

# GREENING EUROPE

Report on the Development of  
Chinese NEV Manufacturers in Europe



欧盟中国商会  
CHINA CHAMBER OF COMMERCE TO THE EU



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## Message from Xu Chen

### **Chairman of the China Chamber of Commerce to the EU**

A wave of environmental awareness is sweeping across China, Europe, and the rest of the world. This green transformation, driven by the struggle against climate change and the goal of sustainable development, is another area in which Europe has led the way, establishing the worldwide roadmap towards carbon neutrality. At the same time, China has established itself as an irreplaceable actor in the field, making important contributions to emissions reduction, energy transition, and a sustainable future.

China and the EU can look back at a pretty long and successful history of cooperation on green issues. From the joint signature of the Paris Agreement to the establishment of the China-EU green partnership, the two sides have jointly promoted international green financial standards, the establishment of carbon emissions trading markets, the pursuit of renewable energy, and the common development of ecological goals.

Green development has become a new pole of China-EU cooperation, propelling the recent expansion of their economic and trade ties. China has quickly become a global player in the green economy with rapid progress in new energy, green manufacturing, renewables, and other sectors. Europe, with its expertise in energy efficiency, low-carbon technologies, and environmental regulations, is a natural partner for China. Both sides should benefit from a strategic partnership on green areas in their transition.

This mutually beneficial interdependence, however, faces growing political complexities and subtleties. Since the latter half of 2023, business confidence has been shaken by emerging concerns. In a historic move and a major source of contention, the European Commission launched an anti-subsidy investigation into Chinese electric vehicles (EVs) in October 2023.

This investigation marks a potential turning point in EU economic policy, implying a shift towards inward-looking tendencies. Globalization is evolving, with an increase in near-shoring and friend-shoring of supply chains. This, coupled with the “Spaghetti Bowl” effect of complex trade rules, has influenced the EU’s new strategic choices in the face of global challenges like COVID-19, geopolitical conflicts, and major power competition.

The EU’s policy shift has directly impacted businesses in the new energy sector, particularly our chamber members. Through over ten rounds of extensive discussions with companies across the new energy supply chain – from carmakers and battery plants to parts suppliers, logistics providers, warehouses and financial institutions – we’ve witnessed the industry’s mounting pressure and anxieties.

These anxieties intensified as EU policy unfolded. In March 2024, the EU implemented customs registration for Chinese EVs. Further uncertainty arose as the European Commission is expected to impose provisional anti-subsidy duties in July. To assess the impact on Chinese EV companies in Europe, China Chamber of Commerce to the EU (CCCEU) partnering with Xinhua News Agency’s China Economic Information Service (CEIS), conducted a comprehensive survey in April and May 2024. Questionnaires, in-depth interviews, and seminars were used to gather data.

This report is a first-of-its-kind initiative by the CCCEU, focusing on a specific industry – China’s new energy vehicles (NEVs) sector in Europe. It aims to provide a realistic picture of the challenges faced by these companies amidst complex circumstances. The report will track the specific impacts of EU investigations and propose concrete recommendations to strengthen China-EU cooperation in the development of NEVs.

Despite the challenges, most surveyed companies remain committed to Europe as a key strategic market. They believe Chinese EVs excel in technological innovation, robust supply chains, and intelligent functionalities. Many companies are determined to expand their presence in Europe. We call on EU and Chinese businesses to work together. The EU should recognize the contributions of Chinese companies to the green transition both in Europe and globally. By fostering a fair, equitable, and non-discriminatory business environment, we can solidify the China-EU green partnership.



## Message from Pan Haiping Chairman of the China Economic Information Service

The vast Eurasian continent is a cradle of human civilization.

China and Europe, Eurasia's powerhouses at opposite ends, are two major forces advancing multipolarity, two major markets in support of globalization, and two major civilizations championing diversity. Their interactions hold strategic significance for global prosperity and diversity.

As the world undergoes profound changes, China and Europe share broad common interests and a solid foundation for cooperation. A stable China-EU relationship can be a beacon of stability in a turbulent world – by working together, they can promote economic globalization and tackle global challenges. Ultimately, fostering healthy China-EU relations will contribute significantly to global development and a more stable future.

Despite a slowdown in global trade, China-EU trade in goods remained robust, reaching \$783 billion last year. This has solidified their position as each other's largest trading partners. China's imports from Europe fuel its growing consumption and economic development. In return, China's exports of NEVs, electronics, and other goods accelerate Europe's green and digital transitions, and their affordability help European businesses and citizens save money. This mutually beneficial relationship extends beyond trade. Since 2022, European multinationals like BMW, Volkswagen, and Stellantis have ramped up investments in China, fostering innovation and competition in both markets.

Concerns regarding China's growing NEV exports have surfaced in some countries. In Europe, certain voices have exaggerated the notion of a "China challenge", politicizing and securitizing economic matters. These voices call for "de-risking" strategies to reduce "dependence on China",



which ultimately will reduce opportunities for cooperation. We must remember that non-cooperation, not globalization, poses the greatest threat in today's interconnected world. Stagnation, not development, breeds insecurity.

China, the world's largest auto market, welcomes continued investment from global automakers, including those from Europe. European carmakers have a long history of success in China, demonstrating the openness of the Chinese market. Similarly, Chinese companies entering Europe contribute technological progress, strong corporate capabilities, and public well-being. This interconnectedness between China and Europe's automotive industries presents exciting opportunities for collaboration, especially in realizing the shared goal of a green transition.

The China Economic Information Service (CEIS) is a leading provider of economic information in China, with a particular focus on the NEV industry. We offer comprehensive information services, including news, data, reports and industry analysis. CEIS actively promotes China-Europe economic and trade cooperation through information dissemination, communication and expert consultations.

This report leverages surveys, site visits, and in-depth analysis to assess the current landscape of Chinese electric vehicle sales, production, and investment in Europe. We examine the contributions of Chinese NEVs to Europe's green transition, identify the sources of their competitiveness, and propose concrete recommendations to strengthen cooperation between China and Europe's automotive industries.

The International Energy Agency forecasts a booming NEV market, with global demand reaching 45 million units by 2030. China and Europe have a unique opportunity to transform the current supply chain into a "win-win" opportunity through collaboration. By fostering an "incremental innovation" approach, we can jointly make a great contribution to the world's green transition and economic growth.

# 01

## Chapter 1

# Trade Barriers Discouraging Chinese Investors in Europe

### Core Concerns and Recommendations :

**The EU's provisional countervailing duties is raising doubts about the Europe's open market environment.**

- Amid a surge of trade protectionism: targeted actions will hurt the confidence of Chinese investors.
- Chinese companies investing and operating in Europe feel the business environment is worsening.
- Chinese investors face more uncertainties and are becoming more cautious with their investments.

**Chinese investors in Europe call on the EU to adhere to the WTO's national treatment principles and avoid discriminatory practices against them.**

- Recreating a fair and nondiscriminatory business environment is critical for fostering a positive business climate.
- Preventing politicizing trade and over-securitization is necessary to increase foreign investors' confidence in their operations.



Since October 2023, the European Commission has taken several actions related to China's EV industry. These include launching an anti-subsidy investigation into Chinese EV imports and increasing scrutiny of trade practices. This trend toward trade protectionism has received significant attention from various sectors.

Statistics reveal that the EU has imposed dozens of trade protectionist measures against China since January 2024. The frequency and intensity of these actions have substantially increased the probability of China-EU trade friction.

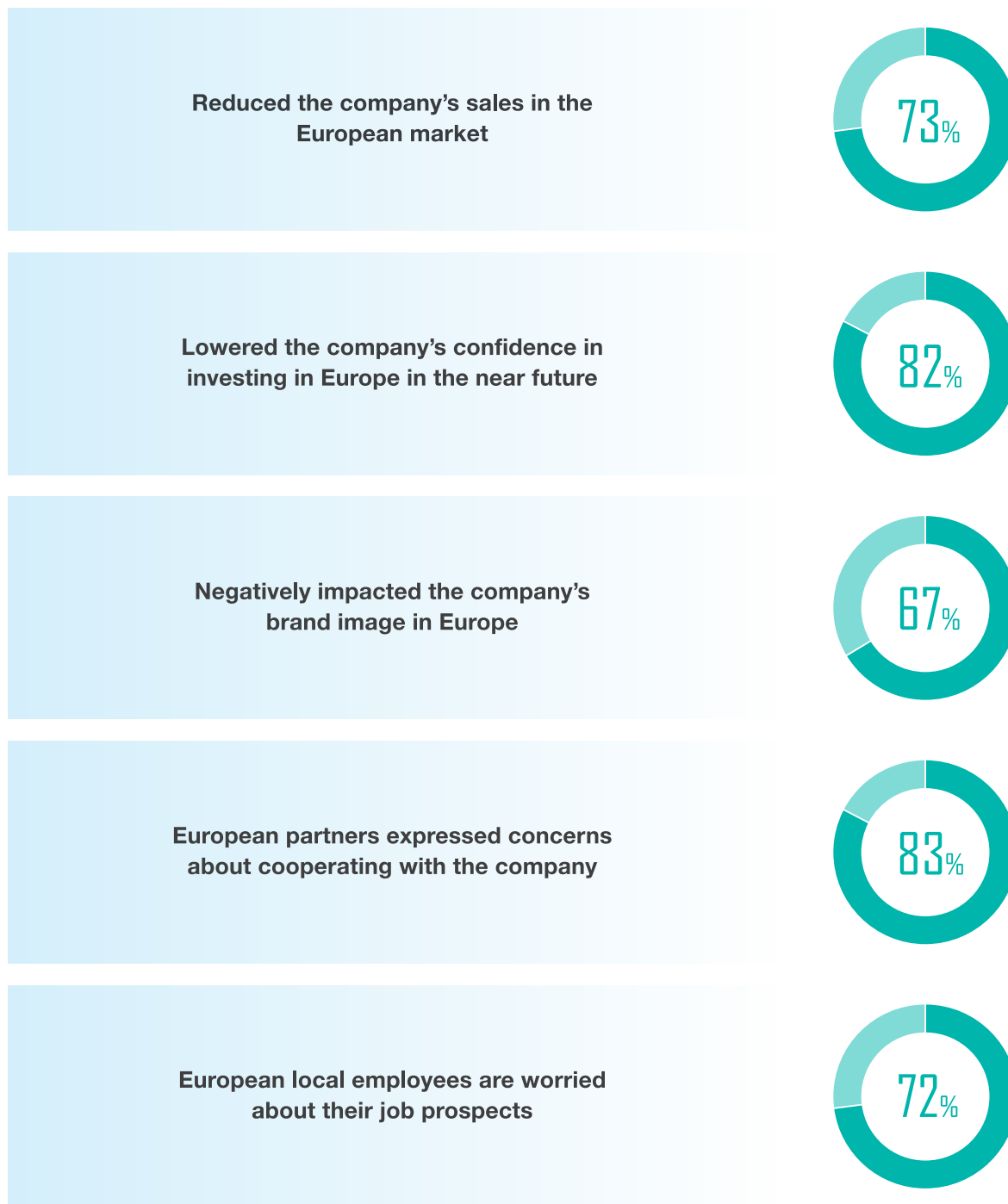
On 12 June 2024, the European Commission announced provisional countervailing duties on electric vehicles imported from China, which will take effect in early July. These duties will range between 17.4% and 38.1%. China's Ministry of Commerce expressed deep concern and dissatisfaction, while the industry expressed disappointment and outright opposition.

To assess the impact of policy changes on China-EU EV cooperation, the China Chamber of Commerce to the EU (CCCEU) and the China Economic Information Service (CEIS) conducted a survey examining the development status of Chinese EVs in Europe. This in-depth survey included interviews with key players across the entire vehicle and industry chain sectors, with participation from over 30 NEV companies and institutions.

The survey results show that over 73% of respondents reported a decline in sales in the European market due to the investigation. The investigation led to a significant decline in investment confidence (82%) among respondents. Brand reputation also suffered, with 67% of companies believing the investigation to have damaged their image. Furthermore, 83% of companies reported concerns from their European partners, resulting in collaboration delays and reduced cooperation. The uncertainty also impacted employee morale, with 72% of respondents reporting worries among their local European staff about job prospects.

Fig. 1-0-1

### Impact of the EU Anti-Subsidy Investigation on Chinese EV Imports



Source: CCCEU & CEIS

■ Yes ■ No

## 1.1 Deteriorating Business Environment for Chinese Automakers in Europe

Chinese automotive companies in Europe are facing a challenging business environment. The majority polled believe heightened trade tensions have led to a trend of politicization in economic activities. The EU has increased scrutiny of Chinese automotive imports, raising concerns about compliance with WTO regulations and discriminatory enforcement of these measures.

According to the 2022 report on the EU's trade defence activities, by the end of 2022, Chinese companies accounted for 59% of the 117 anti-dumping and 48% of the 21 anti-subsidy measures implemented by the EU. These figures are significantly higher than those of Russia, the second-highest in anti-dumping (9%), and India, the second-highest in anti-subsidies (19%).

The EC launched an investigation into Chinese EV imports without formal complaints from EU companies. This has caused significant concern and disappointment among businesses, who believe the investigation could raise the cost of electric vehicles, complicate business operations, and potentially delay the widespread adoption of zero-emission vehicles in Europe, ultimately undermining the EU's green transition goals.

According to the surveyed companies, the new policies will significantly increase operating costs for Chinese automotive companies in Europe. This includes increased spending on legal compliance specialists, new positions, and external consulting expenses, all of which add to the existing uncertainty.

The negative press and policy direction create additional barriers, making it harder for Chinese companies to attract top European talent.

“We strongly oppose the use of tariffs to impede normal international trade in new energy vehicles. New energy vehicles are critical for environmental protection, lowering carbon emissions, and promoting sustainable development.”

— *William Li, founder of NIO*<sup>1</sup>

<sup>1</sup>Source: Xinhua News Agency, “William Li, founder of NIO: New Energy Vehicles Critical to Global Sustainability”, 31 May 2024.

## 1.2 Uncertainty in the China-EU Automotive Partnership

The EC's recent actions regarding Chinese EV imports have created uncertainty within the China-EU automotive partnership. This uncertainty affects not only Chinese companies operating in Europe but also European businesses that collaborate with them. For instance, European distributors and leasing companies are concerned about the potential impact on the sales and marketability of Chinese EVs in Europe.

According to surveyed automakers, dealers, and leasing companies – critical partners in the vehicle sales process – concerns about the ongoing EU investigation into Chinese EV imports have led to decreased enthusiasm and cooperation. This is reflected in changes to collaboration agreements with Chinese automakers, such as revised sales targets and profit requirements. These changes hinder the overall growth of the automotive industry.

Furthermore, several surveyed companies reported inquiries from dealers and customers concerned about potential Chinese automaker investment reductions or even market withdrawal.

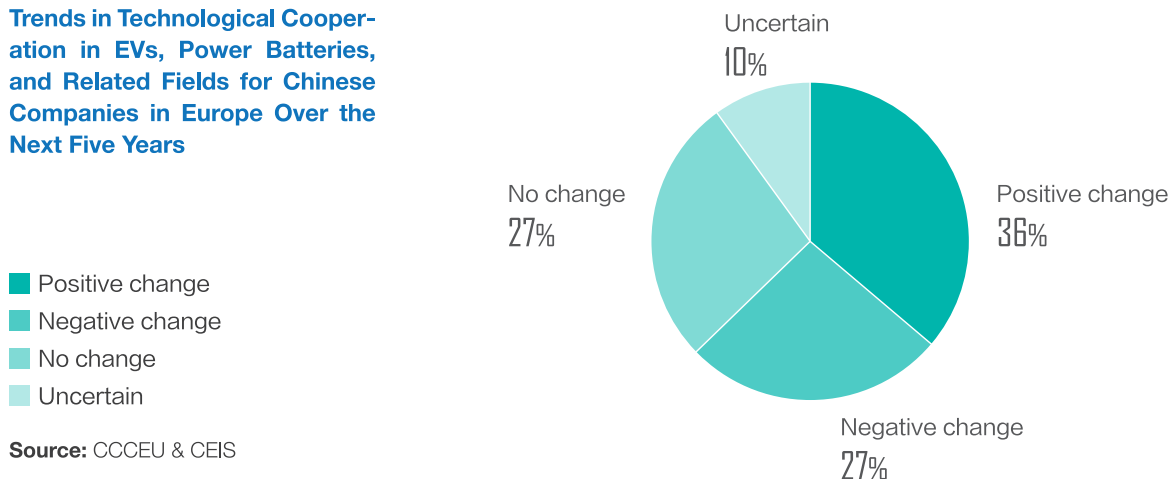
While increasing localization in Europe remains a long-term strategic goal for these companies, the EU's actions have clearly dampened enthusiasm for such efforts.

