



FACTSHEETS SERIES ON CHINA ENERGY TRANSITION UPDATE

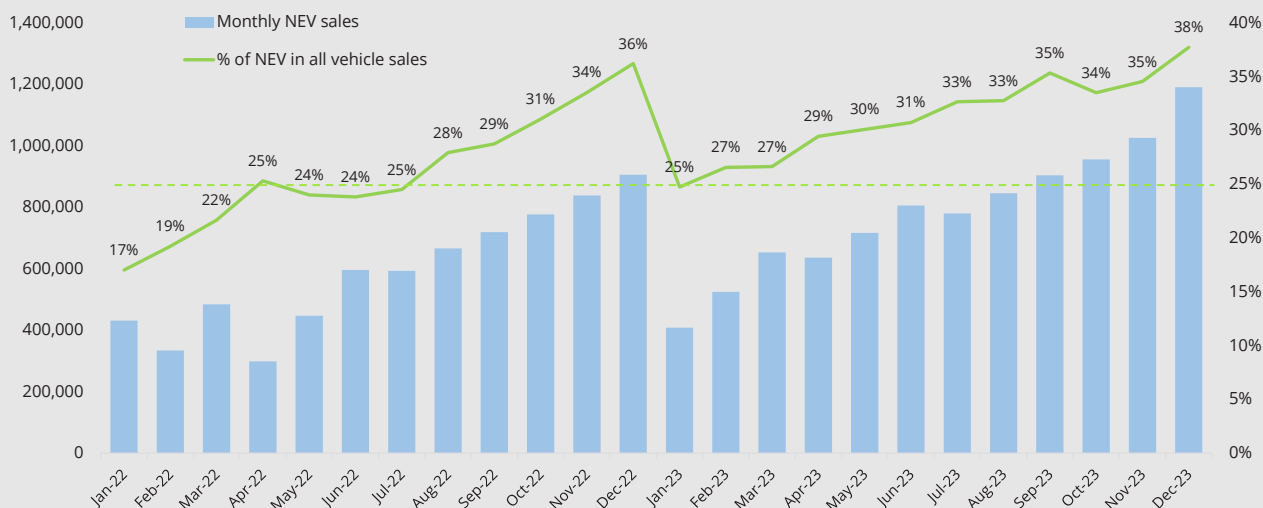
NEW ENERGY VEHICLES MAINTAINING RAPID GROWTH

In 2023, the sales volume of new energy vehicles (NEVs) in China reached 9.495 million units, a y-o-y increase of 37.9%. Despite the official withdrawal of the NEVs purchase subsidy policy, the government continued to exempt NEVs from vehicle purchase tax, maintaining a policy advantage over internal combustion engine vehicles (ICEVs), which led to a continuous expansion of the NEVs market.¹

The annual sales showed a characteristic of "low start, high end, and gradual improvement." In January, the sales of NEVs declined, with a m-o-m decrease of 55%. The decline in sales was mainly influenced by the withdrawal of the subsidy policy, the year-end rush effect by manufacturers, and the reduced production and operation time due to the

early arrival of the Spring Festival.² Although the national NEVs purchase subsidy has ended, some local governments have introduced local subsidies, such as NEVs consumption vouchers and replacement subsidies. From February to April, the sales gradually recovered. During the period from May to December, national policy and sales promotion supported the purchase and use of NEVs in rural areas.³ Under the drive of policies and promotions, market demand gradually increased. Many car companies fostered a year-end rush, including price discounts and the introduction of new models, to achieve annual sales targets, reduce inventory, and improve finances. In December, the sales of NEVs and the proportion in total vehicle sales reached a historical high.

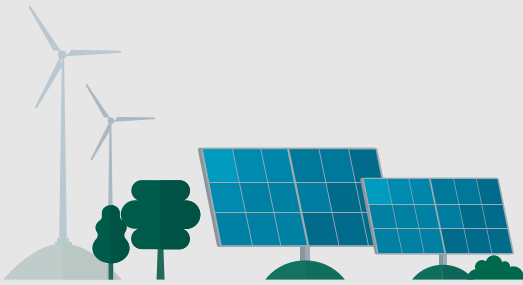
Figure 1 China's new energy vehicle sales (2022-2023)



Source: China Association of Automobile Manufactures

Energy Saving and Consumption, and Emission Reduction of New Energy Vehicles

In 2023, the annual mileage of NEVs in China reached 298.957 billion kilometers, which helped to save 15 billion liters of fuel, constituting 7.7% of total national gasoline consumption⁴. It also led to consume 47.2 TWh electricity⁵, which accounts for 0.45% of society's total electricity consumption. In October 2023, the monthly carbon emission reduction of NEVs nationwide exceeded 8 million tons for the first time, a y-o-y increase of 56%. From January to October 2023, the cumulative carbon emission reduction of NEVs nationwide reached 68.8 million tons, a y-o-y increase of 58.1%.⁶

