

# Research on the development strategy and Countermeasures of new energy vehicles based on core competitiveness

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**Abstract:** in the context of today's global energy crisis and low-carbon economic development, green development has become the theme of today's economic development, and new energy vehicle enterprises just fit this development concept because of their "low-carbon and energy-saving" characteristics. As one of China's strategic emerging industries, new energy vehicle enterprises can improve China's energy structure and promote the transformation and upgrading of energy. In addition, the development of new energy vehicle enterprises can promote the promotion of green low-carbon products, guide green consumption, increase fiscal revenue, expand employment, and promote economic development. Based on the core competitiveness theory, this paper believes that the core competitiveness of new energy vehicles lies in its production capacity, innovation ability, financial strength, marketing ability and management ability. It further studies the serious difficulties faced by the current new energy vehicle industry in the process of cultivation and development, and puts forward China's unique new energy vehicle industry development strategy and countermeasures, We hope to better promote the high-quality green development of China's new energy vehicle industry.

**Key words:** new energy vehicles; Core competitiveness; Low carbon and energy saving; development strategy

## Preface

As an important force to promote China's economic development and scientific and technological innovation and progress, how to maintain its sustainable and healthy development in the new historical stage has become a hot topic in the academic community. The report of the 20th National Congress of the Communist Party of China clearly put forward: "further promote the energy revolution, strengthen the clean and efficient use of coal, accelerate the planning and construction of a new energy system, and actively participate in the global governance of climate change". After China put forward the strategic goal of "striving to achieve carbon peak by 2030 and carbon neutrality by 2060" (hereinafter referred to as "double carbon"), the development of new energy vehicles has become an important path for China to achieve the "double carbon" goal. In order to stimulate consumption and promote the development of the industry, the Chinese government has issued many encouraging policies. Recently, the national development and Reform Commission and other departments jointly issued a document to extend the subsidy policy for the purchase of new energy vehicles until December 31, 2023. Under the continuous effect of the above consumption promotion policies, the new energy vehicle market has achieved the goal of stable growth. Green development is the unique core competitiveness of the new energy vehicle industry. How to promote the high-quality development of the new energy vehicle industry on the basis of green development requires the joint efforts of the government and enterprises.

## 1 Analysis of core competitiveness of new energy vehicles in China

The core competitiveness of new energy vehicles is based on the research on the core competitiveness of enterprises in the development process of new energy vehicles, an emerging industry. Combined with the new energy power technology and competitive advantages, this paper believes that the core competitiveness of new energy vehicles is mainly manifested in the following five aspects.

First, production capacity. In order to achieve its rapid and steady development in the next few years, enterprises must build a mature industrial chain, from the supply of raw materials to the sales of product terminals, and must ensure an important part of their production process. China has the whole industry supporting production capacity of new energy vehicles and key parts, production equipment, basic materials, etc., and has formed certain advantages in terms of industrial scale, cooperation efficiency, supporting costs, etc., providing effective support for enterprises to carry out technology research and development and product development.

Second, innovation ability. One of the unique competitive advantages of the development of new energy vehicle enterprises is the technological innovation ability. In order to obtain more market share, enterprises must enhance their technological revolution and innovation ability. BYD, the leading enterprise of new energy vehicles in China, has not only become the leading enterprise of new energy vehicles in the world through nearly 20 years' accumulation, but also is fully promoting the rapid development of China's new energy vehicle industry. BYD's blade batteries, DM-I super hybrid technology, e-platform 3.0, CTB battery body integration, self-developed chips and other products independently produced through technological innovation are well known in the world. However, at present, the technological innovation ability of most other new energy vehicle enterprises needs to be improved.

Third, financial strength. Enterprise technology must have strong financial support, and the early development and growth of enterprises must rely on strong human and asset strength, which are the basic elements of the core competitiveness of enterprises. The highly active new energy vehicle market is inseparable from capital support. In 2021, there were 239 financing events in China's new energy vehicle industry,

with a total disclosure of 363.9 billion yuan, a year-on-year increase of 181.66%, and the number and amount of financing reached a record high.