## 1.3 Calls for a Fairer, Nondiscriminatory Business Environment

The survey also assessed industry sentiment regarding the impact of the EU's measures on China-EU technological cooperation in electric vehicles, power batteries, and related fields. Here's a breakdown of the survey results: 36% of surveyed companies said they would increase cooperation, 27% said there would be no impact, and 27% said there would be negative impacts.

Fig. 1-3-1

**Trends in Technological Cooperation in EVs, Power Batteries, and Related Fields for Chinese Companies in Europe Over the Next Five Years**

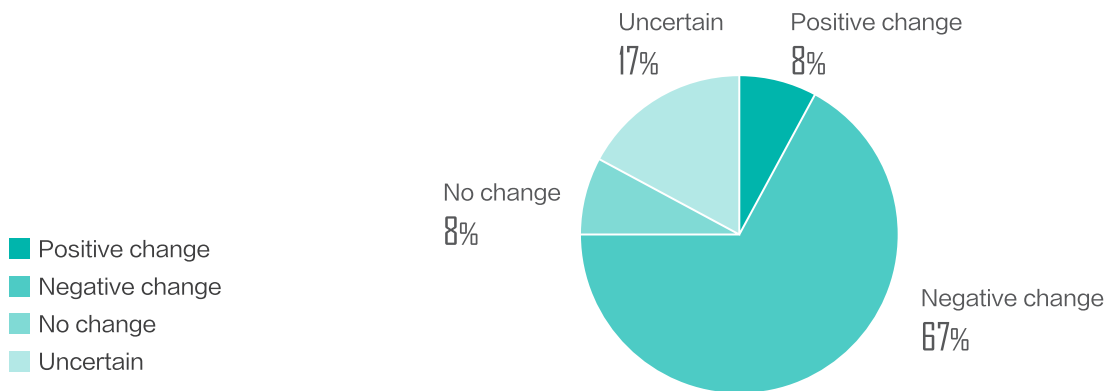


Source: CCCEU & CEIS

More than 60% of respondents said the EU's measures would have a negative impact on future Chinese exports to Europe. Approximately 50% believed it would have a negative impact on the number of direct and indirect jobs created locally in Europe.

Fig. 1-3-2

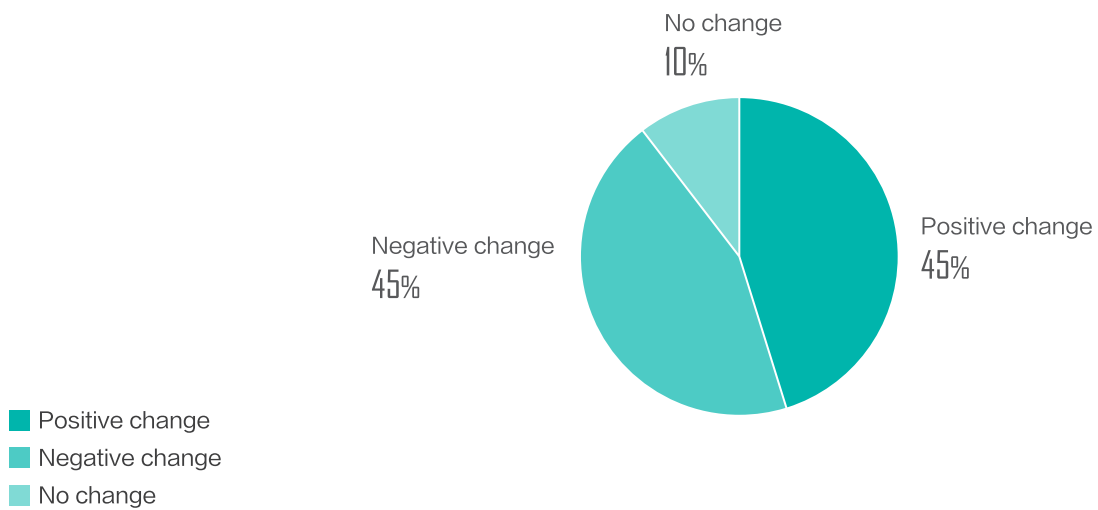
**Impact of the EU Anti-Subsidy Investigation on Future Exports of Related Products**



Source: CCCEU & CEIS

Fig. 1-3-3

**Impact of the EU Anti-Subsidy Investigation on the Creation of Direct and Indirect Jobs in Europe**

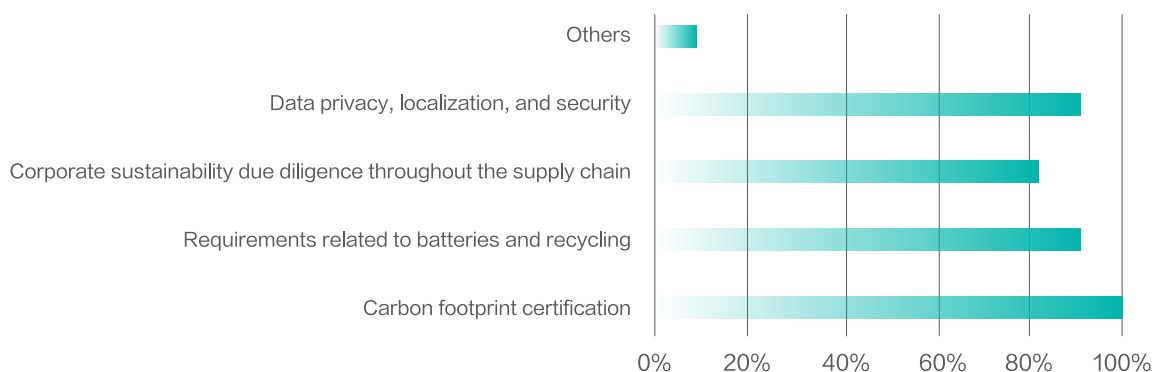


Source: CCCEU & CEIS

Chinese companies in the NEV industry chain are wary of potential regulatory hurdles and compliance challenges arising from the EU's evolving policies. These include requirements related to: carbon footprint certification, battery sustainability and recycling, corporate sustainability due diligence throughout the supply chain. Additionally, data privacy regulations, localization mandates, security concerns, and the potential implementation of the Carbon Border Adjustment Mechanism (CBAM) are also areas of concern.

Fig. 1-3-4

**Additional Barriers Faced by Companies in Europe Beyond the Anti-Subsidy Investigation**

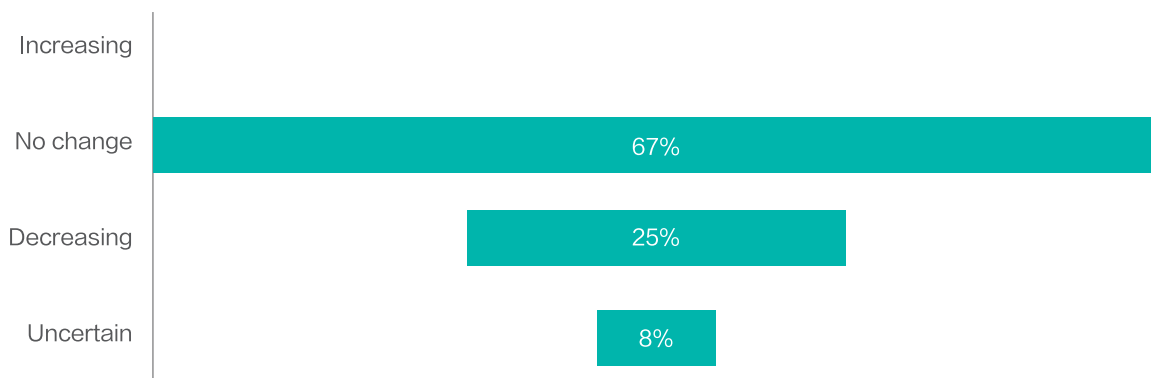


Source: CCCEU & CEIS

Despite these challenges, over 60% of businesses believe the European market remains critical to their global strategy. They intend to expand their presence in Europe by establishing factories for electric vehicle production within the next five years. This expansion is expected to create new job opportunities, with some companies planning to hire more than 200 people locally in 2024.

Fig. 1-3-5

**Impact of the EU Anti-Subsidy Investigation on the Importance of European Operations for Companies**



Source: CCCEU & CEIS



### Trends in Local Factory Establishment in Europe Over the Next Five Years

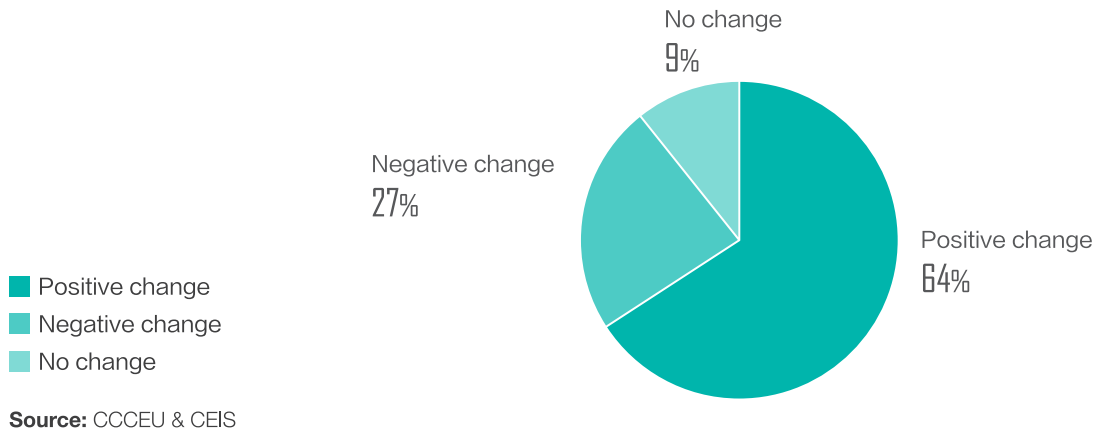
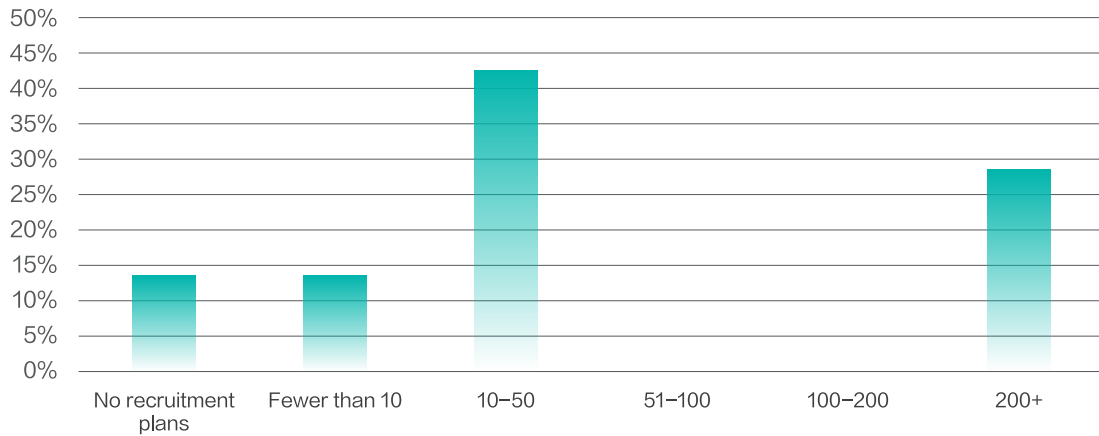


Fig. 1-3-6

### Projected Scale of New Employee Recruitment in Europe in 2024



“We earnestly hope that the EU will listen to the voices of automakers from both China and Germany, act to prevent the creation of artificial trade barriers for NEVs, and promote a fair competitive market environment. We at SAIC Motor firmly believe that open dialogue and cooperation are essential to overcoming challenges and achieving mutual benefits.”

— SAIC Motor<sup>1</sup>

<sup>1</sup>Source: SAIC Motor's public statement regarding the European Commission's decision to impose anti-subsidy duties on EVs imported from China, 13 June 2024.

## 1.4 Part of European Automotive Giants Oppose Anti-Subsidy Investigation

Since the EC announced an anti-subsidy investigation into Chinese EVs, there has been widespread opposition from the European business community.

Some European automakers, which the EU aims to “protect”, are opposing the anti-subsidy investigation. They argue that after decades of collaboration and competition, the global automotive industry has become highly integrated. The China-EU automotive sector is a prime example of this, characterized by deep mutual integration. An investigation of this nature could disrupt established supply chains and hinder joint research and development efforts, ultimately harming both European and Chinese automotive industries.

Major European automakers have long held a significant market share in China, whereas Chinese EVs have only recently entered the European market. Some European automakers argue that the investigation will not only fail to improve the competitiveness of European brands but also hinder access to cutting-edge EV technology from China, ultimately slowing the transition to zero-carbon emissions in Europe.

“This is a wrong approach. The European Commission’s decision harms European businesses and interests. Protectionism may set off a vicious cycle, with tariffs leading to more tariffs and isolation. Imposing import tariffs and other protectionist measures will not help BMW Group compete in the global market.”

— *Oliver Zipse, CEO of BMW*<sup>1</sup>

“Tariffs are a major trap for the countries that go on that path and will not allow Western automakers to avoid restructuring to meet the challenge from lower cost Chinese manufacturers. Tariffs would only fuel inflation in the regions where they are imposed, potentially impacting sales and production.”

— *Carlos Tavares, CEO of Stellantis*<sup>2</sup>

“What the European automotive sector needs above all else to be globally competitive is a robust industrial strategy for electromobility. This means ensuring access to critical materials and affordable energy, a coherent regulatory framework, sufficient charging and hydrogen refilling infrastructure, market incentives, and so much more.”

— *Sigrid de Vries, ACEA Director General*<sup>3</sup>

<sup>1</sup>Source: Frankfurter Allgemeine Zeitung website, “BMW CEO Criticizes EU Decision: Protectionism,” 12 June 2024.

<sup>2</sup>Source: Reuters, “Stellantis CEO: electric vehicle tariffs are a trap”, 22 May 2024.

<sup>3</sup>Source: ACEA website, “China anti-subsidy investigation: provisional duties”, 12 June 2024.

## 1.5 China's EV Purchase Subsidy Already Phased Out

Industrial subsidies originated in the United States and Europe, and many countries and regions around the world, including the US, the EU, and China, have adopted them to help their industries develop quickly in their early stages.

China's NEV purchase subsidy policy underwent several adjustments and reductions. The subsidies of RMB 4,800 yuan (€ 610) per vehicle for plug-in hybrid electric vehicles (PHEVs) and RMB 12,600 yuan (€1,600) per vehicle for battery electric vehicles (BEVs) were completely phased out on 31 December 2022. This phased reduction and eventual cancellation strategy reflects the Chinese government's determination to push the industry towards market-oriented development.

In contrast, many Western economies continue to support the NEV industry with tax breaks and purchasing subsidies. As of 2023, 20 of the 27 EU member states offer financial incentives for NEVs. The remaining seven EU member states – Belgium, Bulgaria, Denmark, Finland, Latvia, Slovakia, and Sweden – rely on tax breaks for NEV purchases.

A key point of contention is the level of government support. According to research conducted by SDIC Securities, European national subsidies for purchasing BEVs can reach around €4,000 (¥30,000), exceeding China's previous subsidy levels in some overlapping areas.

