China’s rise as an automotive exporter is fueled by the growing importance of the country’s globally leading electric vehicle (EV) industry. However, despite the rapidly increasing sales by domestic firms like BYD, many of the EVs exported from China are made by Western companies like Tesla that have significant production capacity in the country. Exports of EVs made in China have critical implications for both legacy carmakers and policymakers in regions like Europe and the United States that have strived to diversify clean tech supply chains away from China while also advancing decarbonization. For the United States and Western Europe, focusing on boosting domestic innovation and manufacturing will continue to be an important tool to face this challenge.

**INTRODUCTION**

In 2022 China surpassed Germany to become the world’s second-largest car exporter, shaking up the industry in ways not seen since Japan in the 1980s and South Korea in the 1990s. In its rise as an automotive exporter, China differs from its East Asian neighbors in at least two ways: first, a large share of exports from China consists of vehicles made by foreign companies rather than by Chinese firms. Second, a new technology—electric vehicles (EVs)—is driving the growth in exports.

Two trends emerge from a careful analysis of trade and investment data:

- **Chinese automakers’ success in the EV sector.** China’s EV companies are becoming globally competitive thanks to both long-standing government support and innovative engineering and economies of scale achieved by Chinese automakers.

- **China’s global importance as an EV manufacturing hub.** Western companies are increasingly using China as an EV manufacturing platform due to its massive manufacturing capacity, favorable policies, and cost-effective production capabilities.

These developments carry crucial policy implications. Traditional automotive exporting countries, such as Germany, Japan, and the United States, risk losing investment and value added to China. The automotive sector is large, accounting for 3 percent of global gross domestic product (GDP), and traditionally has been dominated by developed economies, making it a new focal area for tech competition with China. At the same time, emerging economies may be able to capture more Chinese investment as Chinese brands expand foreign direct investment to capture a higher overseas market share. Legacy carmakers face greater Chinese competition but could leverage China’s attractive
manufacturing ecosystem for exports if they are willing to take on the political risks involved. Finally, enhanced competition could reduce costs, further accelerating the transition and benefiting consumers.

**CHINA’S RISE AS AN AUTOMOTIVE POWER**

In 2009 China overtook the United States as the world’s largest automotive market and producer. However, this did little to reassure policymakers in Beijing who had long worried that China’s automotive sector relied too heavily on foreign companies and that the industry was big but not strong. Since the 1980s China has had localization policies requiring foreign automotive manufacturers to enter joint ventures (JVs) with local partners. However, Chinese companies continued to lag in performance, and international brands retained a leadership position in sales. Starting in 2009, the Ministry of Science and Technology launched a series of policies aimed at developing a domestic EV industry. The goal was to establish leadership in a new technology that could enable Chinese companies to leapfrog and compete more effectively against incumbent firms.

Initially, Beijing’s impetus behind this strategy was to replace foreign producers in the domestic market, but as production picked up, policymakers quickly identified the opportunity to promote the internationalization of Chinese carmakers. These objectives were explicitly outlined in policy documents, including China’s 2017 blueprint for the automotive industry, the **Mid- to Long-Term Automotive Industry Development Plan**. The document set 2020 as the date by which Chinese EV brands should begin to export to developed countries, aiming for the global influence of Chinese automakers to increase so that they would rank among the world’s 10 largest by 2025. Recent data indicate that China is making progress toward meeting those targets.

Figure 1: Chinese Imports and Exports of Passenger Vehicles, 2018–2023

USD, Billions

<table>
<thead>
<tr>
<th>Year</th>
<th>Exports</th>
<th>Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>$0</td>
<td>$60</td>
</tr>
<tr>
<td>2019</td>
<td>$20</td>
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</tr>
<tr>
<td>2020</td>
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<td>2021</td>
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<td>$40</td>
</tr>
<tr>
<td>2022</td>
<td>$20</td>
<td>$40</td>
</tr>
<tr>
<td>Jan-June 23</td>
<td>$20</td>
<td>$40</td>
</tr>
</tbody>
</table>

Note: The HS codes used to look up and calculate EV exports are 870360, 870370, and 870380. Please reference the interactive web version for specific values.