Fourth, marketing ability. Modern market economy is inseparable from marketing. Marketing is a main way to connect the internal social organization and external market of the whole enterprise. We should make full use of all links of marketing to let more potential customers experience, so as to cultivate and develop the core competitiveness of business travel alienation.

Fifth, management ability. The utilization and distribution of various resources, the collection and processing of market information, the change of organizational structure and so on all depend on the operation and management of enterprises. Cultivating enterprise management ability can significantly improve the core competitiveness of enterprises. At present, China is in a critical period of reform in the automotive industry. Compared with the traditional QMS digital management, modern and digital management has entered a full element and full link process.

## **2 Development status of China's new energy vehicle industry**

First, the subsidy policy continues. On April 23, 2022, the Ministry of finance, the Ministry of industry and information technology, the Ministry of science and technology, and the national development and Reform Commission jointly issued the notice on improving the financial subsidy policy for the promotion and application of new energy vehicles, extending the implementation time of the financial subsidies and preferential policies for new energy vehicles to the end of 2023, with an annual subsidy limit of 2million vehicles, and the price of passenger vehicles before the subsidy does not exceed 300000.

Secondly, the scale of production and sales of new energy vehicles produced in China has continued to grow in recent years. In 2021, the production and sales of new energy vehicles in China were 3.677 million and 3.521 million respectively, with a year-on-year increase of 152.5% and 157.5%. From January to September 2022, the production and sales of new energy vehicles reached 4.717 million and 4.567 million respectively, a year-on-year increase of 1.2 times and 1.1 times, and the market share reached 23.5%. Finally, the market competition pattern is increasingly fierce.

## **3 Problems in the development of China's new energy vehicle industry**

First, the technological innovation ability is insufficient. The new energy vehicle industry should strengthen innovation, focus on solving the problems of short service life of new energy vehicles and disposal of batteries after scrapping of new energy vehicles through technological innovation, and strive to make greater breakthroughs in new energy technology, so as to build its own core competitiveness.

Second, the infrastructure is not perfect. As of May 2022, the number of public charging piles in China has reached 1.419 million, and the vehicle pile ratio is 2.1:1. However, the phenomenon of "more vehicles and less piles" still exists, and the construction of charging infrastructure still cannot meet the current demand of new energy vehicle users. In addition, some cities in China have not planned the construction density and scope of charging piles, and the number of charging piles is still in demand. Secondly, the maintenance of the charging pile is not timely, and the charging facilities are often damaged, resulting in a large waste of resources.

Third, the policy system is not perfect. First, the formulation of policies may be lagging behind; Secondly, at present, the growth of new energy vehicle sales is excessively dependent on policy subsidies, which is unfavorable to enterprises in the long run. In addition, policies such as value-added tax to be paid for state subsidies for new energy vehicles still need to be further optimized and improved in terms of promotion fees and adapting to new models and new demands. Finally, the medium and long-term policies to support industrial development need to be refined and implemented.

Fourth, international competitiveness is not strong. China's new energy vehicles started late and played a catch-up role in the global automotive industry. For a long time, they have been mainly supported by the huge domestic market, and the economic characteristics of the inward oriented industry are very obvious; Compared with the international large-scale complete vehicle and parts enterprises that have completed the integration, the barriers to entry of the overseas developed countries' automobile market are high, the degree of internationalization of China's automobile overseas is generally not high, and the international competitiveness needs to be further improved.

## **4 Relevant strategies and Countermeasures for the future development of new energy vehicle industry**

### **4.1 Implement differentiated marketing strategy to build a good reputation for new energy vehicles**

New energy vehicles will create a good reputation and promote new energy vehicles to have a good marketing prospect and direction in China's automobile market. First of all, in terms of marketing positioning, we should fully tap consumers' personalized needs and value differentiated needs, implement differentiated marketing strategies, and explore the marketing model of "offline experience store + online ordering" with lower cost, shorter supply chain and faster market response. Secondly, it is necessary to further expand the application advantages and characteristics of new energy vehicles, and effectively publicize the advantages of new energy vehicles with the help of current network and multimedia marketing methods and multiple marketing channels, so as to effectively improve the marketing effect of

new energy vehicles.