Fig. 1-5-1

### Summary of EV Incentives by European Countries (2022-2023)

Countries	Contents	Status
	<ul style="list-style-type: none"> <li>● <b>BEV Purchase Tax:</b> Exempt from purchase tax from 1990 to 2022. Starting in 2023, vehicles weighing over 500 kg are subject to a weight tax of 12.5 NOK per kg.</li> <li>● <b>Value-Added Tax (VAT):</b> Exempt from VAT from 2001 to 2022. Starting in 2023, a 25% VAT is levied on the portion of the BEV price exceeding 500,000 NOK.</li> </ul>	
<b>Norway</b>	<ul style="list-style-type: none"> <li>● <b>Road Tax:</b> Exempt from road tax from 1996 to 2021. Normal road tax applies from 2022 onwards.</li> <li>● <b>Benefit-in-Kind (BIK) Tax Rate:</b> 30% from 2022 onwards. Company car tax reduction: 25% from 2000-2008, 40% from 2009-2017, and 20% from 2022 onwards.</li> </ul>	<b>Gradual phase-out</b>

Countries	Contents	Status
	<ul style="list-style-type: none"> <li>● <b>Toll Roads:</b> Free from 1997 to 2017. Charges not exceeding 50% from 2018-2022. Charges not exceeding 70% from 2023 onwards.</li> <li>● <b>Ferry Fees:</b> Free from 2009 to 2017. From 2018, ferry fees must not exceed 50% of the total cost.</li> <li>● <b>Municipal Parking Fees:</b> Free from 1999 to 2017.</li> </ul>	
Sweden	<ul style="list-style-type: none"> <li>● <b>Until 7 November 2022:</b> Purchase of BEVs and FCEVs eligible for a maximum subsidy of 70,000 SEK, not exceeding 25% of the vehicle price. Purchase of PHEVs with CO<sub>2</sub> emissions below 50 g/km eligible for a maximum subsidy of 20,000 SEK. No subsidies for NEVs priced over 700,000 SEK.</li> <li>● <b>From 8 November 2022:</b> All NEV subsidies were completely abolished.</li> <li>● <b>From 1 January 2023:</b> BEVs eligible for a maximum subsidy of 50,000 SEK, and PHEVs eligible for a maximum subsidy of 10,000 SEK.</li> </ul>	
Germany	<ul style="list-style-type: none"> <li>● <b>2016-2022:</b> BEVs and PHEVs priced below €40,000 were eligible for subsidies of €6,000 and €4,500, respectively. BEVs and PHEVs priced between €40,000-65,000 were eligible for subsidies of €5,000 and €4,000, respectively. No subsidies for NEVs priced above €65,000.</li> <li>● <b>2023:</b> <ul style="list-style-type: none"> <li>● From January 1, subsidies for PHEVs ended. Subsidies for BEVs priced below €40,000 were reduced to €4,500, and subsidies for BEVs priced between €40,000- €65,000 were reduced to €3,000.</li> <li>● From September, subsidies for BEVs for business purchases (B2B) were canceled.</li> <li>● From December 18, the EV subsidy program was ended early.</li> </ul> </li> </ul>	Gradual phase-out
UK	<ul style="list-style-type: none"> <li>● <b>Subsidies:</b> Initiated in 2011, with a maximum subsidy of £5,000, which gradually decreased to £1,500 by early 2022, with the maximum eligible vehicle price reduced from £35,000 to £32,000. The subsidy policy was abolished in June 2022.</li> <li>● <b>Purchase Tax:</b> From FY2001-2016, vehicles with CO<sub>2</sub> emissions not exceeding 130g/km were exempt from purchase tax. Alternative fuel vehicles (including PHEVs, HEVs, and CNGVs) of the same emission level received a £10 reduction in first registration tax. From FY2017, only zero-emission vehicles were exempt from first registration tax.</li> <li>● <b>Road Tax:</b> From FY2002-2016, the tax was based on CO<sub>2</sub> emissions. Alternative fuel vehicles of the same emission level received a £10 reduction in standard retention tax, with vehicles emitting no more than 100g/km exempt. From</li> </ul>	

Countries	Contents	Status
	<p>FY2017, a flat rate was introduced, with non-zero emission vehicles required to pay £140, with amounts increasing annually. Alternative fuel vehicles received a £10 reduction, and zero-emission vehicles were exempt. Additionally, vehicles priced above £40,000 were subject to an extra £310 annual tax from FY2017, with amounts increasing over time.</p> <ul style="list-style-type: none"> <li>From FY2025, newly sold electric vehicles will pay a minimum fee of £10 in the first year, increasing annually to £165. Vehicles priced above £40,000 will incur an additional annual charge of £355, rising to a maximum of £560 based on the duration of use.</li> </ul>	
	<ul style="list-style-type: none"> <li><b>Subsidies:</b> From 2020 to June 2021, a maximum subsidy of €7,000 was provided, reduced to €6,000 from July 2021 to the end of 2022. In 2023, the subsidy was €5,000. From January 2024, the subsidy will be €4,000 (or €7,000 for low-income households), with an added carbon footprint rating condition. The €1,000 subsidy for purchasing used electric vehicles will be canceled.</li> </ul>	Gradual phase-out
France	<ul style="list-style-type: none"> <li><b>Road Tax:</b> BEVs, FCEVs, and PHEVs with an electric range over 50 km are exempt from CO<sub>2</sub> emission tax and weight tax.           <ul style="list-style-type: none"> <li>From January 2024, vehicles with CO<sub>2</sub> emissions exceeding 118g/km will be taxed €5, up to a maximum of €60,000. Vehicles weighing over 1,600 kg will incur an additional penalty of €10-30 per kg.</li> </ul> </li> </ul>	
Italy	<ul style="list-style-type: none"> <li><b>Subsidies for scrapping old cars:</b> In 2022, a subsidy of €3,000 was available for BEVs and PHEVs priced at or below €35,000 (including VAT) and with CO<sub>2</sub> emissions of 20g/km or less, and €2,000 for BEVs and PHEVs priced at or below €45,000 (including VAT) with CO<sub>2</sub> emissions between 21-60g/km. An additional €2,000 subsidy was available for scrapping old cars.</li> <li><b>Subsidies:</b> In 2023, subsidies were increased to €4,500 for BEVs and €3,000 for PHEVs for individuals with an income below €30,000. From 2024, individuals with an annual income below €30,000 who scrap Euro 0 or Euro 2 standard old cars can receive up to €13,750 in subsidies for purchasing electric vehicles.</li> <li><b>Tax Reduction:</b> From June 2023 to the end of 2024, a 15% personal income tax reduction is available for purchasing electric vehicles, with a cap of €20,000.</li> </ul>	On the rise
Spain	<ul style="list-style-type: none"> <li><b>Tax Reduction:</b> From June 2023 to the end of 2024, a 15% personal income tax reduction is available for purchasing electric vehicles, with a cap of €20,000.</li> </ul>	

Source: Official Government Websites, SDIC Securities Research Center

# 02

## Chapter 2

# Western Brands Dominating Chinese EV Exports to Europe

### Core Concerns and Recommendations :

- The market share of Chinese EV brands in Europe has been “selectively” exaggerated.
- European and American brands dominate China’s EV exports to Europe, and the EU’s anti-subsidy tax will hurt its own businesses.
- Chinese EV companies continue to focus on the “in Europe, for Europe” strategy.
- The Chinese market has long welcomed global automotive companies and continues to improve the business environment for foreign enterprises operating in China.



According to the China Association of Automobile Manufacturers (CAAM), China exported 1.203 million NEVs in 2023. In addition, according to the China Passenger Car Association (CPCA), approximately 38% of these exports were destined for Europe.

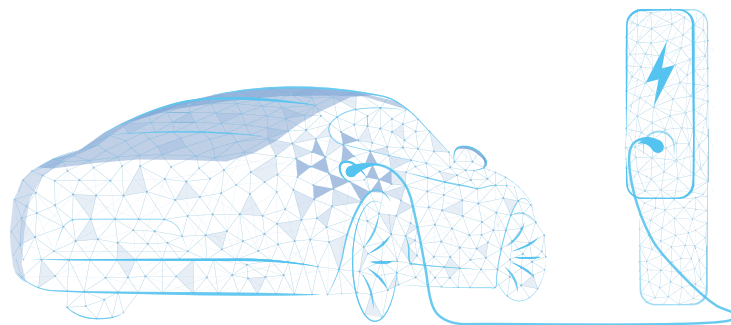


Fig. 2-0-1

**2023 Sales of Chinese EV Companies in Various European Countries**

Country	SAIC Motor	BYD	Geely Group	Great Wall Motors	NIO	Leapmotor	XPeng	FAW Group
<b>UK</b>	37,333	1,158	13,039	911	-	-	-	-
<b>Germany</b>	18,572	3,872	8,662	4,646	1,244	-	-	-
<b>France</b>	29,469	520	3,431	-	-	510	-	-
<b>Sweden</b>	7,613	3,470	5,115	706	201	-	235	86
<b>Spain</b>	11,117	628	4,523	-	-	-	-	-
<b>Netherlands</b>	5,963	1,257	8,174	-	259	-	75	64
<b>Italy</b>	4,785	208	4,449	-	-	-	-	-
<b>Belgium</b>	3,807	557	4,230	-	-	-	-	-
<b>Norway</b>	3,643	1,383	1,860	14	620	-	777	11
<b>Austria</b>	3,000	1,102	708	-	-	-	-	-
<b>Denmark</b>	1,762	467	1,873	-	42	-	-	45
<b>Ireland</b>	1,196	546	313	32	-	-	-	-
<b>Portugal</b>	992	326	294	-	-	-	-	-
<b>Switzerland</b>	-	-	924	-	-	-	-	-
<b>Finland</b>	97	129	947	-	-	-	-	-

Source: CPCA & CEIS.

Despite being new entrants in the European EV market, Chinese brands face a contrasting reality in their home market. In 2023, European automakers captured over 20% of China's massive 25.184 million-unit market, outperforming Japanese, American, and South Korean competitors.



## 2.1 Western Brands Dominating Chinese EV Exports to Europe

European brands lead the market share of Chinese-made BEVs in Europe, accounting for 51.7% in 2023 (CPCA statistics). This is significantly higher than American brands (19.9%), and even Chinese domestic brands (9.1%).

Notably, SAIC Motor and Geely Holding Group (including Volvo and Polestar) hold a larger share (10.9%) compared to BYD, Great Wall Motors, NIO, and XPeng combined (1.3%).

Fig. 2-1-1

### Market Share of BEV Brands in Europe

Car Company	Market Share (%)
Volkswagen Group	22.0%
Tesla	18.0%
BMW	8.2%
PSA&FCA	13.0%
Renault-Nissan	8.4%
Mercedes-Benz	6.9%
Hyundai-Kia	7.7%
SAIC Motor	5.9%
Geely Group	5.0%
Ford Group	1.3%
BYD	0.8%
Toyota Group	1.1%
Mazda	0.4%
Great Wall Motors	0.3%
Honda	0.1%
Subaru	0.1%
NIO	0.1%
XPeng	0.1%
Tata Group	0.2%

Source: CPCA & CEIS

The European EV market, fueled by globalization and large-scale operations, reflects a strong international presence in both production and sales. Chinese companies, due to their recent entry into the automotive industry, haven't yet established themselves as leading brands in Europe.

As a result, the majority (more than 50%) of Chinese-made EVs exported to Europe are Western brands produced in China.

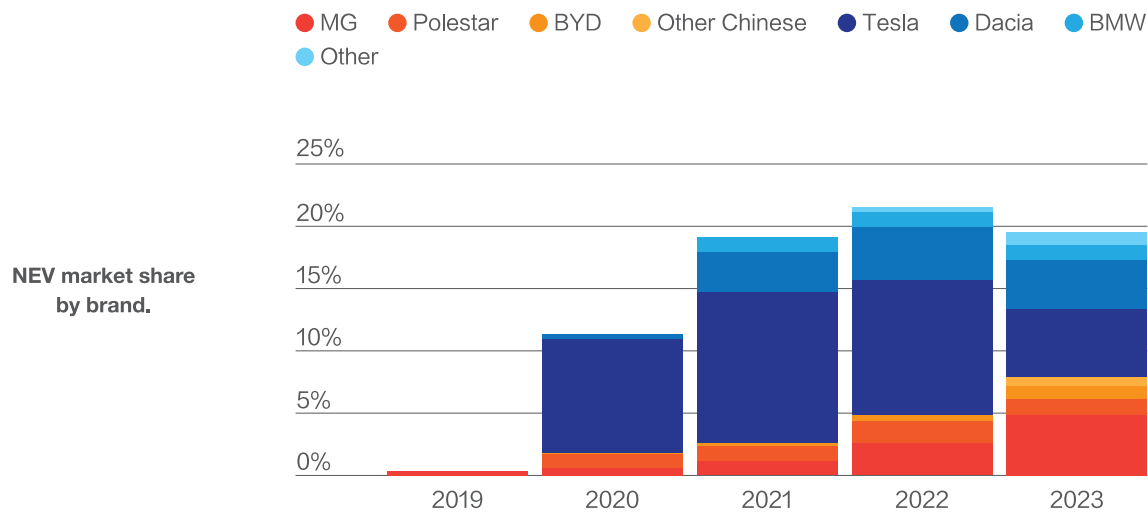
Tesla exemplifies this trend. Their Gigafactory Shanghai produced 950,000 vehicles in 2023, with nearly half (approximately 170,000) exported to Europe. This statistic underscores two key issues:

- The market share of Chinese-branded EVs in Europe is overstated. Chinese-made EVs outnumber Chinese brand EVs, with Western brands manufactured in China accounting for the majority.
- Imposing high anti-subsidy taxes on Chinese-made EVs could disproportionately affect Western brands.

According to the European Federation for Transport and Environment, China produced 19.5% (290,000 units) of all EVs sold in Europe in 2023. However, Chinese domestic brands represented only 7.9% of the European EV market in the same year.<sup>1</sup>

Fig. 2-1-2

**Share of BEV Exports to Europe by Automakers Operating in China**



Source: European Federation for Transport and Environment & CEIS

<sup>1</sup>Source: Transport & Environment webportal

Western brands dominate Chinese BEV exports to Europe, led by Tesla (28%) and Renault Dacia (20%), which together account for nearly half the market. German brands like BMW and other international brands collectively hold another 10% share, with MG, Polestar, BYD, and other Chinese brands making up the remaining fraction.

Chinese brands captured a modest 2.5% market share in Europe in 2023, registering 321,300 units according to a JATO Dynamics research report. This stands in contrast to the prominence of Western brands in Chinese-made EVs exported to Europe. <sup>1</sup>

BYD, a leading Chinese EV manufacturer, ranked 15th in European BEV sales in April 2024, selling 2,746 units (JATO data). While no Chinese brands appeared in the top 25 overall car sales rankings for April, the overall market share for Chinese brands in Europe did see a slight increase, rising from 2.22% in April 2023 to 2.35% in April 2024 (JATO data). Interestingly, the market share of Chinese-made BEVs remained stable at 6.6%.

“Although there is lots of noise around the arrival of Chinese car brands in Europe, they are still something of a rarity – evidenced by the slow uptick in registrations over the past year.”