The growth of EV exports from China has reversed the country’s RMB 250 billion automotive trade deficit in record time (see Figure 1). In October 2021, China became a net auto exporter for the first time in decades, and since mid-2022 exports have continuously outperformed imports. The effect of growing EV exports from China has been compounded by the surge in exports of internal combustion engine (ICE) vehicles to Russia amid the retreat of multinational corporations from the market. In the first five months of 2023, China’s auto exports to Russia surged by 421 percent, amounting to $3.6 billion, or 12 percent of China’s total auto exports. Chinese brands like Great Wall and Chang’an have taken over non-Chinese carmakers’ position, with Kia’s market share, for example, dropping from 12 percent in 2021 to just 2 percent in 2023. However, although Chinese auto companies are likely to continue expanding in Russia, the development is less significant on a global scale than the rise of the EV industry.

EVs represent only one-third of China’s overall automotive exports in terms of volume, but they contribute 52 percent of the value of China’s auto exports, making them the primary driver of the reversal in China’s auto trade deficit and of China’s emergence as a major global export power (see Figure 2).

The majority of made-in-China EVs are exported to Europe due to the region’s high demand, low import tariffs, and substantial government subsidies for EVs regardless of origin (see Figure 3). In contrast, China-based producers have largely avoided exporting to the United States, which has a 27.5 percent tariff on automotive imports from China and has tied EV tax credits to local content requirements. In addition, China’s automakers have benefited from government arrangements to facilitate meeting European safety ratings. Most EVs imported from China arrive in ports in Belgium, the Netherlands, or Slovenia, but they are then sold in the United Kingdom, Germany, or Scandinavia.
**CHINESE COMPANIES GO ABROAD**

While JVs between foreign multinationals and Chinese automakers continue to lead sales in ICE vehicles, wholly domestic private Chinese producers have done much better in the rapidly growing EV segment. Now several Chinese brands have capitalized on their domestic success to expand internationally. Some of the most notable strategies include the following:

1. **Leveraging Success in China to Expand Internationally**

   The most visible case is that of BYD, the battery maker that has been at the forefront of the EV transition in China for well over a decade. The company is already a leading manufacturer of electric buses internationally and has several factories globally, including one in California and one in Hungary. It is now starting to export its first passenger vehicles and has indicated it plans to expand manufacturing in Latin America, Southeast Asia, and Europe. Several upscale carmakers like NIO have also started to export to the European market, but their footprint is much smaller.

2. **Acquisition of Foreign Brands**

   Several noteworthy cases demonstrate how Chinese companies have accessed new markets through ownership of Western brands with established reputations. For example, MG, originally a British brand, now owned by SAIC, has been performing well in the UK market even though the vehicles are no longer made in Britain.

   Perhaps the most successful case is Volvo, originally a Swedish automaker, which Geely acquired in 2010 from Ford. In addition to Volvo’s EV lineup, Geely and Volvo have established two JVs aimed at EV production, Polestar and Lynk & Co. These vehicles are produced...
3. Joint Ventures

JVs between Chinese carmakers and foreign manufacturers have long been a staple of China’s automotive industry due to government restrictions on foreign companies owning and operating factories in China without a local partner. Now, however, foreign carmakers are beginning to use existing and new partnerships with Chinese companies to produce vehicles for the export market (see Annex I). For example, as illustrated in Figure 4, a JV between Dongfeng and Renault is proving successful thanks to the strong performance of the Dacia Spring in Europe—perhaps the most notable example of a European brand shifting production for the European market to China. In 2023 the Dacia Spring ranked among the top 10 most-sold models in Europe.

Whereas the Dacia Spring is still designed in Europe and only production has been outsourced to China, this is no longer the case for the iconic Smart brand. Smart, one of the latest European brands to shift production to China, ranked seventh in exports from China in the first half of 2023. The new Smart electric sport utility vehicle (SUV) model is produced in Zhejiang by a JV between Mercedes-Benz and Geely.

Mercedes-Benz has relied on Geely to completely revamp Smart and lead development of the new model. This is a clear role reversal: China is no longer purely a cheap manufacturing hub, and European companies want to tap into the know-how Chinese companies have built over the past decade thanks to early private and public

Figure 4: Chinese EV Exports by Brand, January 2022-June 2023

Number of units sold

Note: Please reference the interactive web version for specific values.
investment in the new technology and China’s large-scale adoption of EVs. The JV builds on the close relationship between Mercedes-Benz and Geely. The latter’s founder, Li Shufu, owns 9.69 percent of Mercedes-Benz.

