

Analysis on the Development of China's New Energy Automobile Industry in the Era of Low-carbon Economy

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Abstract

With the continuous development of the economy and many energy is facing the danger of exhaustion, new energy vehicles are playing a more and more important role in people's life, people's requirements for new energy vehicles gradually improve. Every country has put forward the concept of "low carbon environmental protection". According to the 2021 Government work Report, "We will make solid efforts to achieve carbon peak and carbon neutralization. Formulate an action plan for peaking carbon emissions by 2030," he said, pointing out that the industrial structure and energy structure should be optimized, the construction of a national energy and carbon emission rights trading market should be accelerated, and the dual control of energy consumption should be improved.

Keywords

Low-carbon Economy; New Energy Sources; Development of Automobile Industry.

1. Introduction

Nowadays, global warming has become a key concern of China, which will affect the development of the world economy and threaten the survival of human beings. Based on this situation, if economic development is achieved at the same time to reduce carbon emissions, we must strive to optimize the production process, improve energy efficiency. New energy vehicles can effectively reduce environmental pollution and carbon emissions, so the manager of the automobile industry to strengthen the attention to the development of new energy vehicles, in the development process of new energy vehicles, timely to solve the problems, through scientific and effective measures to deal with.

2. Definition of New Energy Vehicles

2.1 Pure Electric Vehicles

Electric cars are powered by batteries, most of which are driven directly by electric motors. The technical difficulty of pure electric vehicles is the battery life anxiety caused by power storage, while the short battery life, high price, incomplete charging facilities and other factors affect the development of pure electric vehicles in the market.

Of course, pure electric vehicles also have a variety of advantages, such as: first, pure electric vehicles use electric energy, unlike fuel cars, itself will not emit harmful gases, will not directly pollute the environment, the noise is also very low. Second, the power required by the car, namely electric energy, can be obtained through wind power generation or hydroelectric power generation, and there will not be the phenomenon of energy exhaustion. Third, the maintenance cost of electric vehicles is low, and the engine does not need to be maintained.

2.2 Hybrid Vehicles

The power of hybrid electric vehicle is derived from basic conventional raw materials or power batteries, which can be simply understood as adding a set of internal combustion engine system on the basis of pure electric vehicle, including series and parallel structures. It can be subdivided into micro hybrid electric vehicle (48V), light hybrid electric vehicle (MHEV), medium hybrid electric vehicle (HEV), strong hybrid electric vehicle (PHEV), etc. Under certain circumstances, the internal combustion engine can be automatically shut down and driven by batteries to reduce pollutant emissions [1], which can better protect the environment. Hybrid electric vehicles also have disadvantages, such as: technical difficulty, high cost, long distance high-speed operation fuel consumption savings is not obvious.

2.3 Hydrogen Fuel Cell Vehicles

Hydrogen energy vehicles:

There are two types of hydrogen energy vehicles, one is hydrogen fuel cell vehicles (or fuel cell vehicles); The other category is hydrogen internal combustion engine vehicles (or hydrogen fuel vehicles).

However, there is a big difference between the two. The former is driven by hydrogen fuel through a chemical reaction (which is different from ordinary pure electric cars, which are powered by repeated charging of the on-board power battery). Hydrogen internal-combustion vehicles, however, are powered by hydrogen burning directly in a hydrogen engine (similar to a conventional gasoline engine). In short, both of them use hydrogen as fuel and emit water without pollution. Therefore, hydrogen energy vehicles are the most ideal alternative to traditional cars and the most promising green energy vehicles.