— Felipe Munoz, JATO Dynamics analyst

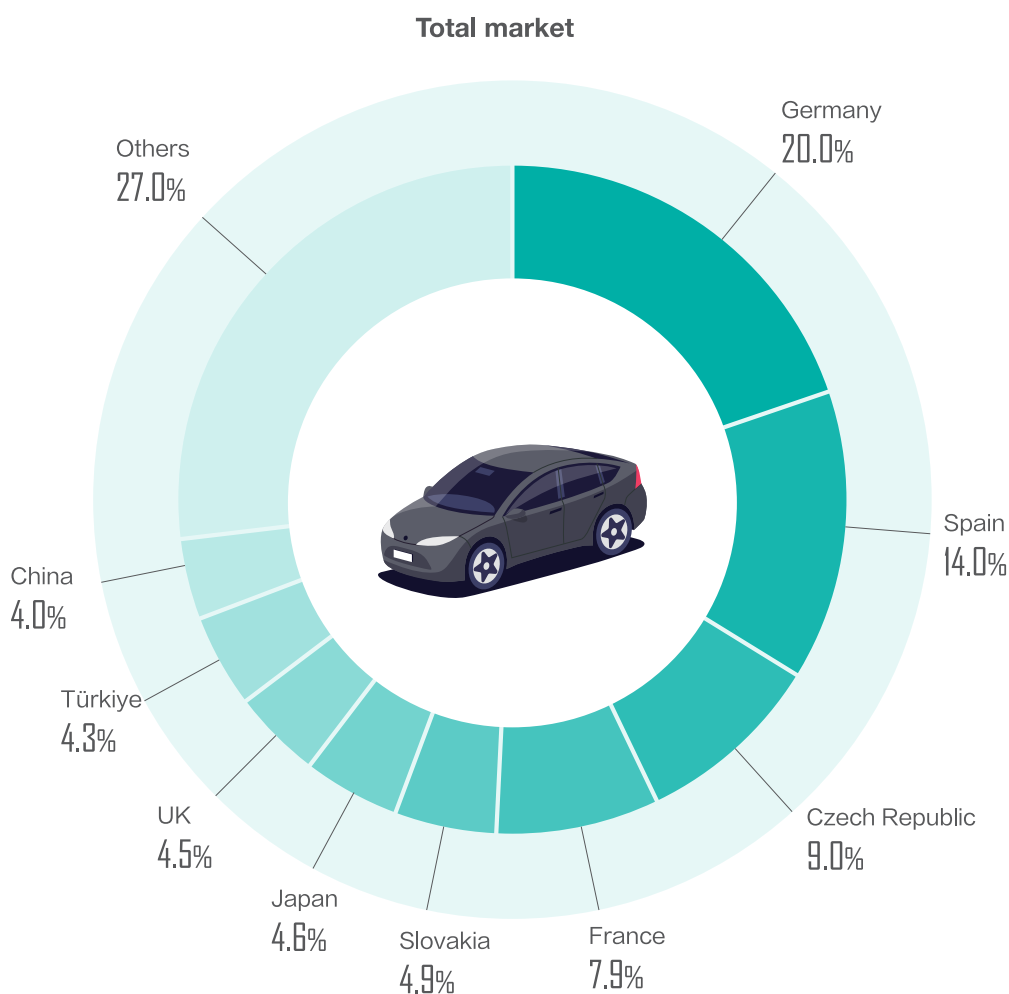


<sup>1</sup>Source: JATO Dynamics

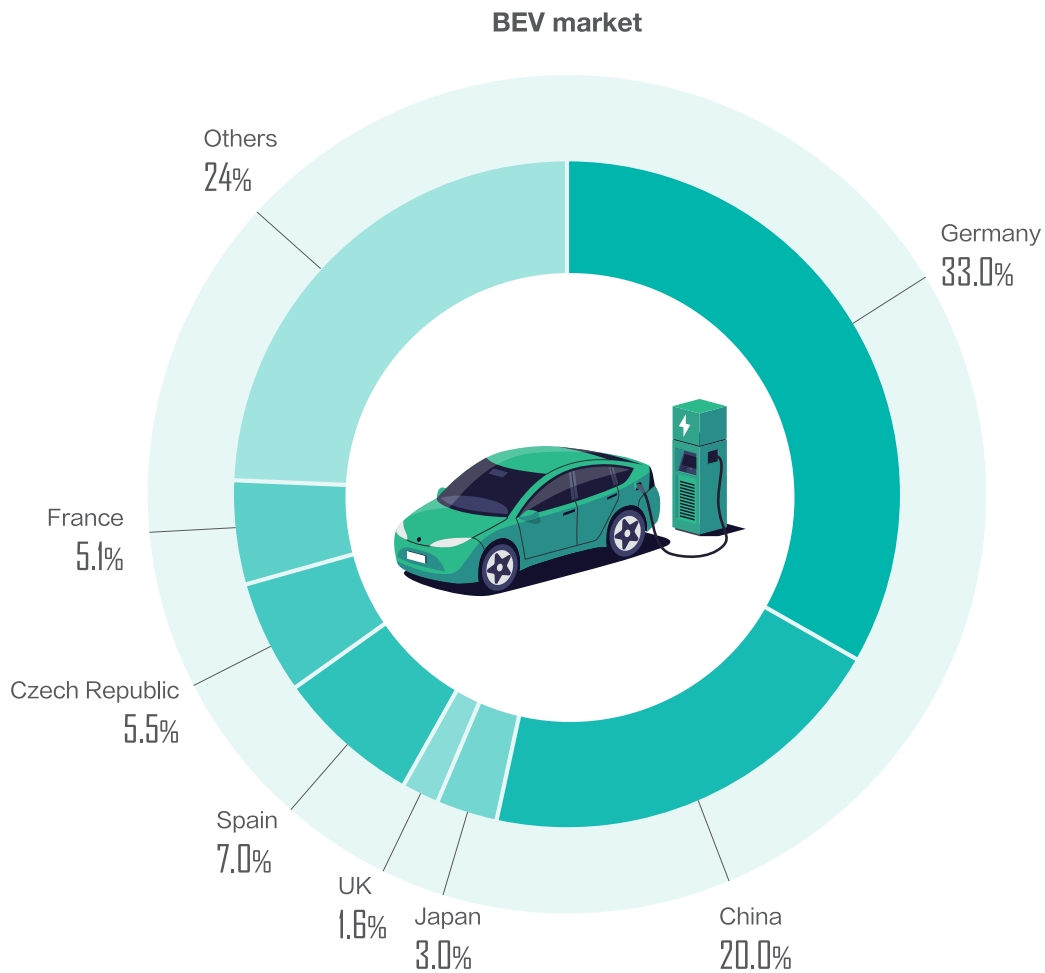
Despite having seven new brands enter the European market in 2023, Chinese brand penetration remains modest. Currently, only eight out of 30 Chinese brands in Europe manage to sell over 1,000 units (Schmidt Automotive Research).

Fig. 2-1-3

**New Car Registrations in Europe by Assembly Origin (January-February 2024)**



Source: JATO Dynamics



**Source:** JATO Dynamics

This limited reach is further reflected in the composition of EVs shipments. According to the same source, 60% of EVs shipped from China to Western European countries in 2023 were from Western brands, with only 40% coming from Chinese brands.<sup>1</sup>

The Dacia Spring, Renault Group’s best-selling BEV model manufactured in China, exemplifies the complex nature of the EV market in Europe. Due to changes in French subsidy rules, this model may no longer be eligible for France’s national purchase subsidies in the future.

“Despite somewhat sensational headlines designed to create the impression that Chinese brands are starting to dominate the European market at pace, the numbers tell a more tempered story.”

— JATO Dynamics<sup>2</sup>

<sup>1</sup>Source: Schmidt Automotive Research

<sup>2</sup>Source: JATO Dynamics

Fig. 2-1-4

**PHEV and BEV Registrations Europe 2023**

PHEV		vs2022	
1	Ford Kuga	54,018	-7%
2	Volvo XC60	43,155	+50%
3	Kia Sportage	27,229	+31%
4	Mercedes GLC	26,996	+66%
5	Cupra Formentor	26,288	+16%
6	BMW X1	25,649	+53%
7	BMW Series 3	25,406	-26%
8	Hyundai Tucson	25,220	-14%
9	Volvo XC40	22,691	-27%
10	Lynk & Co 01	22,072	-14%
11	Mercedes C-Class	21,687	+60%
12	Volkswagen Tiguan	20,818	+21%
13	Peugeot 3008	20,768	-27%
14	BMW X5	20,270	-16%
15	Mazda CX-60	19,528	+58%
16	Mercedes GLA	17,432	+12%
17	Peugeot 308	17,195	+22%
18	Volvo XC90	16,954	+24%
19	Toyota RAV4	16,509	-15%
20	Jeep Compass	15,361	-41%
Total PHEV		992,133	-3%

Source: JATO Dynamics

	BEV		vs2022
1	Tesla Model Y	251,617	+84%
2	Tesla Model 3	100,888	+11%
3	Volkswagen ID.4	85,088	+26%
4	MG 4	72,212	+874%
5	Skoda Enyaq	66,247	+34%
6	Fiat/Abarth 500	64,244	-3%
7	Volkswagen ID.3	63,460	+20%
8	Dacia Spring	59,186	+22%
9	Volvo XC40	50,976	+65%
10	BMW i4	48,958	+92%
11	Audi Q4	47,044	+69%
12	Peugeot 208	46,187	-1%
13	BMW iX1	45,217	+
14	Renault Megane	43,587	+33%
15	Cupra Born	43,533	+34%
16	Mercedes EQA	38,138	+59%
17	Kia Niro	38,104	-1%
18	Mini Hatch	36,725	+6%
19	Hyundai Kona	36,155	-12%
20	Polestar 2	35,696	+12%
	<b>Total BEV</b>	<b>2,011,209</b>	<b>+28%</b>

## 2.2 From M&As to Greenfield Investments: Development of Chinese NEV Companies in Europe

### 2.2.1 Early Stage: A Focus on M&As

The Chinese automotive industry first entered the European market 20 years ago, primarily through acquisitions. SAIC Motor and Geely Holding Group acquired British MG and Volvo, respectively, gaining technology and experience while gradually establishing a foothold in the European market. Both MG and Volvo have since achieved consumer recognition.

The London Taxi Corporation Limited, an iconic London taxi manufacturer, was acquired by Geely Holding Group in 2013. In 2017, the company was rebranded as the London EV Company Limited (LEVC), and Geely established a dedicated EV production facility in Coventry, UK, with a total investment exceeding £500 million. Leveraging Geely's Volvo SPA platform, LEVC introduced the popular TX series, which not only performed well in the UK market but also achieved success in the world market. This boosted LEVC's global brand recognition.

### 2.2.2 Current Stage: A Focus on Greenfield Investments

Over the last three years, Chinese automotive investments in Europe have gradually shifted to greenfield projects.

Greenfield investments overtook mergers and acquisitions to become the dominant form (57%) of China's direct investment in Europe. Chinese greenfield investment in Europe continued to grow by 18% to €5.3 billion (\$5.7 billion) in 2023. Chinese investment in Europe was highly concentrated, with 88% targeting Europe's "Big Three" economies (the United Kingdom, Germany, and France) and Hungary,<sup>1</sup> potentially laying the groundwork for a more localized European NEV industry.

In 2023, China's foreign direct investment in new energy vehicles amounted to \$28.2 billion<sup>2</sup> (excluding BYD's factory in Hungary and Gotion High-Tech's 25% stake in a Slovakian battery manufacturer), breaking the previous record.<sup>2</sup> In the European market, Chinese investment in new energy-related industries alone amounted to €4.7 billion (approximately \$5.1 billion), accounting for about 70 per cent of Chinese investment in Europe.

This historic growth is primarily driven by the accelerated overseas expansion of upstream EV power battery manufacturers. These tier-one suppliers are investing directly in new European plants, bolstering Europe's traditional automotive industries and significantly contributing to the continent's new energy sector.

As of the first quarter of 2024, more than ten Chinese power battery manufacturers, including major players like CATL, Envision AESC, and SVOLT, have announced or established factories in key European locations.

<sup>1</sup>Source: "2022 Report on Chinese Direct Investment in Europe," jointly released by the Mercator Institute for China Studies (MERICS) and Rhodium Group in 2023.

<sup>2</sup>Source: Rhodium Group Report, 29 February 2024.



Fig. 2-2-1

**Investment and Factory Construction by Chinese Power Battery Companies in Europe**

Companies	Investment Cases	Targeted capacity	Progress
Envision AESC	Net Zero Industrial Park in Spain	50GWh	In the pipeline
	Navalmoral de la Mata Factory, Spain	30GWh	Under construction
	Second Factory in Sunderland, UK	12GWh	Under construction
	Renault Factory in France	24GWh	Under construction
CATL	Arnstadt Battery Factory, Thuringia, Germany	14GWh	In operation
	Debrecen Battery Factory, Hungary	100GWh	Under construction
EVE Energy	Debrecen Battery Factory, Hungary	20GWh	Under construction
Gotion High-Tech	Göttingen Battery Project, Germany	20GWh	In operation
	Gotion InoBat Batteries Factory, Slovakia	20GWh	In the pipeline
SVOLT Energy Technology	Battery Module and PACK Factory in Saarland, Germany	30GWh	In operation
	Battery Cell Factory in Brandenburg, Germany	16GWh	Under construction
Pylon Technologies	LFP Battery Factory, Italy	10GWh	In the pipeline
CALB	15 GWh Zero Carbon Battery Factory, Portugal	15GWh	Under construction
	CALB Europe Battery Factory, Germany	20GWh	In the pipeline
Sunwoda	Power Battery Factory, Hungary		In the pipeline
Greatpower Technology	High-Nickel Ternary Precursor Production Base, Finland	120,000 tons	Under construction
SEMCORP	Lithium-ion Battery Separator Factory, Debrecen, Hungary	-	Under construction
Lead Intelligent Equipment	Overseas Technology Center, Germany	-	Completed
	InoBat Lithium Battery Production Line, Slovakia	-	In operation

Source: Company Websites & CEIS

Fig. 2-2-2

**Chinese NEV Related Industry Investment Projects in Hungary (Part)**

Company	Time	Investment projects
BYD	January 2024	BYD signed a land pre-purchase agreement with Hungary for a passenger car factory, kicking off construction of its first European NEV plant in Hungary. Located in Szeged, southern Hungary, the factory will span 300 hectares and is expected to begin production by the end of 2025, with an annual capacity of 200,000 units, creating thousands of local jobs.
CATL	October 2023	CATL started construction on its new energy battery industrial base in Debrecen, Hungary, for a total investment of € 7.34 billion. The facility is expected to have an annual capacity of 100 GWh, making it the largest EV battery plant in Hungary. It is expected to be completed in two years and will supply batteries to around 30 EV brands, including BMW, Mercedes-Benz, and Volkswagen.
NIO	September 2022	NIO's European Energy Plant project in Hungary began operation. This is NIO's first overseas factory, spanning approximately 2.4 acres and serving as the European manufacturing, service, and R&D center for NIO's charging products, thereby supporting NIO's network throughout Europe.
EVE Energy	March 2022	EVE Energy announced the establishment of a 111-acre factory in Debrecen, Hungary, with an annual capacity of 30 GWh for the production of new cylindrical power batteries.
	May 2023	The company officially announced a 1 billion euro (approximately 8 billion RMB) investment to build the battery factory, which is scheduled to be completed and operational by 2026. The factory will supply large cylindrical batteries to the BMW Group's Debrecen plant. The Hungarian government strongly supports this investment, offering EVE Energy a subsidy of 14 billion Hungarian forints (approximately € 37.66 million).
SEMCORP	June 2020	SEMCORP announced an investment of € 183 million to build a factory in Debrecen, Hungary, to manufacture lithium battery wet process base films and functional coated separators. The base film's annual capacity will be around 400 million square meters, making it Enjie's first overseas lithium battery separator factory.
Sunwoda	August 2023	Sunwoda's first European factory will be based in Hungary. According to the announcement, Sunwoda will build a power battery factory in Hungary, with a first phase investment of no more than 1.96 billion RMB, primarily for land acquisition, factory construction, and equipment procurement. Sunwoda stated that the investment will improve the company's business structure, serve international customers, and increase global market share.

Source: company websites & CEIS

## 2.3 Chinese Automakers Creating Value in Europe, for Europe.

Europe is a crucial market for Chinese NEV companies' global expansion due to the automotive industry's long and internationalized supply chain. By partnering with local stakeholders, Chinese automakers aim to contribute to the EU's 2050 carbon neutrality goal by providing a wide range of reliable and affordable EVs, potentially creating local jobs and reducing carbon emissions.

### 2.3.1 NEV Industry Cooperation for EU's Green Transition

A frontrunner in the global green transition, the European Union has established itself as both a pioneer and leader. In 2001, the EU launched the landmark "EU Sustainable Development Strategy", placing sustainable development at the forefront of its policy agenda. This was followed by the establishment of the world's first carbon emissions trading system in 2005. Further solidifying its commitment, the European Commission announced the ambitious "European Green Deal" in 2019, aiming to make Europe the first climate-neutral continent by 2050. Through these continuous efforts, the EU has set a strong example for other nations to follow.

China and the European Union find common ground in their green development philosophies, creating a natural synergy for collaboration. This is particularly evident in the realm of NEVs – a crucial pathway for both regions to achieve their carbon neutrality goals. By leveraging their strengths in the NEV supply chain, Chinese automotive brands are actively contributing to Europe's green push. From reducing emissions throughout the vehicle lifecycle – from manufacturing to operation and charging – to fostering innovation in shared mobility solutions, Chinese companies play a crucial role in Europe's transition to a low-carbon future.

They are translating their NEV expertise into tangible progress for Europe's green transportation sector through equipment and technological support. By offering mature products and solutions, they act as catalysts for the development of local green travel systems. Take BYD, for example: In February 2023, they secured their largest ever order with Transdev AB, a leading Swedish public transport operator, for the supply of 52 electric buses. Since 2015, BYD's electric buses have been deployed in over 100 major cities across 20 European countries, making a significant contribution to sustainable public transportation.<sup>1</sup>

<sup>1</sup>Source: "BYD's First Order of the Year: Battery Electric Buses Promote Electrification of Swedish Transport," China Automotive News, February 10, 2023.



Lynk & Co, a brand co-founded by Geely Automobile Group and Volvo Cars, sells plug-in hybrid vehicles in Europe and also offers a subscription model that provides European users with a more flexible, economical, and environmentally friendly hybrid car travel experience. Users can book cars through Lynk & Co's sharing application, lowering personal vehicle costs and increasing car usage rates, all of which help to reduce carbon emissions.

Beyond EVs, Chinese companies are playing a key role in another crucial pillar of Europe's green transition: battery technology. Through close collaboration with local governments and businesses, Chinese firms are ramping up overseas production. A prime example is CALB Group Co., Ltd., which is constructing a cutting-edge, zero-carbon battery factory in Portugal. Scheduled for production by the end of 2025, this facility will supply European automakers with high-performance batteries, further accelerating the region's shift towards clean energy.