Reliance on Chinese manufacturing is not limited to lower-cost brands (see Annex 1). BMW has been exporting its iX3 model, produced through its JV with Brilliance Auto at the BMW-Brillance factory in Shenyang since 2020. There are also signs that some Western automakers are partnering with Chinese firms to access Chinese technology and know-how. For example, Volkswagen recently acquired a 4.99 percent stake for $700 million in the Chinese EV start-up Xpeng, which has already exported a few hundred vehicles to Europe. The two companies are looking to collaborate on producing new EV models. At the time of publication, there were reports of another collaboration that would allow Volkswagen to use a platform by a Chinese company, Leapmotor, for its electric Jetta models. Thanks to a previous deal, Volkswagen became the largest shareholder in Chinese battery maker Gotion in 2021. Gotion is now planning to open a factory in Michigan, where Ford and CATL have also partnered to produce batteries using CATL technology.

**FOREIGN CARMAKERS EXPORTING FROM CHINA: A PARADIGM SHIFT?**

In 2022 Tesla accounted for 36.5 percent of all EV exports. In the first six months of 2023, that share went up to 39 percent. JVs between European and Chinese companies accounted for another 9.5 percent. In other words, Chinese companies accounted for almost half of total exports from China in the first half of 2023 (see Figure 5).

Tesla identified its Shanghai plant as its primary export hub as early as 2021 and is likely to strengthen this strategy if it follows through on plans to expand its production in China and increase its global production to 2 million vehicles. The ramp-up of Tesla’s Gigafactory Berlin-Brandenburg could mean fewer exports to Europe and more made-in-China Teslas in other Asian markets.

Some companies are not yet leveraging their manufacturing capacity in China to export but likely will soon. Volkswagen is doubling down on its investments in China despite the fact that its market share continues to decline. The German carmaker plans to invest €1 billion to establish a new research and development center in Hefei. It also announced it will produce the Tavascan E-SUV in Anhui for the European market.

Although some international manufacturers such as Ford are retreating from China, others, including Volkswagen and GM, continue to pursue the Chinese market, the world’s largest, as well as the cost advantages of production in China. In some cases, companies may benefit from financial incentives issued by the Chinese government. Tesla received a beneficial tax rate from the Shanghai government when it invested in its Gigafactory, and it likely obtained loans issued by Chinese banks on favorable terms.

If companies like Volkswagen or Tesla continue to expand production plans in China in the face of stiff competition from Chinese manufacturers, they will have some overcapacity that could flow into the export markets.

**CHALLENGES AHEAD**

The experience of European wind turbine manufacturers shows how companies building manufacturing plants
in China to serve the Chinese market can transition to exporting from China. Vestas, the largest turbine manufacturer until recently, built manufacturing plants in China to comply with strict local content requirements in the 2000s. When Vestas failed to gain market share in China due to competition from Chinese firms, it used those factories and sourced components from suppliers in China to build projects around the world. However, recently, Vestas announced it would be shutting some of its factories in China.

While multinationals in other sectors have long used China as a manufacturing and export hub, this may prove more challenging for auto manufacturers in an era of enhanced geopolitical competition, especially given the importance of the automotive industry to many developed countries. On top of existing high tariffs for automotive imports from China, the United States has introduced local content requirements for batteries and vehicles to qualify for incentives through the Inflation Reduction Act. Current EV incentives in Europe do not include local content requirements, but trade measures to counter the reliance on Chinese exports are increasingly likely. That said, these measures will likely be challenging to introduce given the heavy dependence on China among some of the European Union’s most important carmakers, who fear retaliation and may be planning to use China as an export hub.

**JOURNEY TO THE WEST: CHINESE EV COMPANIES TARGET THE EUROPEAN MARKET**

Even though most European-branded cars sold in China are produced locally, automotive trade between the European Union and China remains substantial and is significant for Europe’s industrial base. Approximately 10 percent of EU exports to China are cars, and 16 percent are cars and auto parts. Notably, auto exports represent the European Union’s third most significant product category in terms of exports to China, with roughly 15 percent of total car exports finding their way into the Chinese market.

