resulted in provisional tariffs.76 Considering China's record of industrial subsidization and the EU's experience with Chinese solar,77 such proactivity is not unwarranted. EV imports from China represented one fifth of the EU's EV market in 2023 - up from less than half a percent in 2019.78 Projections even show Chinese EV imports shifting Europe to a net vehicle importer by 2025.79

64 "Global EV Outlook 2021," IEA, April 2021: https://www.iea.org/reports/global-ev-outlook-2021 (accessed June 5, 2024).

65 "New Registrations of Electric Vehicles in Europe," European Environment Agency, October 24, 2023: <u>https://www.eea.europa.eu/en/analysis/indicators/new-registrations-of-electric-vehicles</u> (accessed June 5, 2024).

⁶² Mia Rabson, "Canada Mulling Import Tariffs on Chinese-Made EVs after US Move," Global News, May 27, 2024: https://globalnews.ca/news/10526407/canada-chinese-ev-tariffs/ (accessed July 15, 2024).

^{63 &}quot;EU Ban on the Sale of New Petrol and Diesel Cars from 2035 Explained," European Parliament Topics, March 11, 2022: <u>https://www.europarl.europa.eu/</u> topics/en/article/20221019STO44572/eu-ban-on-sale-of-new-petrol-and-diesel-cars-from-2035-explained (accessed July 15, 2024).

⁶ Major actions on this include launching platforms like the European Battery Alliance in 2017 and the Strategic Action Plan on Batteries in 2018.

⁶⁷ For example, the 2023 EU Batteries Regulation focusing on circularity and recycling or the European Green Deal's targets to reduce transport emissions by 90 percent in 2050.

⁶⁸ For example, the European Commission has made several derogations to state aid rules under the Important Projects of Common European Interest, which concerns green technology. Two of them target electric vehicle batteries with €6.1 billion in member state finance. See: "Approved IPCEIs in the Batteries Value Chain," European Commission: <u>https://competition-policy.ec.europa.eu/state-aid/ipcei/approved-ipceis/batteries-value-chain_en</u> (accessed July 15, 2024).

⁶⁹ Germany in particular was considered to be at medium or high risk of losing nearly 400 GWh - or roughly 80 percent - of planned projects.

^{70 &}quot;How Not to Lose It All," Transport & Environment, March 6, 2023: <u>https://www.transportenvironment.org/articles/how-not-to-lose-it-all</u> (accessed June 5, 2024).

^{71 &}quot;Green Deal Industrial Plan for the Net-Zero Age," European Parliament's Legislative Train Schedule: <u>https://www.europarl.europa.eu/legislative-train/package-green-deal-industrial-plan-for-the-net-zero-age/file-green-deal-industrial-plan-for-the-net-zero-age</u> (accessed July 15, 2024).

⁷² The NZIA is one of three major provisions – along with the Critical Raw Materials Act and the Electricity Market Design Reform – aimed at boosting European competitiveness in the Green Deal Industrial Plan. Among other measures, the NZIA includes efforts to standardize and simplify relevant permitting processes for strategic projects while serving as a platform to coordinate EU action in boosting European green industry. See: "Industrial Policy: Council Gives Final Approval to the Net-Zero Industry Act," Council of the EU, May 27, 2024: <u>https://www.consilium.europa.eu/en/press/press-</u> <u>releases/2024/05/27/industrial-policy-council-gives-final-approval-to-the-net-zero-industry-act/</u> (accessed July 15, 2024).

⁷³ There have been various anti-subsidy probes launched into Chinese imports into the EU.

⁷⁴ This indicates that the Commission initiated this probe of its own accord, pre-emptively before damages largely occurred. In most cases, anti-subsidy probes would be initiated when industry has incurred damages and political actors have requested intervention.

⁷⁵ Other investigations include solar panels and wind turbines.

⁷⁶ These would apply on top of the existing 10 percent tariffs the EU applies to all imported passenger vehicles.

⁷⁷ In the early 2010s, China consolidated global leadership in the solar industry. They had gone from being largely absent from the market to playing a central role across almost the entire supply chain.