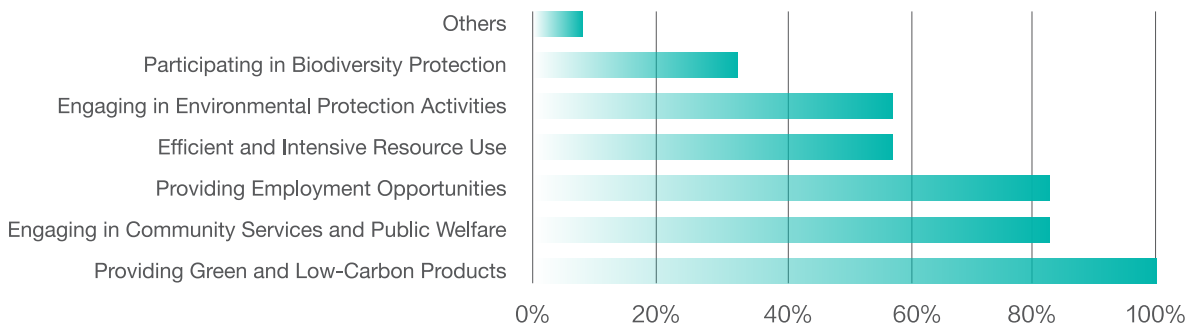
### 2.3.2 ESG Commitment: Empowering Europe's Green Drive

United by a shared commitment to a sustainable future, China and Europe are taking active action. As Chinese automotive companies expand into the European market, a growing number prioritize environmental, social, and governance (ESG) principles within their core strategies. This translates into tangible actions: actively seeking ways to protect the environment, fostering community development, and expanding their social responsibility initiatives.

According to the survey, Chinese automotive and related industry companies in Europe are implementing their ESG commitment, by providing eco-friendly and low-carbon products, using resources efficiently and intensively, creating local job opportunities, and actively participating in environmental protection and community initiatives.

Fig. 2-3-1

**ESG Practices of Chinese EV Companies in Europe**



Source: CCCEU & CEIS

Since entering the European market, Chinese automakers have created numerous local job opportunities, particularly in EU member states like Spain, Hungary and Italy. The CATL project in Hungary, which focuses on producing battery cells and modules, is expected to create 9,000 new jobs.

**Case Study: SAIC Motor’s Commitment to ESG**

SAIC Motor, a pioneer in Chinese automotive globalization, has built a comprehensive global value chain encompassing R&D centers, manufacturing bases, marketing, supply chains, and financial services. Their products and services reach over 100 countries and regions.

SAIC prioritizes sustainability, community engagement, and long-term partnerships in their international business philosophy. By actively participating in local cultures and fostering positive relationships, SAIC showcases the innovative power of “Made in China” brands and the responsible image of the SAIC brand while promoting high-quality overseas business development.

With a strong commitment to localization, SAIC employs over 300 people in Europe, over 90% of whom are local hires. The company actively integrates into the community through cultural exchanges, charitable activities, and sports sponsorships, building trust as a responsible business entity.

To meet Europe’s growing demand for EVs with intelligent features, SAIC plans to establish a full vehicle manufacturing base in Europe. They intend to integrate their technological, product, and intelligent vehicle expertise into the local market while assisting local governments with job creation and supporting the adaptation of the traditional automotive supply chain.

## 2.4 European Brands' Long-Held Dominance in the Chinese Market

Beijing Jeep and SAIC Volkswagen, the pioneers of Sino-foreign joint ventures in the auto industry, paved the way for four decades of Sino-European automotive collaboration. This ushered in a period of flourishing joint venture cooperation in China's auto industry.

This influx of multinational car companies, including German, French, American, and Japanese giants, established a strong foundation for their growth in China, allowing them to capitalize on the world's largest auto market.<sup>1</sup>

China loosened market access for foreign automakers in stages, lifting foreign ownership caps for special vehicles and NEVs in 2018, commercial vehicles in 2020, and passenger vehicles since 1 January 2022. Additionally, restrictions limiting foreign investors to two joint ventures for the same vehicle type were removed.

For many European automakers, China has become their top overseas market. Luxury brands like BMW, Mercedes-Benz, Audi, Land Rover, and Porsche are household names in China, synonymous with high-end vehicles.

European automakers have dominated China's auto market for years, leveraging their long history in the country. For example, BMW celebrated its 30th anniversary in China this year, with their joint venture Brilliance BMW recently delivering its 6 millionth vehicle.

Similarly, Volkswagen had delivered a total of 40 million vehicles in China by 2022, followed by 3.236 million units in 2023 alone. Jaguar Land Rover, a more recent entrant (2010), has also seen significant success, delivering nearly 1.5 million vehicles by 2023 and establishing China as their top market for four consecutive years.

China has also provided a talent dividend to European carmakers. European automakers' R&D centers and innovation bases in China have assisted them in implementing the "Created in China, for the world" strategy.

Fig. 2-4-1

### Volkswagen's 40 Years in China

Timeline	Key Events
1983	The first CKD-assembled Santana rolled off the production line in Shanghai.
1985	The Shanghai Volkswagen Automotive Co., Ltd. was officially established, with a 50-50 joint investment by Chinese and German parties.
1991	The FAW-Volkswagen Automotive Co., Ltd. was established in Changchun.
2017	Volkswagen (Anhui) Co., Ltd. was founded, focusing on the R&D and manufacturing of new energy vehicles.
2021	Audi FAW New Energy Vehicle Co., Ltd. was registered, specializing in the production of luxury battery electric vehicles.
2023	Volkswagen delivered over 3.23 million vehicles in China throughout the year, accumulating some 50 million users in the Chinese market over 40 years.

Source: Volkswagen, China Economic Information Service

<sup>1</sup>Source: "Chinese Automobiles: Commemorating Reform with Reform, Honoring Openness with Openness," China Automotive News, 18 December 2023.

Fig. 2-4-2

**Key Joint Ventures Established by SAIC and European Companies in China**

Category	Partners	Joint venture(s)	Ownership (European stake, %)
<b>Vehicle Manufacturing</b>	Volkswagen AG (Germany)	Passenger vehicle manufacturing.	SAIC Volkswagen (50% European stake)
	Iveco (Italy)	Commercial vehicle manufacturing.	Naveco (19.9%)
	Fiat (Italy)	Powertrains.	SAIC Fiat Powertrain Hongyan (60%)
	ZF Friedrichshafen AG (Germany)	Transmissions and shock absorbers.	Shanghai ZF Transmission (51%) Shanghai Sachs Shock Absorbers (60%)
	Bosch (Germany)	Electronic devices and steering systems.	United Automotive Electronic Systems (51%) Bosch Huayu Steering Systems (51%)
<b>Components</b>	Infineon Technologies (Germany)	Automotive power semiconductors.	SAIC Infineon (49%)
	Valeo (France)	Clutches and electronic devices.	Nanjing Valeo Clutch (75%) Shanghai Valeo Automotive Electrical Systems (50%)
	Magneti Marelli (Italy)	Transmissions	SAIC Magneti Marelli (50%)
	Teksid (Italy)	Castings	East China Teksid (50%)
	Gestamp (Spain, under CIE Automotive)	Castings	Nanjing Automobile Forging (50%)
	<b>Logistics</b>	Ceva Logistics (under CMA CGM, France)	Automotive parts logistics.
Wilhelmsen Ships Service (Norway)		Automotive terminal operations.	Shanghai Haitong Automotive Terminal (5%)

Source: SAIC Group & CEIS

# 03

## Chapter 3

### The World Needs More NEVs

#### Core Concerns and Recommendations :

**Allegations of “overcapacity” in China’s NEV industry are not supported by sound economic principles.**

- In the long run, there is a significant gap in NEV production capacity.
- Production and sales of NEVs in China are largely in equilibrium.
- European and American automakers are increasing NEV production in China.

**Calls for a fair assessment of NEV production capacity.**

- NEV exports meet a demand, not a sign of overcapacity.
- The rapid shift away from ICEs to NEVs has led to a structural overcapacity in ICE manufacturing.
- Capacity utilization is a dynamic metric, not a sole indicator of production capacity.





In recent years, the US and the EU have been promoting the narrative of China’s “overcapacity,” alleging that China’s new energy industry relies heavily on subsidies to flood the global market with excess production. The European Commission’s latest Report on China’s Distortions in Economy labels China’s NEV and power battery industries as “distortions in selected sectors.” The report attributes the price competitiveness to multi-level subsidies and “state-induced distortions”.

However, the EU’s allegations of “market distortions” and “overcapacity” are primarily for creating justifications for trade sanctions aimed at suppressing China’s NEV industry rather than based on sound economic principles.

## 3.1 Long-term Supply Shortage of NEVs

As global warming and environmental challenges become ever more pressing, nations worldwide are accelerating efforts towards environmental protection and low-carbon growth. Over 130 countries and territories have set ambitious climate goals of “net-zero” or “carbon neutrality”. The transportation sector is a major contributor to climate change, responsible for nearly a quarter of global carbon dioxide emissions - second only to power generation and heating. Decarbonizing transportation is critical, and NEVs have emerged as a pivotal focus for the global automotive industry.

### 3.1.1 Huge Gap in NEV Production Capacity Globally

The global push for green, low-carbon transition faces a critical challenge: bridging the vast green capacity gap to meet 2030 emissions reduction targets. China’s new energy industry stands as a crucial piece of the puzzle, offering solutions to accelerate this transition.

The main challenge in the global NEV market lies not in excess supply, but in meeting the rapidly growing demand. Countries worldwide are embracing NEVs as a key strategy for decarbonizing their transportation and automotive sectors. This global shift is reflected in surging NEV sales, which reached a staggering 14.65 million units in 2023, a 42-fold increase compared to 2014.

To achieve carbon neutrality goals, the International Energy Agency estimates a monumental leap in NEV sales is required. By 2030, global NEV sales must reach 45 million units – a staggering increase of over four times compared to 2023. Moreover, the worldwide demand for power batteries is expected to reach 3,500 GWh by 2030, surpassing the worldwide shipments in 2023 by more than fourfold and surpassing China’s output in 2023 by more than five times.

The current state of NEV development and investment across nations falls short of what’s needed to meet the green transition’s demands.

Fig. 3-1-1

#### Predictions on Global Demand for NEVs

Organization	Forecasts
McKinsey & Company	By 2030, the global passenger car market is expected to grow from over 75 million units in 2023 to more than 80 million units. Among these, nearly 40 million will be NEVs, achieving a penetration rate of approximately 50%. This marks a significant increase from the 18% penetration rate in 2023, representing a more than 1.5-fold increase. Additionally, China, the European Union, and the United States are projected to contribute over 80% of the global NEV sales.
International Energy Agency (IEA)	By 2024, NEV sales are expected to reach 17 million units, representing more than one-fifth of total global automobile sales. By 2035, it is projected that half of all cars sold globally will be EVs.

Source: CEIS

### 3.1.2 Balanced Production and Sales, Rapid Growth in Demand

China's auto industry has witnessed steady growth and balanced production and sales over the past five years, according to the China Association of Automobile Manufacturers (CAAM). Inventory levels have also remained stable.

The NEV market, in particular, began to surge in 2021, with some 100% growth for two consecutive years. However, in 2023, due to the larger base, the growth rate slowed, with output marginally surpassing sales.

Fig. 3-1-2

2019-2023 China Vehicle Production and Sales, and NEV Production and Sales (in 1,000s)

Year	Total Vehicle Production	Total Vehicle Sales	NEV Production	NEV Sales
2019	25,721	25,769	1,242	1,206
2020	25,225	25,311	1,366	1,367
2021	26,082	26,275	3,545	3,521
2022	27,021	26,864	7,058	6,887
2023	30,161	30,094	9,587	9,495

Source: CAAM

The Chinese government had previously established two phased targets for NEVs, both of which have been or are expected to be met ahead of schedule.

In 2020, the General Office of the State Council of China announced the New Energy Vehicle Industry Development Plan (2021-2035), which established the first stage goal of achieving a 20% NEV penetration rate by 2025. This goal was accomplished three years ahead of plan.

The second phased target seeks to achieve 50% NEV penetration by 2035. Given the present pace of China's NEV development, this aim is likely to be met by 2025, ten years ahead of schedule.

The NEV boom is fueled by a powerful combination of diverse sources of supply and rising consumer demand.

On the supply side, manufacturers offer a wide range of NEV models catering to various market segments, from personal and family cars to business and luxury vehicles. This comprehensive selection caters to the needs of consumers of all ages, making NEVs more attractive and competitive compared to traditional ICE vehicles.

Demand for NEVs is driven by several factors. First, the cost of electric vehicles has reached parity or even fallen below that of ICE vehicles, making them a more financially viable option. Second, China has invested heavily in building a relatively abundant charging infrastructure, addressing a key concern for potential buyers. Third, NEVs offer lower operational expenses compared to traditional ICE vehicles. Finally, Chinese consumers are drawn to the high degree of smart technology integration often found in NEVs.

In a 2024 global EV customer survey by AlixPartners, when questioned about the possibility of purchasing or leasing a BEV as their next car, 97% of Chinese respondents said yes, up from 85% in 2021.<sup>1</sup>



China's NEV industry has been on the rise, and has reached a critical turning point. For the first time ever, NEVs (50.39%) outsold traditional ICE vehicles in China during the first half of April 2024, according to CAAM data. This milestone signifies NEVs' transformation into the mainstream choice for Chinese consumers.

<sup>1</sup>Source: AlixPartners, Global Electric Vehicle Consumer Research Report, April 2024.

### 3.1.3 Global Automakers Increasing Investment in China's NEV Market

Actions speak louder than words. Global automakers are taking keen notice of the immense potential and ongoing expansion of China's NEV market.

This shift reflects a broader societal consensus towards NEVs, as acknowledged by Hyundai Motor Group.<sup>1</sup> In China, the world's largest NEV market, the group has high hopes for its own electrification drive. Favorable government policies and surging consumer demand for NEV technology are expected to fuel rapid market growth. Recognizing this prospect, Hyundai, along with other global manufacturers, is introducing new models that cater to the evolving needs of Chinese consumers.

The burgeoning Chinese market is a key driver for BMW's electric vehicle transition and product upgrades. According to their 2023 financial report, BMW delivered over 375,000 BEVs globally, reflecting a staggering 74.2% year-over-year increase. Notably, China accounted for over 25% of this total, with roughly 100,000 BEVs delivered to Chinese customers.



Demonstrating its commitment to the Chinese NEV market, BMW announced an additional 20 billion RMB investment in 2024 to upgrade its Shenyang production facilities. With a target production start in 2026, the all-electric, digital “Neue Klasse” models are scheduled to roll off the production line in Shenyang.

<sup>1</sup>Source: Hyundai Motor Group.

Since China lifted restrictions on foreign ownership in NEVs in 2018, numerous global automakers have made significant investments in Chinese EV production. Tesla's Shanghai Gigafactory exemplifies this trend, emerging as a major global export hub and accounting for over half of the company's global production capacity in 2023. Volkswagen Group (China) is following suit with a 2.5 billion euro expansion of its production and innovation center in Hefei, Anhui Province. This move is coupled with accelerated production of two smart EV models co-developed with local EV manufacturer XPeng Motors. Similarly, Mercedes-Benz is bolstering its presence by opening a new building as an upgrade of its Shanghai R&D center, signifying its commitment to advancing technological innovations in China.

“The Chinese electric vehicle market is far from saturated and will continue to maintain a faster and stronger growth momentum compared to the European and American markets.”

— *Ferdinand Dudenhoeffer, Director of the Center Automotive Research Institute in Bochum*

## 3.2 A Market-Oriented Approach to NEV Production Capacity

Within the interconnected world of economic globalization, international markets rely heavily on efficient global production and consumption. This necessitates a constant balancing act between global supply and demand. Trying to fulfill demand solely through domestic production or an “exclusive club” approach is impractical. Such strategies create overlapping production capacities, hinder efficiency, inflate costs, and ultimately disrupt global supply chains.

Global production and sales are the lifeblood of the automotive industry's growth. In 2023, for example, only 20% of German car production was sold domestically, highlighting the industry's reliance on exports. Similarly, Japan exports roughly half its automotive output. In comparison, China's NEV exports, though significant, represent only 12.7% of its production in 2023.<sup>1</sup>

### 3.2.1 Exports and “Overcapacity” Are not the Same

In today's globalized economy, manufacturing and demand are spread internationally. Exporting is standard practice, as evidenced by the fact that 80% of US chips and German cars are sold overseas. As aptly questioned by the Swiss newspaper *Neue Zürcher Zeitung*, “Is the West's export to Asia considered overcapacity? How can trade exist if a country only produces for its own market?”<sup>2</sup>

<sup>1</sup>Source: Ministry of Commerce of China: “China's New Energy Capacity Promotes Global Green Transition and Open Development,” May 15, 2024.