Since 2022, however, there have been significant changes in EU-China auto trade dynamics (see Figure 6). The

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**Figure 6: China-EU Automotive Trade, Type of Vehicle (Electric Vehicle vs. Internal Combustion Engine), 2019–2023**

USD, Millions

|                | Q1 2019 | Q2 2019 | Q3 2019 | Q4 2019 | Q1 2020 | Q2 2020 | Q3 2020 | Q4 2020 | Q1 2021 | Q2 2021 | Q3 2021 | Q4 2021 | Q1 2022 | Q2 2022 | Q3 2022 | Q4 2022 | Q1 2023 | Q2 2023 |
|----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Chinese EV Exports | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      |
| Chinese EV Imports  | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      |
| Chinese ICE Exports  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  |
| Chinese ICE Imports  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  | $5,000  |
| Trade Balance       | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      | $0      |

previously robust monthly trade surplus of €2.2 billion, sustained between 2019 and 2021, turned into a trade deficit for the first time in December 2022 despite sustained Chinese imports from Europe over this period. Although EU auto exports to China regained the upper hand over imports in the first quarter of 2023, the trade surplus amounted to merely €469 million in the initial four months of the year. The driver of this trend was the surge in EV exports to Europe.

Unless local production of EVs increases significantly or the European Union makes use of trade defense instruments (a likely outcome of the recently announced anti-subsidy investigation), it is likely that imports from China will continue to rise, and by 2024 the European Union will experience a constant auto trade deficit with China.

The shift in trade may be advantageous for European carmakers and their shareholders. Some, such as BMW, Mercedes-Benz, and Renault, are already actively exporting from China. However, the current dynamics have far-reaching implications for the EU automotive sector and the broader EU industrial base.

The automotive sector is the largest in the European Union, contributing 10 percent of manufacturing value added and operating on a pan-European value chain. German carmakers, for instance, rely heavily on inputs or final assembly conducted in countries like Czechia, Hungary, or Slovakia. In these countries, the automotive industry is even more important than the EU average, with the auto industry representing from 15 to 23 percent of manufacturing value added. Automotive value chains could be seriously disrupted by competition with made-in-China EVs and have a disproportionate impact on these economies.

As passenger cars account for a large chunk of EU exports, the rise of made-in-China EVs has implications not only for EU-China trade but also for EU trade with the rest of the world. European-based car manufacturers will face increasing competition from China in third markets.

The growing number of European producers using China as an export hub highlights a shift in the alignment of national and firm-level interests. These interests are often considered to be in harmony, in that whatever benefits a firm like Volkswagen in China will also benefit Germany, whether through profits sent back to Europe or through workers employed in Europe to serve the Chinese market. However, if current trends continue, the business sector and European governments may be more at odds in the future. Certain governments have acknowledged this disparity and have taken steps to restrict supportive measures, such as investment guarantees, for their companies operating in China. Yet top-level executive delegations accompanied both French president Emmanuel Macron and German chancellor Olaf Scholz on their recent trips to Beijing, indicating that, for now, support for investment in China continues.

MADE-IN-CHINA EVS THRIVE IN EUROPE’S BIGGEST CAR MARKET, BUT CHINESE BRANDS LAG

Made-in-China EVs have had considerable success in Western Europe, but Chinese brands have not experienced the same level of popularity. In the first half of 2023, made-in-China EVs accounted for 11.2 percent of all EVs sold in Germany. However, out of the 32,000 made-in-China EVs sold, only 9 percent
belonged to a Chinese brand (see Figure 7). Instead, most were from Chinese-owned European brands such as MG or Polestar; emerged from JVs between European and Chinese companies, like the Dacia Spring, Smart, or BMW iX3; or were produced by Tesla’s Gigafactory in Shanghai—showing China’s significant progress in exporting vehicles to advanced economies. Nevertheless, Chinese carmakers have a way to go before establishing themselves among leading global car manufacturers.