^{78 &}quot;How Europe Can Use Tariffs as Part of an Industrial Strategy," Transport & Environment, March 27, 2024: <u>https://www.transportenvironment.org/</u> <u>articles/how-europe-can-use-tariffs-as-part-of-an-industrial-strategy</u> (accessed July 15, 2024).

^{79 &}quot;Electric Vehicle Sales Review Q3-2022," Strategy&, March 8, 2022: <u>https://www.strategyand.pwc.com/de/en/industries/automotive/e-mobility-sales-review-2022-q3.html</u> (accessed July 15, 2024).

Comparing Key Features of the EU and US Approach to Subsidized Chinese EV Exports

	EU APPROACH	US APPROACH
Tariffs	9.0 to 36.3%	100%
Applicability	Varies by company	Blanket
Туре	Anti-subsidy	Section 301
WTO Compatibility	WTO compliant	Not WTO compliant
Acceptance of Chinese Investment	Open to investment + stronger screening	Closed to Chinese investment + FEOC
Status on Local Content	Allowed to match third country incentives	Local content support

Source: Authors' own compilation

Despite these statistics, the politics behind the probe are complex. While France pushed the Commission to act, German politicians⁸⁰ and industry⁸¹ undermined it. This is undoubtedly due to how exposed German industry is because of its continued investments in China. From 2018 to 2021, German conglomerates BASF, BMW, Daimler, and Volkswagen accounted for 34 percent of all European foreign direct investment (FDI) into China.⁸² In the past, this vulnerability would cause Berlin to intervene on Beijing's behalf, but now German political opinion is unclear. German Chancellor Olaf Scholz has played both sides. He downplayed this issue while in China with automotive representatives⁸³ but later called for a serious shift from Beijing.⁸⁴ In contrast, in two separate trips to China, Germany's vice chancellor, Robert Habeck, supported the EU's findings⁸⁵ while its transport minister, Volker Wissing, criticized the tariffs.86

The provisional tariffs resulting from the probe do, however, also show nuance in Europe's approach. BYD, Geely, and other companies that cooperated with the investigation face tariffs of 17.0 percent, 19.3 percent, and 21.3 percent, respectively, while SAIC and other non-cooperative companies face tariffs of 36.3 percent. Thus far, Tesla is the only company to secure an individual duty rate of 9.0 percent outside of this.87 These percentages will apply on top of the existing 10 percent tariff that was already in place. Unlike Biden's tariff - which applies equally to all vehicles - the EU's tariffs appear less arbitrary and substantiated because they reflect the level of subsidy and reward compliance. These tariffs also come from a formal investigation,88 which, unlike section 301 of the US Trade Act,⁸⁹ is WTO compatible and creates room for other countries to follow suit. Such openness is vital as political pressure toward one's neighbors, such as that exhibited by Washington, can only go so far in recruiting partners to adopt one's policies.

80 Michael Nienaber, Arne Delfs, and Bloomberg, "German Chancellor Downplays EU's Anti-Subsidy Probe into China's Electric Vehicles: 'What Is the Problem?'", Fortune, September 28, 2023: <u>https://fortune.com/europe/2023/09/28/china-electric-vehicles-germany-eu-anti-subsidy-probe/</u> (accessed July 15, 2024).

^{81 &}quot;Mercedes, BMW, VW criticize EU's High Tariffs on Chinese EV Imports," Automotive News Europe, June 12, 2024: https://europe.autonews.com/automakers/german-automakers-slam-eus-high-tariffs-chinese-ev-exports (accessed July 15, 2024)

⁸² Arendse Huld, "China-Germany Bilateral Direct Investment: Trends and Outlook," *China Briefing*, February 5, 2024: https://www.china-briefing.com/news/germany-china-investment-trends-and-outlook/ (accessed July 15, 2024).

⁸³ Rolf J. Langhammer, "Statement: Scholz's China Visit Falls Short of Possible Outcomes," Kiel Institute for the World Economy, April 18, 2024: https://www.ifw-kiel.de/publications/news/scholzs-china-visit-falls-short-of-possible-outcomes/ (accessed July 15, 2024).