#### **4.2 Implement international competition strategy and shape global brand image**

Systematically build the internationalization development strategy of China's new energy vehicles, do a good job in top-level design, establish the framework principles for the internationalization development of China's new energy vehicles in the future, and innovatively apply the relevant international prevailing rules; Establish a collaborative promotion organization for the international development of new energy vehicles industry, and provide certain policy and financial support; Establish government led or government backed overseas development support policies and funds, and establish overseas investment and financing platforms. Learn from the promotion experience of China's new energy vehicles, vigorously promote the promotion mode of China's new energy vehicles in cities / urban agglomerations / special regions in key overseas markets. We will establish standardized overseas international business standards and a coordinated mechanism for the autonomy of the overseas industry, tell the story of China's new energy vehicle brand, especially the connotation of innovation and development, and shape a good image of China's new energy vehicle brand.

#### **4.3 Give full play to the guiding role of policies and improve the policy support system**

China should plan new energy vehicle policies as a whole, establish and improve new energy vehicle laws and regulations on this basis, and guide the healthy development of the new energy industry with a relatively complete top-level design. At present, China has promulgated a series of policies related to new energy vehicles, which should be sorted out and eliminated in time to improve the effectiveness of policy implementation and promote the enthusiasm of consumers and auto manufacturers. Implement the requirements of the State Council to steadily increase the consumption of automobiles and other large quantities, and encourage places where conditions permit to introduce policies to promote consumption with gold content. Pay close attention to the study and clarification of supporting policies such as the extension of new energy vehicle purchase tax preference, optimize the "double points" management method, and effectively link up with the subsidy decline.

#### **4.4 Support the R & D and innovation of key core technologies and continuously improve the quality of product supply**

China needs to continue to strengthen the safety regulations, standards and technological innovation of electric vehicles and power batteries. In the context of carbon neutralization, it is necessary to further accelerate the R & D and innovation with green hydrogen as the carrier to form replicable and popularized technologies. We will continue to improve the safety technical standards for new energy vehicles, and improve the performance levels of thermal runaway alarm, safety protection, and low temperature adaptation of power batteries, so that consumers can buy and use them at ease. Promote the integrated development of electrification and intelligent networking technology, develop more service functions suitable for consumers, continue to improve the driving experience, and generate more purchase demand.

#### **4.5 Further improve the construction of charging infrastructure and create a good use environment**

In recent years, China's new energy vehicle industry has been booming, and the scale of production and sales has continued to grow rapidly. In order to better meet the public's high-quality and diversified travel needs, combined with the current situation of charging infrastructure construction along China's roads, we should strengthen the construction of charging and replacing facilities in all areas. Strengthen the management of operators, do a good job in the maintenance of charging piles, and repair damaged charging piles in time. Improve policy support, provide subsidies according to the power of charging infrastructure, and encourage conditional special and self use charging facilities to be opened to the public. We will carry out a new round of new energy vehicles to the countryside, organize and implement the pilot of comprehensive electric cities in the public sector, and promote information sharing and unified settlement.

#### **4.6 Promote the transformation of digital management and build a smart brain for factories**

China is in a critical period of new energy vehicle industry reform. Intelligent and electric supply chain is the value highland and core barrier in the industrial chain. It is particularly important to promote the high-quality digital development of new energy vehicle industry. Compared with traditional QMS digital management, modern and digital management has entered a process of all elements and all links. Through digital transformation, it can effectively open up links, not only between raw materials and finished products, between workshops, but also between different supply chain factories, so as to form a real chain, realize the automatic summary of quality data, and finally generate the quality management report required by the enterprise.

### **5 Conclusion**

In the context of China's "double carbon" strategy in the new era, the development of new energy vehicles has become an important path for China to achieve the "double carbon" goal. New energy vehicles play a huge role in promoting the electric transformation of the automotive industry, improving the environment, and establishing China's new energy system. Although the production and sales of new energy vehicles in China have shown an upward trend year by year in recent years, and become the first choice for more and more

consumers to buy cars, compared with the traditional automobile industry, new energy vehicles have low market share, high cost, long research and development cycle, immature technology, and the solution of battery life of new energy vehicles needs the joint efforts of the industry and the government.

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