**GROWING CHINESE INVESTMENT IN EMERGING MARKETS**

The European case reflects the dilemma facing traditional automotive-exporting countries in balancing the interests of domestic companies and fending off the risk of deindustrialization and overreliance on concentrated supply chains with the need to electrify the transportation sector to meet decarbonization targets. In other parts of the world, however, the expansion of Chinese EV makers offers opportunities to attract new investment in advanced industries, build up manufacturing capacity, and develop the market for EVs (see Annex 2). The cases of Thailand and Brazil illustrate some of the different incentives for governments and companies.

**GROWING OPPORTUNITIES IN THE THAI MARKET**

Thailand is quickly becoming a major destination for EV exports from China. The country ranked third in the quantity of EVs it imported from China in 2022, and the average cost of these exported vehicles is rising quickly, reaching about $14,600 in 2023 from about $5,700 in 2022. This indicates that the quality of vehicles imported from China is also increasing. EVs made up 6 percent of all cars sold in Thailand in the first four months of 2023, up from 1 percent in 2022. Chinese automakers seem well poised to take advantage of the government’s incentives to expand domestic EV adoption and already dominate the leaderboard of Thailand’s EV sales (see Figure 8). According to some reports, as much as 75 percent of all EVs sold in Southeast Asia are imported from China. Chinese imports are also facilitated by an exemption from import duties under the existing China-Association of Southeast Asian Nations (ASEAN) trade agreement. Japanese vehicles, by contrast, face 20-80 percent import duties.

However, the Thai government is not interested in simply being a trade partner of China. Its policies are explicitly aimed at building on its existing strengths to attract more EV manufacturing, which it hopes will reach 700,000 vehicles annually, or 30 percent of all auto production, by 2030. In addition to being the second-largest market for auto sales in Southeast Asia, Thailand is an automotive manufacturing hub and a major exporter of ICE vehicles in the region. To maintain its position in the automotive industry, the government introduced a series of financial incentives to promote EV manufacturing, including temporary corporate tax waivers.

The strategy seems to have paid off: there has been a flurry of announcements from Chinese automakers in Thailand, and investment has reportedly soared to $2.2 billion, largely thanks to Chinese companies (see Annex 2). Chinese brands are set to gain a strong position in the Thai market and can win over Bangkok’s support by helping advance Thailand’s industrial policy goals and
making the country a manufacturing hub for exports in the region. A similar trend is observable in other countries in the region, mainly Vietnam and Malaysia, where Geely announced a $10 billion investment, as they position themselves as growing EV markets and producers.

Should current trends continue, the advance of Chinese automakers would likely hurt Japanese automakers that have invested heavily in Thailand over the past few decades but have so far struggled with the transition to EVs. For example, 10 percent of Toyota’s sales are in ASEAN, and while the brand ranks first for overall passenger vehicle sales in Thailand, its EVs are not performing as strongly. The company just started selling its first EV model, produced in Japan, last year in Thailand at a higher price point than the average Chinese-made EV. European and American carmakers have much less of a foothold in the Southeast Asian market but would be even less likely to make progress in these rapidly growing markets should Chinese carmakers succeed in expanding sales and local production.

THE CASE OF BRAZIL: LOW EV PENETRATION, HIGH CHINESE INVESTMENT

While Thailand is succeeding in attracting investment thanks to its burgeoning EV market and strong incentive package for investors, Brazil benefits from its strategic position as the largest market in South America and most important manufacturing hub in the region, as well as from the government’s broader push to attract Chinese investment. The South American country presents an interesting case as it is attracting Chinese companies despite a low level of EV penetration. Chinese carmakers’ advances in Brazil are also consequential for European and American automakers, which are currently leading in sales. For example, Brazil is the third-largest market for both GM and Stellantis.

Despite Brazil’s lack of incentives to promote the sale of EVs, the new government led by President Luiz Inácio Lula da Silva is encouraging Chinese EV companies to set up manufacturing operations in Brazil. For example, Lula personally championed BYD taking over a Ford factory that has been closed since 2021, and his government has reportedly provided incentives for the Chinese company to expand its presence in the country. Investments by Chinese EV makers fit within the broader context of engagement between the two countries, which has seen an uptick since Lula was elected president in October 2022. Unlike his predecessor, Lula has openly welcomed more collaboration with China, including in telecommunications, clean energy technologies, and even semiconductors—a reminder that government policy can play a strong role in attracting foreign investment, which can serve foreign policy goals as well as domestic development ones.