⁸⁴ Andreas Rinke and Friederike Heine, "Germany Says 'Serious Movement' Needed from China in EV Tariff Row," Reuters, June 14, 2024: https://www.reuters.com/markets/germany-trying-prevent-or-soften-eu-tariffs-chinese-evs-bloomberg-news-says-2024-06-14/ (accessed July 15, 2024).

^{85 &}quot;Habeck Says EU Tariffs on Chinese Cars Not a 'Punishment,'' Deutsche Welle, June 23, 2024: https://www.dw.com/en/habeck-says-eu-tariffs-on-chinese-cars-not-a-punishment/a-69444858 (accessed July 15, 2024).

⁸⁶ Antonia Zimmermann and Koen Verhelst, "German Ministers Dash to China in Bid to Escape Retaliation over EV Duties," *Politico*, June 27, 2024: https://www.politico.eu/article/berlin-europe-china-ev-cars-automobiles-tarriffs-brussels-dumping-probe-germany/ (accessed July 15, 2024)

 [&]quot;Commission discloses to interested parties draft definitive findings of anti-subsidy investigation into imports of battery electric vehicles from China," European Commission, August 20, 2024: <u>https://ec.europa.eu/commission/presscorner/detail/en/ip_24_4301</u> (accessed September 5, 2024).
"Agreement on Subsidies and Countervailing Measures ("SCM Agreement")," World Trade Organization:

^{88 &}quot;Agreement on Subsidies and Countervailing Measures ("SCM Agreement")," World Trad <u>https://www.wto.org/english/tratop e/scm e/subs e.htm</u> (accessed July 15, 2024).

⁸⁹ Jingyuan (Joey) Zhou, "No Unilateral Action – WTO Panel Ruled US Section 301 Tariffs on Chinese Imports Inconsistent with WTO Obligations," American Society of International Law, October 5, 2020: <u>https://www.asil.org/insights/volume/24/issue/26/no-unilateral-action%E2%80%94wto-panel-ruled-us-section-301-tariffs-chinese</u> (accessed July 15, 2024).

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The EU also appears to be more open to Chinese investment to build its capacity. While US policies like the FEOC push out Chinese investment, the EU has opted to strengthen tools such as those for foreign investment screening. While these are rigorous, they still let deals through - for example, the recent Renault-Geely joint venture that was processed and approved through the screening procedures.90 This openness is further substantiated by financial flows. In 2023 alone, Chinese EV firms invested €4.7 billion in greenfield projects across the European battery supply chain that accounted for nearly 70 percent of Chinese FDI to the EU.91 Hungary was the largest recipient, receiving 44 percent of all Chinese FDI to Europe that year. In 2022, Hungary was the world's fourth-largest battery producer,⁹² and projections show the country being the center of European production through to 2030.93

POLICY RECOMMENDATIONS

As the global auto market electrifies, Germany – and the EU more broadly – face complex challenges. While this transition is laden with risks, there are also opportunities for those who have strategic vision and can act to realize that vision. To mitigate its risks and maximize its opportunities, Germany should:

Clarify its solidarity with the European position to set a new precedent in the EU-China relationship

China leverages political uncertainty to divide the EU as its industrial policies consolidate sectors. If there is to be a sustainable EU-China relationship, this status quo cannot be allowed to persist. Yet China will not observe rules unless action is taken, and the relationship will only get worse until change occurs.

Brussels, however, cannot establish a new precedent of holding China accountable alone. The Commission needs clear, consistent, and unified support to reaffirm red lines by driving the anti-subsidy case forward. The German government should proactively and publicly support the tariffs as a common European position to dispel political uncertainty. The EU, particularly Germany, should be self-assured when pushing back against Beijing's threats. The Commission's investigation found malpractice, and it must be addressed. To move away from this would undermine the EU's legitimacy and German credibility as a supporter of free trade. While fears of retaliation are real, mutual exposure should not be underestimated. China needs the European market more than the EU needs China – especially as the United States blocks Chinese EV expansion.