<sup>2</sup>Source: *Neue Zürcher Zeitung*, Chinas «Überkapazitäten»: Das westliche Jammern ist scheinheilig und kurzsichtig, 19 April 2024

On the other hand, the global distribution of production capacity is the direct result of market dynamics and economic globalization. Countries divide labor and cooperate based on their strengths, thereby increasing production efficiency and sharing the benefits of specialization. This approach is crucial for optimizing the allocation of global resources.

A pioneer in EV transformation, China has built a comprehensive NEV industry chain, encompassing everything from essential materials, power batteries, motors and electronic controls, complete vehicles, charging infrastructure to recycling facilities. China has been the largest NEV market globally for nine consecutive years. China's NEVs not only meet domestic market demand but also drive the global automotive industry forward.

### 3.2.2 Capacity Utilization Rates are a Dynamic Metric

Supply and demand are the true drivers of whether production capacity is excessive. Perfect balance is a fleeting ideal. In a market economy, a certain degree of surplus capacity is normal, acting as a buffer for fluctuating demand.

Multiple factors influence capacity utilization, including policy changes, market fluctuations, planning strategies, technological disruptions, and global competition. For a rapidly evolving industry like NEVs, the very definition of "optimal capacity utilization" necessitates continuous reevaluation.



Traditionally, the optimal capacity utilization rate is thought to be between 80% and 100%. Utilization greater than 100% indicates missed business opportunities, while less than 80% indicates underutilized capacity. Within this range, higher utilization results in better fixed-cost distribution, lower costs, and higher profit margin.

In practice, the level of redundancy in the automotive industry's capacity varies significantly depending on the stage of market development. Decades of development experience in China's automotive industry indicate that for products with an annual market growth rate of 5%-10%, a capacity redundancy of 10%-20% is appropriate, with additional adjustments for fluctuations. Thus, a capacity utilization rate of 60%-80% falls within the normal range. For products with an annual market growth rate greater than 30%, more capacity redundancy is required.

China's NEV leader, BYD, exemplifies the dynamic nature of capacity utilization. In 2023, their passenger car production (3.03 million units) surpassed their stated capacity (1.9 million units), resulting in a remarkable 159.5% utilization rate. Their capacity has expanded significantly, growing by 108% in 2022 and 52% in 2023. This consistent expansion has allowed them to maintain a utilization rate hovering around 150% for the past two years.<sup>1</sup>

Another publicly traded automaker has experienced a significant decline in capacity utilization for its joint venture brands. These brands' rates dropped from exceeding 100% in 2018 to nearly 60% in 2023. This contrasts with their self-owned brand, which has maintained capacity utilization around 100% in recent years.

### 3.2.3 Structural Overcapacity in ICEs due to Rapid Transition to EVs

According to UBS, the capacity utilization rate among Chinese listed automakers (which account for 75% of the domestic market share) steadily increased from 70% in 2020 to 72% in 2021 and 73% in 2022, reaching 74% in 2023. This consistent increase is due to overall sales growth, the closure of obsolete capacities, and the gradual introduction of new capacities.

By business type, joint ventures (primarily producing ICE vehicles) have seen their market share rapidly decline, resulting in capacity utilization rates falling from above the industry average to less than 70%. Conversely, Chinese domestic brands (primarily producing EVs) have seen their market share steadily increase, with capacity utilization rates rising from below the industry average to above 80%. By power source, the rapid transition to EVs has resulted in overcapacity in ICE vehicles.

According to the CAAM, China's ICE vehicle sales peaked at 28.1 million units in 2017, followed by a decline for five consecutive years, reaching 19.97 million units in 2022. Despite a slight rebound in 2023 (20.6 million units), sales remain 7.5 million units below the peak, indicating significant idle capacity. This excess capacity is a temporary phenomenon caused by the ongoing transition from ICE vehicles to EVs.

<sup>1</sup>Source: BYD 2023 Annual Report, and 36Kr article "BYD Annual Report: Hidden Profits, Reserved for the Decisive Battle," March 29, 2024.



There is some idle capacity in the EV sector as a result of failed and eliminated startups.

Fierce competition defines China's EV market, attracting established Chinese automakers, foreign auto giants, EV startups, and even tech companies. The "new forces" of Chinese EV startups thrived during the Federal Reserve's 2020-2021 zero-interest-rate period, raising over \$20 billion to expand production despite ongoing losses. However, rising competition forced consolidation among leading startups, while less competitive players faced production halts, bankruptcies, and resulting idle capacity.

To date, several new car manufacturers, including HiPhi, WM Motor, Skyworth, NIUTRON, Evergrande, Aiyangs, and Levdeo, have ceased production or gone bankrupt.

### 3.2.4 Mergers and Restructuring Reducing Idle Capacity in China

Learning from past overcapacity lessons, the Chinese government prioritizes high-quality economic development in the manufacturing sector. This focus translates to a strong emphasis on optimizing industrial structure, capacity layout, and utilization to prevent wasteful construction and resource depletion.

Prior to 2017, China's NEV industry was characterized by disorganized development. Companies like Qiantu, Saleen, and Hanteng faced bankruptcy soon after launch, leaving behind unused production capacity. To curb this chaotic growth and prevent future overcapacity, China's regulators introduced the Regulations on the Administration of NEV Manufacturers and Products.

In the new phase of industry development, some less competitive ICE and NEV companies have gradually closed or been dissolved. In May, the National Development and Reform Commission (NDRC) proposed measures to help key NEV enterprises grow, accelerate the exit of backward enterprises and capacities, and promote NEV company optimization and restructuring.

Meanwhile, Chinese automakers have begun to investigate the repurposing of idle ICE capacity. In October 2023, GAC Group announced the restructuring of GAC Mitsubishi, transforming it into a wholly-owned subsidiary of GAC Group. Mitsubishi Motors ceased vehicle production, and the factory was repurposed for GAC's NEV brand, Aion. This transformation allows GAC Aion to increase its production capacity. GAC Aion previously had an annual capacity of 400,000 units, with plans to increase to 600,000 units once the factory transformation is completed in June of this year.<sup>1</sup>

<sup>1</sup>Source: GAC Group Announcement, 24 October 2023.

# 04

## Chapter 4

# Three Innovation-Driven Competitive Advantages of Chinese NEVs

### Core Concerns and Recommendations :

Chinese automakers have discovered niche markets within the green and low-carbon transition, constantly lowering costs and improving efficiency, gradually forming three major competitive advantages:

- Chinese NEV manufacturers have consistently invested in R&D, resulting in rapid technological advancements.
- NEV manufacturers have created a comprehensive and integrated industry chain by leveraging China's strong manufacturing prowess.
- The Chinese NEV market has developed extensive infrastructure, providing excellent support for industry growth.



Where does China's NEV industry get its competitive edge? China's NEV industry benefits from several factors honed over seven decades of automotive industry growth. These include continuous technological innovation, a robust supply chain, a massive domestic market, and fierce competition. This combination positions China as a leader in the green transition, driving significant progress in the NEV sector.

China's strategic approach, including a comprehensive R&D framework focusing on FCVs, HEVs, and PEVs alongside core technologies like powertrain control systems, motors, and batteries, has been key to its EV success. By fostering innovation at the enterprise level, China has driven breakthroughs in power battery technology, new charging methods, and high-efficiency drivetrains, leading to significant improvements in EV performance, affordability, and accessibility.

China boasts the world's largest and most extensive NEV industry ecosystem, integrating traditional auto parts with NEV-specific battery, electronics, and drivetrain supply chains. This ecosystem further extends to charging, battery swapping, and recycling infrastructure.

China is now a global leader in new energy technologies and manufacturing. Chinese NEV power batteries are among the best in the world, offering high energy density, extended lifespan, and enhanced safety. These batteries make up over 60% of the global market share.

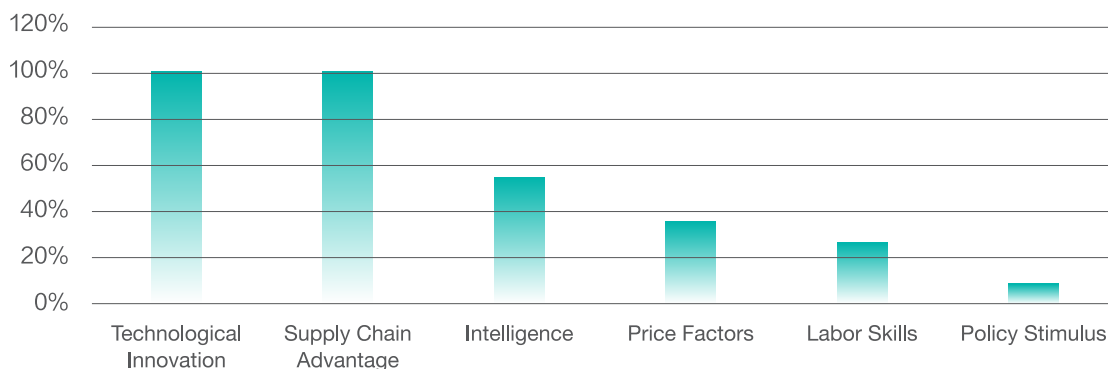
China has developed nearly 9 million charging stations and hosts over 14,000 battery recycling companies, forming the world's largest network of supporting infrastructure.

Intelligent technology is a standout feature of Chinese NEVs, enhancing vehicle intelligence, safety, comfort, and user experience through intelligent vehicle connectivity, autonomous driving, artificial intelligence, and big data.

The cost advantage of Chinese EVs over those from Europe and the United States stems from the accumulation of core technologies, a well-developed infrastructure, and continuous innovation by car companies. Additionally, China’s robust industrial manufacturing capabilities and efficient, low-cost production systems make its NEV industry highly competitive globally.

Fig. 4-0-1

**Survey on Competitive Advantages of Chinese-Made EVs**



Source: CCCEU & CEIS

## 4.1 Technological Innovation - Core Advantage of China’s EV Industry

### 4.1.1 BYD Seal Teardown: Significant Cost Advantages for Chinese EVs

In 2023, UBS conducted a teardown of BYD’s Seal, a popular mass-market EV model in China. This vehicle features LFP blade batteries, advanced electronic and electrical architecture, and a state-of-the-art Advanced Driver Assistance System (ADAS). Priced under \$30,000, the Seal competes directly with the Tesla Model 3 and has become the best-selling EV in China. The teardown revealed that the BYD Seal has a cost advantage of 15% to 25% over its competitors.<sup>1</sup>

Compared to the previously torn down Tesla Model 3 and Volkswagen ID.3 by UBS, the BYD Seal offers more space and comfort while costing 15% to 35% less. If the Seal were to be produced locally in Europe in the future, its costs would be about 10% higher than direct exports from China but still approximately 25%, or \$10,000, less than similar competing models produced by European automakers in Europe.

UBS believes that China’s cost competitiveness stems not only from its relatively low production factor costs but also from technological innovations, process improvements, and simplified engineering designs. BYD’s highly vertically integrated model, in which approximately 75% of the components are self-produced, as well as technological advantages in power batteries, vehicle integration, powertrains, and electronic modules, all contribute to this cost advantage, which is constantly enhanced through ongoing technological iterations.

<sup>1</sup>Source: UBS Report, “Will Chinese electric vehicles (EVs) win globally”, September 2023.

## 4.1.2 Continuous Growth of Chinese EV Patents

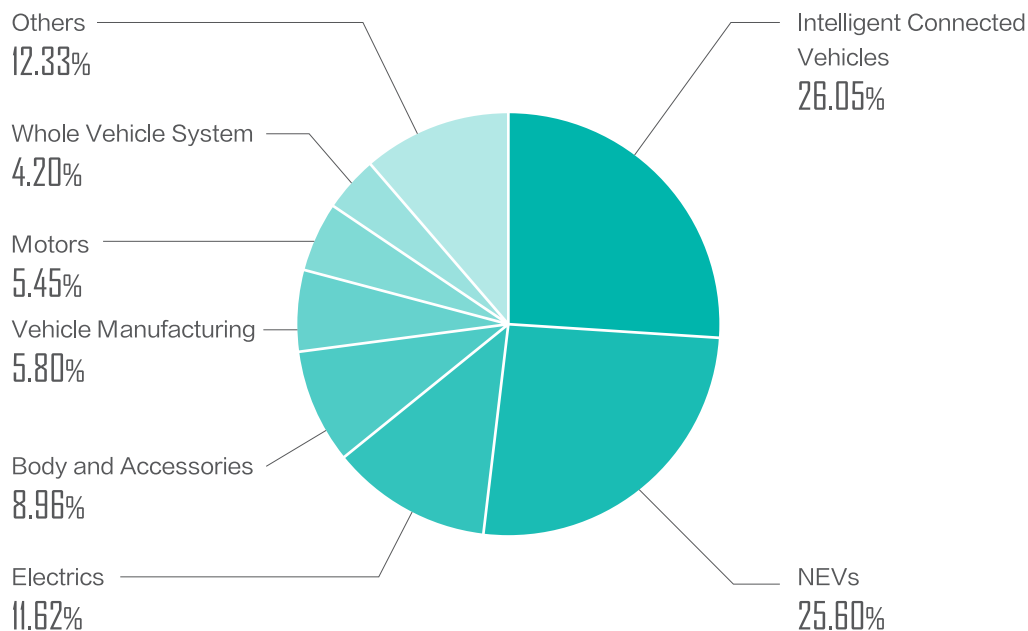
According to the latest data, Chinese EV patent applications account for nearly 70% of global NEV patent applications, highlighting significant technological advances in the Chinese EV sector.

The China Automotive Information Technology (Tianjin) Co., Ltd. reports that China granted 107,800 automotive invention patents in 2023, a 14.02% increase over the previous year, strengthening the country's innovation capability in key automotive technologies.

In 2023, the automotive industry continued to prioritize electrification, intelligence, and connectivity, with patents for intelligent connected vehicles (ICVs) and EVs accounting for 51.65% of total patent applications. Patents in the ICV field increased by 9.35% year-on-year, accounting for 26.05% of the total and surpassing those in the EV field for the first time, indicating strong development. Patents in the EV field increased by 1.76% year-on-year, accounting for 25.60%, indicating consistent growth.

Fig. 4-1-1

### Composition of Chinese Automotive Patents in 2023



**Source:** China Automotive Information Technology Co., Ltd. (Tianjin) & AutoPat

Technological innovation and patent layouts in the EV sector are concentrated in battery, electric drive, and charging systems, with power battery technologies being a primary focus for corporate innovation.

In 2023, 16 of the top 20 entities for NEV patent disclosures in China were domestic brands, demonstrating a significant advantage in patent structure.

Fig. 4-1-2

**2023 China's NEV Patent Publication Ranking**

Ranking	Company	No. of Patents Published	YoY Growth	Ranking Change
1	Contemporary Amperex Technology Co., Limited (CATL)	2,769	131.72%	Stable
2	BYD Company Limited	1,117	1.09%	Stable
3	LG Energy Solution Ltd.	1,068	30.56%	↑ 3
4	China Aviation Lithium Battery Technology Co., Ltd.	1,065	33.79%	↑ 3
5	SVOLT Energy Technology Co., Ltd.	1,061	-1.39%	↓ 2
6	EVE Power Co., Ltd.	925	75.52%	↑ 5
7	China FAW Group Corporation	811	-4.36%	↓ 2
8	Aulton New Energy Automotive Technology Co., Ltd.	603	-31.01%	↓ 4
9	EVE Energy Co., Ltd.	562	262.58%	New Entry
10	Great Wall Motor Company Limited	515	1.98%	↑ 2
11	GAC Aion New Energy Automobile Co., Ltd.	512	29.29%	↑ 7
12	Toyota Motor Corporation	485	-26.63%	↓ 4
13	DeepBlue Technology	475	56.25%	New Entry
14	Gotion High-Tech Co., Ltd.	473	0.42%	↓ 1
15	Sunwoda Electric Vehicle Battery Co., Ltd.	469	37.13%	New Entry
16	Hyundai Motor Company	449	22.68%	Stable
17	Geely Holding Group	433	9.34%	↓ 8
18	Honda Motor Co., Ltd.	420	-10.06%	↓ 4
19	Leading Ideal (Beijing) Technology Co., Ltd.	409	188.03%	New Entry
20	Chang'an Automobile	406	100.99%	New Entry

Source: AutoPat

China Automotive Intellectual Property Application Promotion Center, TISC

Only one of the top ten EV patent disclosures (including invention, utility model, and design patents) came from a foreign parts manufacturer. Contemporary Amperex Technology Co. Limited (CATL) received the most patent disclosures for power battery systems, with 2,609 patents issued.