Despite political support for Chinese investment in Brazil, companies will still have to overcome challenges. Perhaps more important is low demand for EVs: only 10,810 units were sold in Brazil in 2022. This low demand is partially due to a long-standing policy in support of biofuels and an underdeveloped charging infrastructure, which is needed to make EVs reliable. Moreover, in all new markets Chinese carmakers enter, they will need to learn rapidly how to operate in what in most cases will be an unfamiliar environment with different regulation, political risks, consumer preferences, and labor relations.

CONCLUSION: ASSESSING NEW CHALLENGES AND OPPORTUNITIES

The speed with which Chinese automotive exports have expanded in the past couple of years has surprised most observers. The Chinese EV industry has grown and is changing global trade patterns so rapidly that many of the investments identified in this brief were announced only in the last few months. Although many fault lines are only just emerging, some trends are clear.

The Chinese EV industry is in an advantageous position. As global EV demand grows, Chinese companies can leverage their domestic experience to serve new markets and consolidate their position. Meanwhile, the country is also becoming a manufacturing hub for international companies and a recipient of new investment, including in research and development, increasing China’s value added in the global automotive industry. However, the industry is ripe for consolidation, and while overseas expansion will enable some Chinese companies to explore new markets, others will struggle to manage the risk associated with internationalization.
China’s rise as an export hub challenges advanced economies. For Europe, North America, South Korea, and Japan, China’s rise could have negative consequences. The country’s share of global automotive production will likely rise further with producers (including foreign ones) now manufacturing cars not only for local consumption but also for exports. This has the potential to reduce advanced economies’ share of global auto production with negative implications for employment and industrial competitiveness.

Challenges to de-risking efforts. If China becomes an export hub and more manufacturing is concentrated in the country, this trend will directly challenge efforts by other countries to diversify and de-risk the supply chain. Moreover, multinational corporations will find it more challenging to diversify their markets as competition with Chinese firms intensifies globally.

New opportunities and risks for emerging economies. Chinese greenfield investments in raw material processing, battery, and EV production can offer compelling opportunities for the Global South. In some cases, these countries may even encourage competition and attract further investment from third countries. However, increased dependencies on China carry risks. Beijing has been known to use its economic might to punish countries that challenge its position in international affairs.

Foreign carmakers face a China dilemma. While some international carmakers are doubling down on their presence in China, others, like Stellantis, are essentially retreating. Although this reduces their exposure to political risk, they may miss out on the vast opportunities the world’s largest and most competitive and innovative automotive market presents. Such automakers have become leading advocates for implementing trade barriers against made-in-China EVs to protect their domestic market positions. However, companies like Ford may find their relationship with Chinese companies creates political challenges at home, even if they are less invested in the Chinese market than before.

Enhanced competition is likely a good outcome for consumers. Competition is already driving down prices and incentivizing innovation, which is good news for consumers and a positive development in fighting climate change. However, many challenges remain unaddressed in improving carbon emissions involved in the production process and the environmental impact of mining and refining.

China’s rise as an EV manufacturing center poses clear challenges that the United States and Europe will need to confront. On both sides of the Atlantic, policymakers should be careful to balance the desire to protect domestic manufacturers and diversification goals with the risk of increasing costs undermining the industry, reducing competition, and slowing down the transition.

Policymakers in Washington should carefully observe how the EV industry evolves in Europe, which may serve as a bellwether. Exports from China to the United States remain very low due to high tariffs and relatively low EV demand prior to the Inflation Reduction Act coming into force. Polestar, which is scheduled to start production in South Carolina in 2024, is so far the only brand that sells EVs produced in China in the United States.

In contrast to the United States, the European Union has remained relatively open to Chinese greenfield investment and EV exports, so it faces somewhat different challenges. The European Union’s open stance, coupled with its ambitious decarbonization targets, has led the continent to become the primary target for made-in-China EVs. This stands to benefit consumers but could risk undermining the EU industrial base.