Leverage market access and Chinese companies to build domestic capacity

Europe needs to continue building EV production capacity. However, as Chinese subsidies and the American IRA show, this will be expensive. Estimates show that Europe's current project pipeline requires €276 billion of mostly private capital expenditures (Capex) and operating expenses (Opex).⁹⁴ Yet, this could be insufficient. The EU may need more capacity to meet climate targets, and public finance could face constraints.

Germany should court more Chinese investment into the European battery ecosystem to fill this gap. Chinese battery companies are competitive and have leading tech – Western companies benefit from their presence. However, Germany should push Brussels to leverage access to the single market because Chinese battery companies are eager to invest abroad. The EV price war in China is hemorrhaging profits⁹⁵ while China-based capacity is losing access to key markets. With North America locked off, the single market becomes the major demand center for EVs that command a high purchase price. These conditions give Europe an opportunity to capture FDI from China's leading firms, which could help reverse decades of asymmetrical technology transfer.

However, Germany must be cautious, differentiating where this investment is wanted and where it becomes a security risk. In 2020, the Bertelsmann Stiftung drafted a checklist for green listing Chinese investments in which FDI into the manufacturing of

^{90 &}quot;Renault, Geely Create Joint Venture for Hybrid, Combustion Engines," *Reuters*, May 31, 2024: <u>https://www.reuters.com/business/autos-transportation/</u> renault-geely-create-joint-venture-hybrid-combustion-engines-2024-05-31/ (accessed July 15, 2024).

⁹¹ Agatha Kratz et al., "Chinese FDI in Europe: 2023 Update," Rhodium Group, June 6, 2024: <u>https://rhg.com/research/chinese-fdi-in-europe-2023-update/</u>(accessed July 23, 2024).

 [&]quot;Hungary on the Way to Become the Second Largest Producer of Electric Batteries," Hungary Today, October 19, 2023;

https://hungarytoday.hu/hungary-on-the-way-to-become-the-second-largest-producer-of-electric-batteries/ (accessed July 23, 2024).

^{93 &}quot;Hungary Set to Be Europe's Leading Tier 1 Battery Producer This Decade," Benchmark Source, December 22, 2022:

https://source.benchmarkminerals.com/article/hungary-set-to-be-europes-leading-tier-1-battery-producer-this-decade (accessed July 23, 2024). 94 "An Industrial Blueprint for Batteries in Europe," Transport & Environment, May 12, 2024:

https://www.transportenvironment.org/articles/an-industrial-blueprint-for-batteries-in-europe (accessed July 15, 2024).

⁹⁵ João da Silva, "Tesla China Rival BYD Sees Profits and Sales Fall," BBC, April 30, 2024: <u>https://www.bbc.com/news/articles/c9rznkq3vqro</u> (accessed July 27, 2024).

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motor vehicles was identified as carrying some risks due to the possibility of being dual use.⁹⁶ As Chinese models utilize Chinese software and certain components that offer backdoor access, data transfer poses another risk. The EU already has investment screening mechanisms in place to ensure a degree of safety. These risks can further be mitigated by measures such as more granular investment regulations; restrictions on cross-border data transfer; and constraints that keep Chinese brands from being used by military, intelligence, and political personnel.⁹⁷

Reward European and clean producers by further linking to climate criteria

The IRA shows that incentives can spur large-scale private investment in the EV supply chain. However, it remains unclear if the EU will be able channel such investment into Europe. At present, it lacks a uniform approach to incentives and it does not want to lean into local content requirements.

Strengthening linkages to other criteria where Europe has a comparative advantage could help resolve this problem. As Chinese goods have had issues in areas such as human rights and high emissions, applying a stronger environmental, social, and governance (ESG) framework could be an option. According to Human Rights Watch, aluminum used in automotives from China largely originates from Xinjiang, where forced labor by the Chinese government has been ongoing for years.98 Moving to an example related to climate, China's coal-powered battery manufacturing can be emission intensive.⁹⁹ One study showed that production reshored to Europe could lower these emissions by over 60 percent.¹⁰⁰ The EU has taken measures to standardize, map, and track these emissions with battery passports by adopting its new Batteries Regulation in 2023.¹⁰¹

This regulation helps clarify the footprint of each battery, but more can be done to link this knowledge

to reward consumers who purchase vehicles from clean producers. The French eco-bonuses that link EV credits to a lower carbon footprint are a good example that rewards clean producers while retaining open markets. As of 2024, up to a quarter of EV sales in France will not qualify for incentives because of a high carbon footprint.¹⁰² As the German government looks to reintroduce tax credits for EVs, policymakers should structure their incentives similarly to the French model to ensure that climate targets on cleaner production are also supported by EV deployment.