“China’s EV industry has a natural competitive advantage built over decades of development due to its lower costs. This advantage was gained by Chinese companies through a market-oriented approach, continuous innovation in a fiercely competitive market, and long-term investments in areas such as power batteries and software.”

— *Ferdinand Dudenhöffer, Director of the Center for Automotive Research, Bochum, Germany*

### 4.1.3 China Leads in Battery, Motor, and Electronic Control Technologies

Chinese EV companies are at the forefront of battery, motor, and electronic control technologies.

In the realm of power batteries, Chinese companies have established themselves as global leaders, boasting unparalleled cost, scale, and industrial chain advantages. Currently, more than half of the top ten global power battery manufacturers are from China, with Chinese companies accounting for over 62% of the global market share and maintaining the top spot for six consecutive years.

In the first quarter of 2024, six Chinese power battery companies—CATL, BYD, CALB, EVE Energy, Gotion High-Tech, and SVOLT—secured positions in the top ten for global power battery installations. Over 70% of global shipments were attributed to key power battery materials such as cathodes, anodes, separators, and electrolytes.

From liquid lithium batteries to semi-solid batteries, from Kirin batteries with a range of 1,000 kilometers on a single charge to the 800-volt high-voltage silicon carbide platform with a range of 400 kilometers on a five-minute charge, China’s core power battery technology has made breakthroughs, resulting in improved safety performance, longer range, and faster charging speeds. China’s auto parts industry chain has been clustering and scaling, with the power battery field forming the world’s largest production base, promoting technological progress and rapid cost reduction in China’s NEV industry chain.

Chinese companies are intensifying their R&D efforts and making significant breakthroughs in next-generation power battery technology.

### Case Study: CATL

Founded in 2011, CATL specializes in the R&D, manufacture, and sales of power and energy storage batteries, leveraging core technological advantages and a forward-thinking R&D strategy encompassing battery materials, systems, and recycling.

According to SNE Research, CATL held a 36.8% global market share in power battery usage in 2023, a 0.6 percentage point increase from the previous year, marking its seventh consecutive year as the global leader.

In the first quarter of 2024, CATL continued to dominate the global power battery installation rankings with 60.1 GWh installed, representing a 31.9% year-on-year increase and a market share of 37.9%, nearly three percentage points higher than the same period last year.

CATL's R&D expenditure reached 18.356 billion RMB in 2023, up 18.35% year-on-year, bringing total R&D spending to more than 52.8 billion RMB since 2016.

The company effectively lowers procurement costs through large-scale production and refined management, consistently optimizing production processes to increase efficiency and reduce costs. Additionally, CATL actively invests in upstream and downstream industry chain enterprises, combining resources to minimize costs and ensure supply chain stability.

#### Key Innovations:

- Third-Generation CTP Kirin Battery: With a system energy density of 255 Wh/kg and a volumetric utilization rate of 72%, this battery enables EVs to travel over 1,000 kilometers and supports a 4C charging rate, allowing an 80% charge in just 10 minutes.

- Condensed Matter Battery: Featuring an energy density of 500 Wh/kg, this battery combines high specific energy and safety with rapid mass production capabilities. It is suitable for manned electric aircraft, paving the way for complete electrification on land, sea, and air.

- Shenxing PLUS, LFP Battery: Utilizing self-developed three-dimensional honeycomb materials, this is the world's first LFP battery with a 1,000 km range and 4C ultra-fast charging, enabling a 600 km range with just a 10-minute charge.



#### 4.1.4 Chinese Automakers Keeping Making Headway in Intelligent Technology

Intelligentization has become a critical strategic direction for China's automotive industry. The development of an intelligent supply chain leverages China's extensive supply chain and business model expertise in consumer electronics and the internet. High acceptance and demand for intelligent features among Chinese consumers drive companies to invest heavily, accelerating the introduction of new functionalities in vehicles and enhancing user experiences.

In recent years, China has expedited the establishment of policies and management systems for road test product management, traffic, geospatial mapping, and data security, creating a favorable environment for industry development. China's intelligent vehicle application path is well-defined, with the "smart cars" and "intelligent roads" serving as a collaborative vehicle-road solution and the development of an integrated "vehicle-energy-road-cloud" industry ecosystem.

The rapid advancement of new technologies such as 5G, big data, cloud computing, the Internet of Things (IoT), and artificial intelligence has accelerated the integration of vehicle, chip, software, and communication technology companies. This has sped up the implementation and continuous iteration of intelligent technologies and products, including mature functions like intelligent assistance systems, smart cockpits, in-car human-machine interaction infotainment systems, and intelligent driver safety monitoring. The use of AI models in vehicles is rapidly expanding, propelling the automotive industry into a new era of AI, cross-industry connectivity, and intelligent interaction innovations.

In 2024, the penetration rate of L2 and higher assisted driving features in Chinese new energy passenger cars is expected to reach 55%, with Navigation on Autopilot (NOA) penetration exceeding 10%. L3 autonomous driving will begin pilot entry and road testing, with commercialization anticipated within the next 3-5 years. L4 Robotaxis will transition from testing to regular commercial operations.

Historically, China's automotive industry relied on technological imports from developed countries, but advancements in intelligent technology have reversed this trend.

Volkswagen Group, one of the most active players in technological cooperation with Chinese companies, has recently formed close partnerships with XPeng, Horizon Robotics, and Thunder Software Technology.

Volkswagen's collaboration with XPeng includes equity investment and joint vehicle development, leveraging XPeng's expertise in smart cockpit and advanced driver assistance system (ADAS) software. The joint venture with Horizon Robotics focuses on developing ADAS and comprehensive autonomous driving solutions, while the joint venture with Thunder Software Technology concentrates on software products and solutions for smart cockpits and intelligent connected systems.

“Through the partnership with XPENG, we are not only accelerating development times, but also boosting efficiency and optimising cost structures. This increases the competitiveness in a highly price sensitive market environment significantly. The ID series models’ success is partly thanks to their relatively affordable prices.”

— Ralf Brandstätter, Chairman and CEO, Volkswagen AG China<sup>1</sup>

#### 4.1.5 Reduced Development Cycles and Faster Technological Iteration

The development cycle for traditional ICE vehicles was 48 months, but this has been reduced to 36 months in recent years. Remarkably, the development cycle for new Chinese NEVs has now been shortened to just 15-18 months, ushering in a “Moore’s Law” era comparable to the semiconductor industry. This transformation has brought about qualitative changes in R&D paradigms and methods, significantly increasing innovation speed and R&D efficiency.

Component standardization is accelerating, enabling Chinese automakers to use their respective R&D platforms to develop new models more rapidly. Furthermore, NEV iteration has shifted from hardware-driven to software-driven, with software updates occurring at a much faster rate than hardware, further reducing the development cycle for new vehicles.

Shorter development cycles allow car manufacturers to respond swiftly to consumer demands for new technologies, trends, diversification, and personalization. This agility also enhances companies’ cost-control capabilities, potentially saving billions of dollars per year in labor costs alone.

## 4.2 China’s NEV Industry Increasingly Clustering

China’s automotive industry has evolved into six major industrial clusters<sup>2</sup> centered on large automotive groups such as FAW Group, Dongfeng Motor, SAIC Motor, Chang’an Automobile, BAIC Group, and GAC Group, as well as companies like Tesla, BYD, Great Wall, Geely, and new car manufacturers. Each major corporation serves as a “chain leader” in the supply chain, driving the development of regional supply chains and industrial circles.

<sup>1</sup>Source: XPeng Motors Official WeChat Article, February 29, 2024.

<sup>2</sup>Source: Yangtze River Delta, Pearl River Delta, Beijing-Tianjin-Hebei, Wuhan-Changsha-Nanchang, Chengdu-Chongqing West, and Northeast.

Fig. 4-2-1

**Tesla-, BYD-, and CATL-led Clusters (partial)**

Brands	Impact on the regional industry chains
Tesla	Tesla Shanghai Gigafactory has built a “4-hour drive industrial circle” in the Yangtze River Delta region, achieving a 95% local supply chain integration, and spurring the rapid development of approximately 360 upstream suppliers.
BYD	Xi’an Operations: BYD has established operations for passenger cars, commercial vehicles, electronics, automotive finance, and other businesses in Xi’an. This has attracted numerous upstream and downstream supply chain enterprises. In 2022, BYD produced 995,000 vehicles, making Xi’an the leading city for NEV production.
CATL	Ningde Operations: Over 80 upstream and downstream industry chain enterprises have gathered in Ningde. With a production capacity of 330 GWh, Ningde has formed a complete lithium battery industry chain encompassing “materials - processes - equipment - cells - modules - battery management systems (BMS) - NEVs - battery recycling and dismantling - material recycling.”

Source: China EV 100

Building on the foundation laid by the ICE automotive industry, the Chinese NEV industry has gradually developed into a complete industrial chain that encompasses material R&D, engineering design, manufacturing management, and final assembly integration. Regional supply chain systems have emerged in NEV-concentrated areas, resulting in an industrial ecosystem driven by vehicle manufacturers, supported by advanced intelligent connected industry chains, and bolstered by favorable industrial policies. From an industrial structure standpoint, China has built a comprehensive clustered supply chain that includes traditional, new energy, and intelligent connected vehicle components.

Chinese NEV companies are actively testing new technologies and products. For example, chip companies such as Mobileye and NVIDIA have chosen Chinese car manufacturers to launch their chips.

When it comes to core intelligent components, China, the US, and Europe excel in different areas:

- United States: Leads in high-performance computing chips and software, with NVIDIA and Qualcomm dominating the intelligent driving and smart cockpit chip markets. Google’s Android is a major player in automotive operating systems, accounting for approximately 95% of global in-car operating systems owned by North American companies.

- Europe: Focuses on automotive control chips, with dominant markets in chassis, power batteries, and body control. Europe also leads in SiC power semiconductors, sensor chips, and intelligent chassis technology.

China: Employs an integrated “software + hardware + components” development model, specializing in intelligent driving and smart cockpit solutions. This approach promotes the industrialization of upstream components such as chips, operating systems, algorithms, and LiDAR, establishing China as a major player in the global intelligent components industry.

Despite efforts by governments around the world to establish local NEV supply chains, no country will be able to achieve total self-sufficiency in the vehicle supply chain in the long run.

## 4.3 Continuous Improvements to NEV Supporting Infrastructure

The growth of the NEV market is heavily dependent on the development of supporting infrastructure. Continuous improvements in charging infrastructure in China are critical to the development of the EV industry.

According to data released by China’s National Energy Administration, the total number of charging facilities in China reached 8.596 million by the end of 2023, a 65% increase over the previous year. Charging facilities were installed at 6,328 highway service areas across the country, accounting for 95% of all service areas. In 15 provinces and cities, including Beijing, Shanghai, Hebei, and Anhui, all highway service areas now have charging capabilities.

The Report on China Major Cities Charging Infrastructure Monitoring 2023 reveals that the average density of public charging stations in China’s central urban areas is 26.5 units per square kilometer, with a 77.0% coverage rate. In 17 cities, including Tianjin, Shanghai, and Xi’an, the coverage rate of public charging stations exceeds 80%. Even Quanzhou, the city with the lowest coverage rate, has a nearly 42.8% coverage.

China’s NEV infrastructure development addresses issues such as range and charging efficiency. Since 2021, automakers such as BYD, Geely, XPeng, and Great Wall have been developing 800V NEVs with typical fast-charging peak demands of more than 300 kW. These companies are actively developing their own charging networks and accelerating the construction of high-voltage charging stations. The rapid development of the photovoltaic energy storage industry creates new opportunities for charging stations.

Upstream, Chinese photovoltaic manufacturers like Huawei and Sungrow are hastening the development of distributed photovoltaic systems. These efforts contribute to grid stability and effectively reduce the impact of large-scale charging stations’ electricity consumption on local power grids.

 **Case Study: NIO - Pioneer of the Battery Swapping Model**

Battery swapping is a method for charging NEVs by replacing the vehicle's battery at a swapping station, offering a full charge in a matter of minutes and closely resembling the quick refueling experience of traditional fuel vehicles.

Chinese NEV brand NIO is a pioneer in the battery swapping model. NIO actively promotes the “rechargeable, swappable, and upgradeable” energy replenishment model. To date, NIO has established 2,420 battery swapping stations across China, including 800 high-speed stations.

For end users, the battery swapping model offers significant benefits over traditional charging. Many Chinese consumers lack the necessary charging conditions, such as fixed parking spaces in residential areas, making the installation of private charging piles impractical. Even with 5C supercharging, which can add 500 kilometers of range in 12 minutes, the charging speed is still slower than battery swapping.

NIO's third-generation battery swapping stations can complete a swap in just 3 minutes, providing a fully charged battery and significantly reducing users' range anxiety. As the number of swapping stations grows, more companies, including Chang'an, Geely, and GAC, have joined NIO's battery swapping ecosystem.



# 05

## Chapter 5

### Way Forward

#### Core Concerns and Recommendations :

##### Challenges for Chinese NEV companies in Europe

- Increased trade protectionism raises the cost burden on businesses
- The European Union is using its influence in the carbon market to impose new trade barriers
- Europe is slow to build infrastructure for NEVs

##### Cooperation is the only path to a low-carbon transition

- Chinese and European automotive companies can strengthen their technological cooperation
- China and Europe can learn from each other's policy practices to promote industrial transformation and upgrading
- Chinese and European automakers can share supply chain resources
- Chinese and European automakers can strengthen their investment cooperation, achieve substantial growth and expansion



While European and American automakers have traditionally dominated the ICE vehicle market, Chinese NEV manufacturers have emerged as leaders in production, sales, and technological innovation. However, to gain greater visibility in Europe, Chinese NEV companies must overcome a number of challenges.

For over a century, Europe has taken pride in its automotive industry. Chinese NEV companies operating in Europe understand the EU's strong will to boost its own automotive sector and create home NEV producers. As the energy transition gains momentum, Chinese and European automakers have the opportunity to forge strong alliances in supply chains, technology, and investment.

Foreign investment and international cooperation have played a crucial role in the growth of China's automotive industry, helping it evolve from a nascent market to a global manufacturing powerhouse. Companies like Volkswagen, Mercedes-Benz, BMW, Bosch, and Aptiv exemplify the benefits of globalized industrial development and have left their mark on China's automotive landscape.

Similarly, open collaboration between domestic and international players has fueled China's NEV industry, offering valuable lessons for the global market. European traditional automakers, facing challenges like battery production bottlenecks in the electrification process, can turn these into opportunities through collaboration and mutual benefit with China. This collaboration positions Chinese automobile manufacturers as participants, contributors, and beneficiaries of the European NEV industry.

## 5.1 New Challenges for Chinese Automakers in Europe

### 5.1.1 Rise in Trade Protectionism Exacting Higher Cost Burdens

In response to growing concerns about trade protectionism globally, the EU has implemented a stricter regulatory framework to safeguard its strategic industries. This framework includes the EU framework for screening of foreign direct investment, the European Economic Security Strategy, and the Foreign Subsidies Regulation (FSR), which aim to ensure fair competition and protect critical infrastructure by scrutinizing foreign investments. These regulations may potentially impact Chinese investors' ability to acquire key assets, operate freely, and influence technological standards in Europe.

The FSR introduces new regulatory mechanisms for mergers, acquisitions, and public procurement involving foreign-subsidized companies to prevent distortion of fair competition in the EU market.

However, respondents said that this regulation creates significant uncertainty for Chinese enterprises operating in Europe. For starters, the FSR's broad and ambiguous definition of "foreign financial contributions" creates significant uncertainty, which may lead to extensive investigations and potential sanctions by the European Commission.

Furthermore, while European subsidiaries of Chinese companies should be treated equally with EU-based companies, the European Commission's scrutiny of subsidies received by Chinese parent companies unnecessarily broadens the scope of "subsidies" under review, implying that these subsidies are passed on to their European entities.

This raises uncertainty for investments, as future decisions by Chinese automotive companies in Europe, such as localized production or public procurement bids, may face scrutiny by the European Commission. This scrutiny could potentially lead to lengthier administrative procedures, higher transaction uncertainty, and increased compliance burdens.

In response to EU anti-subsidy investigations, China has potential countermeasures. For example, China could raise tariffs on large-displacement SUVs, incentivizing a shift towards green technologies in the automotive sector. China may also consider reciprocal measures on EU car imports, strengthen oversight of European companies in China, or limit critical mineral supplies for Europe's emerging battery industry.



## 5.1.2 “Carbon Barriers” Becoming New Trade Obstacles

As the green transition gathers pace, climate change has become a central focus for international relations and trade competition. The EU, a leader in renewable energy technologies and market systems, is developing new international trade rules centered on “climate” and “carbon emissions.”