Given these shared challenges, policymakers should focus on the following:

- **Continue to strengthen innovation and incentivize companies to pursue decarbonization technologies.** Attempting to slow down the EV transition would only put Chinese firms in an even more competitive position since global demand continues to grow. Initial frameworks and regulations are already in place, including the Inflation Reduction Act in the United States and the Net-Zero Industry Act in Europe. Many of these policies hinge on attracting investment to expand domestic manufacturing capacity. In some cases, Chinese firms may be able to provide the investment and technology to help meet those goals.

- **Support firms in competing more effectively rather than shielding them from competition.** Further shielding firms from external competition...
would likely result in higher prices and a slower EV transition. Increasing firm incentives to double down on EVs—for instance, through stricter emission regulation, targets for phasing out ICE sales in the United States, or even a carbon tax—could be considered instead.

- **Adopt or alter policies to prevent excessive outsourcing of manufacturing.** Governments, especially in Europe, should recognize that domestic companies’ goals may not always align with broader national economic interests. Outsourcing of production might accelerate deindustrialization.
  
  » The EU commission recently announced an anti-subsidy **investigation into EV imports** from China, which could lead to the adoption of trade defense instruments such as antidumping duties. Such measures, if adopted, could be useful in mitigating the growing flow of imports but should be paired with incentives aimed at increasing investment domestically to avoid undermining the industry as a whole.
  
  » In Europe, there is room for incentivizing local production and improving coordination on policies to attract and retain investment—especially through requirements linked to subsidies.

- **Maintain openness to Chinese greenfield investment when it meets labor, environmental, and human rights standards in the United States and the European Union.** Openness requires due diligence and relative transparency on the part of Chinese firms and better access to Chinese data, which has been a challenge in recent years. American and European policymakers should also seek to incentivize Chinese companies to help develop local supply chains so as to support diversification efforts.

- **Enhance cooperation between the European Union and the United States and other partners.** Policymakers should better define and align de-risking strategies to provide companies with guidance as they plan out their supply chains. Actions include better defining under what conditions Chinese supply chains and investments are welcome. Platforms like the Trade and Technology Council, which already hosts discussions on de-risking, or the Group of Seven (G7) may be good venues to further this type of dialogue. How to provide alternative sources of financing and investment for developing countries should also be a topic of discussion.

- **Improve data collection and analysis on EV supply chains.** Better data and analysis on costs, capacity, and supply chains, including how these are changing, will enable policymakers to make better-informed decisions that take into account trade-offs and potential impact.

Made-in-China EVs and Chinese producers will play a pivotal role in the global transition to EVs and reshape current dynamics in the automotive industry. Governments around the world will need to develop new strategies to confront, capitalize on, and manage related risks moving forward. The United States and Europe are in a key position to take advantage of the current moment to refine their policies and advance their position in these supply chains.