Leverage the Brussels effect against illegal subsidies and set a standard

With both the United States and EU becoming tougher on Chinese EVs, China will be forced to pivot to other markets. These countries will likely push back against China through protective measures of their own. Many countries have already done so – for example, Turkey on Chinese EVs¹⁰³ and Brazil, India, and Thailand on Chinese goods.¹⁰⁴

Although this trend will likely continue as more countries experience Chinese export threatening their domestic markets, some potential destination countries may lack the political and administrative capabilities for such measures. The EU's anti-subsidy probe can provide a blueprint for how a country can use existing trade rules to push back against China's unfair trade without reverting to localized protectionism. The EU's tariffs are non-discriminatory, not unilateral, and WTO compliant. This provides legitimacy and credibility for the EU and makes it possible for others to adopt similar approaches. Germany can play an active role in this by providing additional support and capacity building to countries launching investigations of their own. By sharing lessons learned from the EU's investigations, Germany can help build a broader coalition of countries channeling trade disputes through the existing international institutions.

 ⁹⁶ Agatha Kratz, Matthew Mingey, and Daniel H Rosen, "Exploring a 'Green List' for EU-China Economic Relations," Bertelsmann Stiftung, September 2020. https://www.bertelsmann-stiftung.de/fileadmin/files/BSt/Publikationen/GrauePublikationen/Green List DA 09 20.pdf (accessed July 27, 2024).
97 Ibid.

^{98 &}quot;Asleep at the Wheel: Car Companies' Complicity in Forced Labor in China," Human Rights Watch, February 1, 2024:

https://www.hrw.org/report/2024/02/01/asleep-wheel/car-companies-complicity-forced-labor-china (accessed July 27, 2024).

 ^{99 &}quot;The Race to Decarbonize Electric-Vehicle Batteries," McKinsey & Company, February 23, 2023: <u>https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/the-race-to-decarbonize-electric-vehicle-batteries;</u> Lakshmi R B, "The Environmental Impact of Battery Production for Electric Vehicles," *Earth.Org*, January 11, 2023: <u>https://earth.org/environmental-impact-of-battery-production/</u> (both accessed July 23, 2024).
100 "An Industrial Blueprint for Batteries in Europe" (see note 94).

^{101 &}quot;Circular Economy: New Law on More Sustainable, Circular, and Safe Batteries Enters into Force," European Commission, August 17, 2023: <u>https://environment.ec.europa.eu/news/news-law-more-sustainable-circular-and-safe-batteries-enters-force-2023-08-17_en</u> (accessed July 23, 2024).

¹⁰² Lucien Mathieu, "France's Eco-Bonus Shows How We Can Promote Cleaner Made-in-Europe EVs," Transport & Environment, December 14, 2023: <u>https://www.transportenvironment.org/articles/frances-eco-bonus-shows-how-we-can-promote-cleaner-made-in-europe-evs</u> (accessed July 23, 2024)

^{103 &}quot;Turkey Imposes 40% Tariff on Vehicle Imports from China," *Reuters*, June 8, 2024: <u>https://www.reuters.com/business/autos-transportation/turkey-impose-40-additional-tariff-vehicle-imports-china-2024-06-08/</u> (accessed July 23, 2024).

^{104 &}quot;Brazil, India, and Mexico Are Taking on China's Exports," The Economist, May 23, 2024: <u>https://www.economist.com/finance-and-economics/2024/05/23/brazil-india-and-mexico-are-taking-on-chinas-exports</u> (accessed July 23, 2024).

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