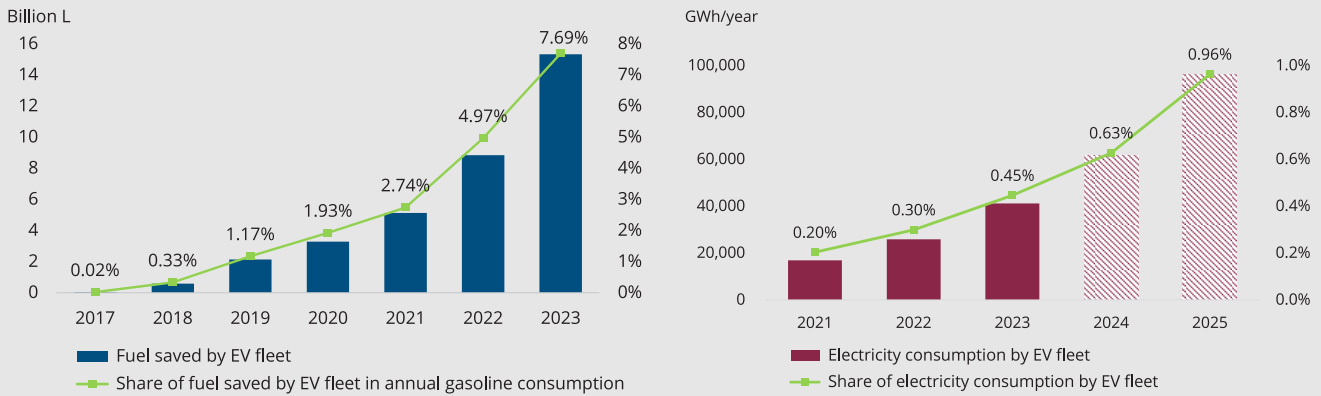


Integration and Interaction of New Energy Vehicles with the Power Grid

New energy vehicles can also serve as mobile energy storage units, by interacting with the power grid through charging and discharging, a model known as V2G (Vehicle-to-Grid). V2G can improve the overall efficiency and stability of the power grid through peak-shaving and valley filling and its emergency response capability. It also can reduce the system cost and users' charging costs, bringing direct economic benefits.

In 2023, the implementation of China's V2G pilot projects accelerated under the influence of policy promotion and market demand. The government plans over 50 bidirectional charging and discharging demonstration projects by the end of 2025.⁷ Vehicle manufacturers such as GAC Group are also accelerating the application and implementation of V2G technology, with a plan to build a large number of V2G technology-equipped battery charging and swapping stations, and promote V2G technology to private charging piles.

Figure 2 Fuel saved and electricity consumed by NEVs



Source: National Big Data Alliance of New Energy Vehicles (NDANEV), and GIZ calculation, May 2024

Policy Guiding the Transformation of Charging Infrastructure towards High-quality Development

In 2023, the increase in charging infrastructure was 3.386 million units, an increase of 30.6%. Among them, the increase in public charging piles was 929,000 units, an increase of 42.7%, and the increase in private charging piles provided with vehicles was 2.458 million units, an increase of 26.6%. By the end of 2023, the cumulative number of charging infrastructures nationwide reached 8.596 million units, an increase of 65%. The ratio of

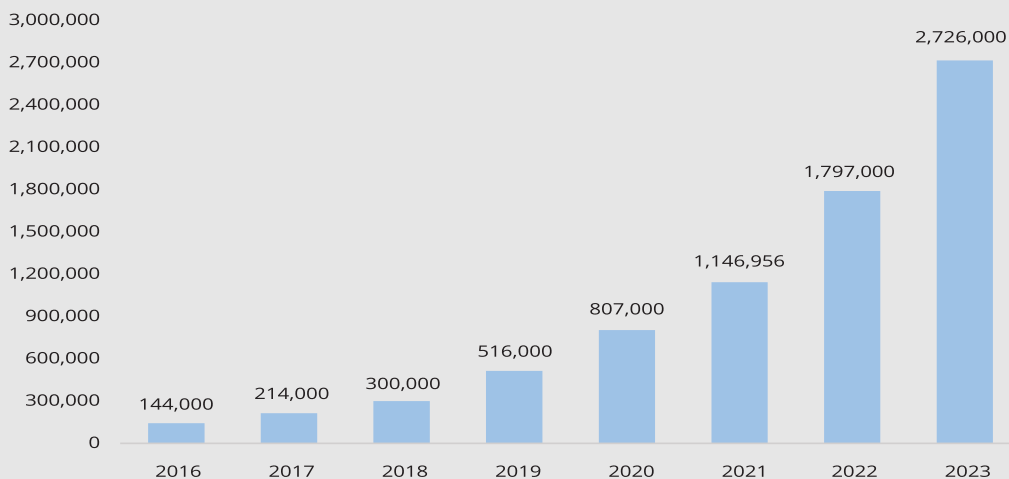
the newly added piles to NEV sales is 1:2.8, and the construction of charging infrastructure can basically meet the growth rate of new energy vehicles.⁸

The continuous growth of China's charging infrastructures cannot be separated from the driving force of policy. Since 2023, a number of policies have been introduced. The most noteworthy one, "Guiding Opinions on Further Building a High-quality Charging Infrastructure System", aims to better support the development of the NEVs industry. The goal is that, by 2030, the proportion of

parking spaces equipped with standardized charging facilities in commercial parking lots in large and medium-sized cities will exceed the ratio of registered NEVs in those cities. The coverage ratio of charging services in rural areas is also expected to increase steadily.⁹ Multiple local

governments have introduced plans for implementation. China's charging infrastructure is in the transformation stage from rapid development to high-quality development with improving coverage and service quality.

Figure 3 Number of China's public charging stations



Source: China Electric Vehicle Charging Infrastructure Promotion Alliance

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Note: All the data quoted in this paper are from official sources to the extent possible. Due to different statistical methods, some data differ from each other, and individual revisions have been made compared with last year's version, or adjustments have been made according to the actual situation. For data that does not affect the overall judgment, the original cited data is retained.

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Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ)
GmbH,
Tayuan Diplomatic Office Building 2-5,
14 Liangmahe South Street, Chaoyang
District, 100600, Beijing, P.R, China
markus.wypior@giz.de
www.energypartnership.cn

Author:

Markus Wypior, GIZ
HUANG Yijing, GIZ

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