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### ANNEX 1: FOREIGN CARMAKER EV EXPORTS FROM CHINA

<table>
<thead>
<tr>
<th>Foreign Carmaker</th>
<th>Partner (if applicable)</th>
<th>Model(s)</th>
<th>Status</th>
<th>Units Exported or Production Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMW</td>
<td>Brilliance Auto</td>
<td>BMW iX3</td>
<td>Exporting</td>
<td>In a three-year period beginning in 2020, BMW exported an estimated <strong>33,000 units</strong>.</td>
</tr>
<tr>
<td>BMW</td>
<td>Great Wall Motor</td>
<td>E-Mini</td>
<td>Announced</td>
<td>The estimated annual production capacity is <strong>160,000 units</strong>.</td>
</tr>
<tr>
<td>General Motors</td>
<td>SAIC-Wuling</td>
<td>Hongguang Mini-EV, Air EV, Spark EV</td>
<td>Exporting</td>
<td>From August 2022 to May 2023, the Air EV model achieved sales of <strong>8,800 units</strong> in Indonesia.</td>
</tr>
<tr>
<td>Honda</td>
<td>Dongfeng</td>
<td>CR-V, E:NS1</td>
<td>Exporting</td>
<td>The first <strong>300 units</strong> of CR-Vs were exported on May 15, 2023. Honda also announced annual EV production targets of <strong>120,000 units</strong> in China starting 2024.</td>
</tr>
<tr>
<td>Hyundai</td>
<td>BAIC</td>
<td>—</td>
<td>Announced</td>
<td>—</td>
</tr>
<tr>
<td>Kia</td>
<td>Yueda/Dongfeng</td>
<td>EV5</td>
<td>Announced</td>
<td>—</td>
</tr>
<tr>
<td>Mercedes-Benz</td>
<td>Geely</td>
<td>Smart</td>
<td>Exporting</td>
<td>Annual production is reported to be <strong>120,000 units</strong>. From January to May 2023, Geely exported <strong>17,504 units</strong> of the Smart model.</td>
</tr>
<tr>
<td>Morris Garages—MG (CN)</td>
<td>SAIC</td>
<td>Mulan</td>
<td>Exporting</td>
<td>In September 2022, SAIC exported <strong>10,000 units</strong> of MG Mulan vehicles to the European market. Chinese sources also indicated an export of <strong>29,667 units</strong> of the model during Q1 2023.</td>
</tr>
<tr>
<td>Renault-Nissan-Mitsubishi</td>
<td>Dongfeng</td>
<td>Dacia Spring</td>
<td>Exporting</td>
<td>From January to May 2023, total exports of the model were <strong>32,246 units</strong>. Annual exports in 2022 were 63,709 units.</td>
</tr>
<tr>
<td>Stellantis</td>
<td>Dongfeng</td>
<td>C5 X (PHEV)</td>
<td>Exporting</td>
<td>Total exports were 1,238 units as of March 2022, with an annual production capacity of <strong>300,000 units</strong>.</td>
</tr>
<tr>
<td>Tesla</td>
<td>—</td>
<td>Model Y, Model 3</td>
<td>Exporting</td>
<td>From January to May 2023, Tesla exported <strong>162,966 units</strong> of Models Y and 3 from China.</td>
</tr>
<tr>
<td>Volkswagen</td>
<td>JAC</td>
<td>Tavascan</td>
<td>Announced</td>
<td>VW announced plans to produce <strong>70,000 units</strong> of the Tavascan model in China for export to Europe.</td>
</tr>
<tr>
<td>Volvo (CN)</td>
<td>Geely</td>
<td>Polestar 1, Polestar 2, S80 Recharge</td>
<td>Exporting</td>
<td>Total exports of the Polestar model from January to April 2023 were <strong>15,633 units</strong>.</td>
</tr>
</tbody>
</table>
## ANNEX 2: PLANNED AND EXISTING CHINESE EV FACTORIES IN THAILAND

<table>
<thead>
<tr>
<th>Location</th>
<th>Chinese Company</th>
<th>Local Partner</th>
<th>Investment (USD mil)</th>
<th>Status</th>
<th>Production Capacity</th>
<th>Year Announced</th>
<th>Estimated Production Start</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Economic Corridor (Chachoengsao, Chonburi and Rayong Provinces)</td>
<td>Changan</td>
<td></td>
<td>250</td>
<td>Announced</td>
<td>100000</td>
<td>2023</td>
<td>2024</td>
</tr>
<tr>
<td>Chachoengsao</td>
<td>GAC Aion</td>
<td>Gold Integrate</td>
<td>185</td>
<td>MoU</td>
<td>100000</td>
<td>2023</td>
<td>2023</td>
</tr>
<tr>
<td>Bangkok</td>
<td>Hozon</td>
<td>Bangchan General Assembly</td>
<td>285</td>
<td>Under construction</td>
<td>20000</td>
<td>2023</td>
<td>January 2024</td>
</tr>
<tr>
<td>Rayong</td>
<td>BYD</td>
<td></td>
<td>491</td>
<td>Under construction</td>
<td>150000</td>
<td>2022</td>
<td>2024</td>
</tr>
<tr>
<td>Rayong</td>
<td>Great Wall Motors</td>
<td></td>
<td></td>
<td>Operating</td>
<td></td>
<td></td>
<td>2021</td>
</tr>
<tr>
<td>Chonburi</td>
<td>SAIC</td>
<td>Charoen Pokphand</td>
<td>14.4</td>
<td>Under construction</td>
<td></td>
<td>2023</td>
<td>2023</td>
</tr>
</tbody>
</table>