### **Carbon Border Adjustment Mechanism (CBAM):**

The EU introduced the Carbon Border Adjustment Mechanism (CBAM) in 2023, with a transition period until the end of 2025. This is the first legislation focused on “carbon tariffs” globally. From 2026 to 2034, it will be gradually and completely implemented. According to CBAM, the EU will adjust the price of imported products based on their carbon emissions to reduce the cost disparity between EU companies and those in developing countries, effectively imposing a “carbon tariff.”

The initial high-carbon emission sectors covered by CBAM are electricity, steel, aluminum, cement, chemicals, and hydrogen. However, based on the information gathered, the EU is likely to consider broadening the scope of CBAM horizontally to other industries and vertically to include the upstream and downstream products of the existing six industries. The automotive industry could become a new target for these carbon tariffs.

Surveyed companies said that, while CBAM allows for the deduction of carbon emission costs paid in the product’s country of origin, the carbon price in China’s market is significantly lower than that in the EU. If the automotive industry is included in CBAM’s applicable sectors, Chinese car manufacturers exporting to the EU will face significant carbon tax costs.

### **Product Carbon Footprint**

The EU’s Regulation Concerning Batteries and Waste Batteries took effect in August 2023 and has been implemented since 18 February 2024. This law mandates the quantification and certification of the product carbon footprint for all types of batteries entering the EU market. A product’s carbon footprint calculates total carbon emissions throughout its lifecycle stages, necessitating extensive data collection across the entire product chain.

The regulation requires relevant manufacturers to disclose their products’ full lifecycle carbon footprint by 2025. Beginning in 2027, power batteries exported to Europe must have a compliant “battery passport,” which includes information about the battery’s manufacturer, material composition, carbon footprint, and supply chain. In the next phase, the EU will establish maximum carbon footprint thresholds for the entire lifecycle of power batteries. By 2028, battery products that exceed these carbon footprint thresholds will be barred from entering the market.

The implementation of the regulation poses significant challenges for Chinese companies exporting to Europe. The regulation mandates companies to refine their carbon footprint declarations and meet the EU’s stringent battery material recovery and reuse requirements, including detailed disclosures in the battery passport.

Respondents said that the EU's carbon footprint database uses outdated emission factors from 2012, which do not reflect changes in China's current electricity mix. Additionally, the EU calculates carbon footprints at the national level, ignoring regional differences within China, where each province has its own carbon emissions. Using a national average negates the low-carbon benefits of several provinces.

The "barrier" effect of the carbon footprint requirement is already evident. Starting 1 January 2024, the EV purchase subsidies implemented by the French government, is based on an "environmental score," accounting for carbon emissions throughout the production, assembly, and transportation processes. To be eligible for subsidies, vehicles must score at least 60 points overall and meet other specified requirements.

This calculation method only considers emissions from the production, processing, and transportation stages, excluding the vehicle's usage phase. According to the French government's default carbon emission factor list, China's values for six specific processes rank among the lowest or in the lowest range.

Respondents stated that this policy clearly favors vehicles manufactured in France or Europe, and currently, almost all Chinese EVs do not meet the subsidy criteria, rendering them ineligible for subsidies.

#### **Data Compliance:**

EVs use intelligent technologies that collect both personal and vehicle data. Europe has strict data protection regulations, such as the General Data Protection Regulation (GDPR), which requires companies to follow its provisions when handling personal data. This means that Chinese new energy vehicles (NEVs) sold in Europe must ensure that personal data collection and processing are GDPR compliant.

The EU's mechanisms for transferring automotive data to other countries primarily include adequacy decisions (the "whitelist"), appropriate safeguards, and the use of derogations. China is not on the EU's list of countries or regions with adequacy status for data protection.

Surveyed companies said that they encountered persistent inquiries from both national and EU levels while registering subsidiaries, highlighting the EU's increased emphasis on data security.

Overall, Chinese automobile exports to Europe face a variety of data compliance challenges, such as regulatory oversight of data processing activities, cross-border data transfer restrictions, personal privacy protection issues, and technical compliance requirements.

### 5.1.3 Inadequate Infrastructure and Slow Development of Charging Stations

According to the European Automobile Manufacturers Association (ACEA), the EU's public EV charging stations grew to over 630,000 by 2023, an increase of over 150,000. However, this infrastructure development lags behind surging sales of BEVs. ACEA estimates that by 2030, the EU will require 8.8 million public charging stations to meet consumer demand, which is equivalent to adding 1.2 million per year, or eight times the number installed in 2023.

Disparities in financial strengths across countries have impeded the development of a comprehensive European charging network. Currently, Germany, France, and the Netherlands account for nearly two-thirds of the EU's charging stations. The EV market in Eastern and Southern Europe is growing slowly, and without EV subsidies and increased charging infrastructure, the situation is unlikely to improve any time soon.

Overall, Europe's infrastructure is inadequate, as evidenced by a lack of charging stations, uneven regional distribution, and installation rates that lag behind EV sales growth. This not only affects the ease of use of NEVs but also limits the market's future growth. Accelerating the construction of charging infrastructure is required to meet the rapidly increasing demand for NEVs. However, compared to China's manufacturing capabilities, producing charging stations in the EU costs two to three times more.

## 5.2 Cooperation Is the Only Viable Way Forward

In the automotive industry, Chinese car companies are relative newcomers, whereas European car companies boast a rich history as industry pioneers, having established world-class industrial clusters and led global brand and technology exports, accumulating significant financial resources for transformation. Compared to the more mature ICE industry, the European new energy vehicle industry is in the early stages of technology accumulation and market development. China and Europe each have unique strengths in green industry development. Respecting each other's roles in the global green industry chain and fully participating in value chain cooperation will enable both parties to effectively leverage their comparative advantages and jointly develop the global market.

China remains committed to open cooperation and is constantly expanding its level of openness. The Tesla Shanghai Gigafactory, which broke ground in early 2019, serves as a prime example. As China's first fully foreign-owned automobile manufacturer, the Shanghai factory by 2023 accounted for roughly 50% of Tesla's global production. Tesla's presence has created a "catfish effect" in China's NEV industry, promoting the overall development of related supply chains. This fierce competition has compelled Chinese NEV companies to improve their capabilities, innovate, and push industry competitiveness to new heights.

Both sides must work together. If the EU does not impose discriminatory and hostile policies on Chinese products, China can strengthen industry self-regulation and address European concerns, allowing Chinese automakers to maintain reasonable growth in the European market.

## 5.2.1 Enhancing Technological Cooperation

The automotive industries in China and Europe have long been interconnected and mutually beneficial. This has fostered a development pattern where investment and market penetration are intricately linked.

By learning from each other's design philosophy, R&D expertise, and other tech knowledge, Chinese and European automotive companies can enhance the user experience of NEVs and promote their global adoption.

In NEV software and hardware technology R&D, European automakers' extensive experience in vehicle design, powertrains, and propulsion systems complements Chinese NEV manufacturers' strengths in smart connectivity and in-car software development. Integrating Chinese and European software and hardware technologies will open new opportunities for advancing NEV technology.

In power battery research and production, China and Europe can collaborate to establish a green standard system for power batteries, develop recycling technologies, and create efficient, eco-friendly, and cost-effective battery recycling and reuse solutions.

Interviewed companies noted that in NEV infrastructure development, China and Europe have complementary capacities and technological advantages. There are significant cooperative benefits in developing third-party markets and meeting their new energy infrastructure needs.

## 5.2.2 Fostering Mutual Learning in Policy-making

By strengthening strategic alignment and exchanging policy practices, both regions can benefit from each other's approaches in their transition to zero-emission transportation.

China can learn from the EU's climate-driven policies for transforming the automotive industry, such as setting long-term development goals, strategic planning, and implementing emissions trading schemes.

Conversely, the EU can learn from China's consistent approach to automotive industry transformation, which improves the formulation of incentives for NEVs, environmental policies, and demonstration and promotion policies.

China plans to establish a high-quality charging infrastructure system by 2030. This system will be extensive, meeting projected demand, and well-structured. Additionally, China aims to modernize its industry regulation system and governance.

China intends to use emerging technologies such as 5G, big data, cloud computing, IoT, AI, and the industrial internet to accelerate the revolution in NEV production, consumption, and technology.

Green, low-carbon transition is a global imperative. To achieve this, China and the EU can leverage their strengths by establishing fair and robust incentive policies that stimulate innovation and corporate dynamism within their respective regions. Collaborative efforts towards meeting global carbon reduction targets will ultimately promote sustainable development worldwide.

Respondents said that both China and the EU possess significant policy leeway for collaboration on green economy policies, standardization, and talent development. By fostering mutual learning and avoiding the politicization of economic and trade relations, they can create a more secure and competitive environment for NEVs and the broader green economy to thrive globally.

### 5.2.3 Enhancing Supply Chain Cooperation

Promoting collaboration between China's power battery industry and the European automotive and battery sectors can significantly bolster Europe's power battery supply chain competitiveness.

China boasts the world's most comprehensive and cost-effective power battery supply chain, with LFP batteries being a most popular choice globally. The Chinese power battery industry is open to various forms of cooperation, particularly across the industry chain in key areas like cathode and anode materials and battery recycling. This collaboration could encompass high-end and mid-to-low-end battery cells, separators, current collectors, and electrolytes, as well as battery manufacturing equipment.

Furthermore, Chinese companies may participate in developing charging infrastructure in Europe. It is recommended that the EU take an open-minded approach to Chinese NEV companies developing charging infrastructure in Europe, encouraging and supporting the involvement of relevant Chinese businesses in developing European charging facilities.

By establishing partnerships built on shared green development goals, China and the EU can collaborate effectively in areas like NEV infrastructure and international finance. Collaboration can involve mutually beneficial joint venture structures, such as the 50%-50% ownership structure that China introduced decades ago, that encourage technology transfer, capital investment, and local industry development.

### 5.2.4 Developing Mutual Recognition and Trust Mechanisms for Standards

The automotive industry's comprehensive transition to electrification faces numerous common challenges. The low-carbon transition requires collaboration across multiple fields, including automotive and transportation networks, the energy grid, and the information network. China and Europe have yet to establish a comprehensive policy system and management mechanism for such coordination, necessitating further investigation and breakthroughs in institutional mechanisms and policy management barriers.

Promoting mutual recognition and trust mechanisms for whole vehicles and power battery standards between China and Europe is critical. Collaborative efforts should focus on developing and applying international standards.

Joint efforts should develop standards and rules for the low-carbon development of NEVs, promoting universality and compatibility between domestic and international standards. Standards for power battery carbon footprint assessment, lifecycle data management, and data quality improvement should be established and unified as soon as possible. The focus should be on improving communication regarding calculation methods and technical details. Additionally, a comprehensive carbon database at the product level should be created, detailing intensity values, types, and their relationship with regions and raw material data for each product category.

In the data domain, China can learn from Europe's GDPR experiences and practices and efforts to promote cross-border data flow. The goal should be to foster mutual trust and a "whitelist" mechanism for data transmission, transaction, sharing, and utilization between China and Europe.

Furthermore, efforts should be increased to promote international mutual recognition of verification institutions, such as the recognition of China's carbon accounting standards and results by Europe, as well as the alignment of domestic green certificates with European and international green consumption and carbon reduction systems.

## 5.2.5 Enhancing Investment Cooperation

As Chinese NEV companies expand into foreign markets, EU countries can leverage their mature automotive industry expertise to collaborate on NEV production. This collaboration can create new opportunities in the growing EV market, potentially offsetting job and social welfare losses from the closure of traditional ICE vehicle plants. Chinese NEV companies are increasing their investments in countries such as Hungary, Spain, and Germany.

For example, Hungary, situated in Central Europe, boasts a long history in the automotive industry, a robust network of suppliers, a skilled workforce, and a mature industrial base.

In recent years, Sino-Hungarian relations have improved, with Hungary actively attracting Chinese enterprises to invest by providing a favorable environment and strong support for business development. Bilateral economic and trade cooperation encompasses trade facilitation and investment protection. These factors contribute to lower operational costs and market entry barriers for companies. China's investments have significantly boosted Hungary's automotive industry.

Before reaching a balance between cooperation and conflict in the China-Europe NEV industry, China's NEV sector can expand globally by actively cultivating markets in developing countries. Leveraging the Belt and Road Initiative and the collaborative framework of creating a "Green Silk Road," China is establishing NEV industrial chains in countries participating in the Initiative, advance new energy infrastructure development, and explore NEV markets in developing nations. These efforts will help mitigate the negative effects of rising market barriers in the EU while capturing early development opportunities for the NEV industry. Under current circumstances, China and Europe should promote mutual investment among enterprises, improve the NEV industry and supply chains, and work together to expand the global NEV market.

### Case Study: Chery Automobile and Spain's Ebro Group Form Joint Venture

On April 19, Chery, China's third-largest automaker and largest exporter, signed a joint venture agreement with Spain's Ebro-EV Motors in Barcelona. The new joint venture company will develop new models for the Chery and Ebro brands.

The factory is set to start production in 2024, with an annual production target of 50,000 cars by 2027 and plans to increase to 150,000 cars per year by 2029.

The Chery Omoda 5, available in both all-electric and fuel-powered versions, will be the first model produced, followed by the plug-in hybrid Jaecoo 7.

The joint venture also plans to revive the historic Ebro brand, which ceased sales in Spain in 1987, by producing two SUVs that share Chery technology.

Unlike other companies building new factories from scratch in Hungary, Chery will expedite production and distribution by acquiring and refurbishing an existing Nissan factory.

Chery's interest in the former Nissan factory began in 2022. The factory closed in 2021 and was partially handed over to Silence, a Spanish electric motorcycle manufacturer, and local engineering groups QEV and Ebro-EV Motors, with the goal of converting it into an EV hub. Ebro-EV Motors gained complete control of the facility in March and played a key role in negotiations with Chery.

The joint venture partners said that the agreement will revitalize the factory and create around 1,250 direct jobs.

## 5.2.6 Creating Fair and Nondiscriminatory Business Environment

The future development and cooperation of the China-EU automotive industry hinge on fostering a fair, open, and transparent market environment built on mutual trust and healthy competition. Policymakers must ensure effective communication and coordination among Chinese companies operating in Europe. Both China and the EU need to demonstrate respect for each other's interests and legitimate concerns. This includes eliminating the negative impact of the EU's unilateral economic and trade tools, and providing Chinese companies with the same fair, just, and non-discriminatory business environment that European companies have in China.

Creating a transparent, fair, and non-discriminatory investment environment and regulatory process is critical. China and the EU should strengthen investment protection and communication mechanisms. These mechanisms should reduce the burden of overly-restrictive investment reviews, limit government discretion in investment decisions, and create an equitable market access environment free of hidden barriers for foreign companies.

It is critical to avoid new trade barriers and introduce other unilateral policy tools prudently. Both China and the EU should uphold WTO principles of non-discrimination and fair trade, and work collaboratively to create a fair, transparent, and predictable business environment. This includes avoiding the use of tools such as the “International Procurement Instrument” and carbon footprint certification as new trade barriers, as well as exercising caution when introducing other unilateral trade tools that could hinder trade flows.

Chinese companies operating in Europe should closely monitor EU policies and actively collaborate to ensure compliance. This includes proactive monitoring of regulations, effective responses to EU reviews, and risk management to minimize compliance burdens. Additionally, Chinese companies can engage in timely constructive dialogue with policymakers to advocate for transparent and predictable regulatory frameworks that benefit all businesses operating in the EU.





## Conclusion:

# Closer Cooperation for Economic Stability and Growth

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Since establishing diplomatic relations in 1975, China and the EU have fostered a comprehensive strategic partnership. Through cooperation and communication, they have bridged cultural, historical, and political divides while promoting global development. As major forces, markets, and civilizations, China and the EU share concerns about geopolitical tensions and climate change. Building a strong, resilient, and mutually beneficial economic and trade relationship is essential. This requires both sides to oppose unilateralism and protectionist trade policies, such as “small yard and high fence”, and instead champion globalization and multilateralism for the benefit of global stability and progress.

The globalized auto industry thrives on market forces. Since China's reform and opening up in the late 1970s, European automakers like Mercedes-Benz, BMW, Volkswagen, Citroën, and Peugeot have established significant production bases in China, capitalizing on the world's largest auto market. These brands have witnessed China's transformation into the world's largest automotive market and enjoyed great popularity in Chinese market.

This report has aimed to provide a clear picture of the current state of Chinese NEVs in Europe, highlighting the immense potential for deeper China-EU cooperation. Collaboration offers mutual benefits, while conflict harms both sides. We urge all stakeholders to actively pursue pragmatic cooperation to achieve shared economic prosperity and combat global climate change.



# GREENING EUROPE

Report on the Development of  
Chinese NEV Manufacturers in Europe