3. Existing Problems

3.1 Technology is Not Mature Enough

To a certain extent, the Chinese government has increased its attention to new energy vehicles, given financial help to manufacturers of new energy vehicles, and vigorously publicized new energy vehicles, so that the promotion and application of energy-saving technology has been responded by the masses. The automobile with small fuel consumption replaces the automobile with large fuel consumption, and the advanced energy-saving technology is promoted, which makes the fuel consumption in Our country drop rapidly and saves fuel resources. Great progress has been made in the technology of vehicles that use natural gas instead of fuel. New energy automobile enterprises in China started relatively late, but has the advantage in the areas of intelligent snatched, autopilot, the intelligence development in our country made cars have good base and strategic advantage, mobile Internet, and other fields in our country emerge a batch of leading enterprise in the international support intelligent car, made for the development of information technology industry strength increasing. However, China's new energy vehicle enterprises still face huge challenges. For example, some key technologies of parts have not been broken through, the product cost is high, and the marketization development is limited. Energy saving technology has not been completely applied to the automobile industry, and it still needs to be explored by relevant technical personnel.

In the development of China's automobile industry, the development of new energy vehicles is relatively rapid, but there are still problems in the core technology, can not achieve independent research, a lot of technology from foreign enterprises, their own technology is not mature, did not develop their own technology. The core technology of new energy vehicles is still the "three power" system, including battery, motor and electronic control system. If automobile enterprises do not have advanced technology, they will lose their competitiveness in the market. In terms of battery technology, traditional automobile enterprises have not mastered advanced battery technology, so now the automobile industry should keep pace with the development of The Times, and technical personnel should dare to innovate.

3.2 The Policies Introduced by the Government Benefit Less Consumers

At present, the government is paying more and more attention to the new energy vehicle industry, and new energy vehicles have become an important concern of the society. In 2020, the state issued a number of policies to encourage the development of new energy vehicles, reducing the entry threshold of new energy enterprises, improving product requirements, improving mandatory standards, and extending financial subsidies for new energy vehicles. Related automotive industry is also constantly developing new energy vehicles, the most important is to let consumers take the initiative to buy new energy vehicles. But at present, the preferential policies issued by the government are not enough, mainly reflected in the insufficient strength of the policy to benefit consumers. In general, new energy vehicles are more expensive than traditional fuel vehicles, resulting in low market competitiveness of new energy vehicles. In this case, if the government does not introduce relevant policies to give consumers more subsidies, it will indirectly affect the development of new energy vehicles. At present, the Chinese government still prefers the ultimate subsidy after consumption. Even if the purchase cost is reduced, the price after subsidy will still be very high. In addition, consumers have little understanding and cognition of new energy vehicles, and the high price [2] will also reduce consumers' desire to buy new energy vehicles.

3.3 Lack of Independent Innovation Ability

In order to make the new energy vehicle industry get better development, only by constantly carrying out independent innovation, improve innovation ability, can we stand out in the fierce market competition. Nowadays, has emerged a number of enterprises with independent innovation ability, such as wei, ideal, xiao peng, the enterprise product competitive power is very strong, but there are also some enterprises, in the new energy automobile manufacturing process, can only be assembled from components made by buying other enterprises, so as a whole, new energy vehicles is still a lack of independent research and development ability, Many companies fail to develop their brand DNA.

4. Measures to Promote the Development of China's New Energy Vehicle Industry

4.1 Training Technical Personnel

The technical level of the staff is closely related to the management ability of the management personnel, so it is necessary to introduce relevant technical personnel. In order to improve the economic efficiency of new energy vehicle enterprises, the professional quality of internal staff should be improved, a large number of recruitment talents, to attract more technical talents of new energy vehicles to join the industry. Moreover, the enterprise itself should also strengthen the training of technical personnel and open relevant technical promotion training, so as to improve the sense of responsibility and professional knowledge of the staff. Special technical groups can be set up to allocate their respective areas of responsibility, discuss with each other, and cooperate with each other to complete the whole new energy vehicle research and development work. The combination of advanced technology and talents can innovate the technological path in line with the development of respective enterprises. The management staff can carry out regular training and assessment of the staff, set up some special research on work technology, practice and assessment, if the examination and practical operation of the staff does not pass, can be trained again, until passing the examination and operation can enter the work site. This can standardize the technical level of the staff. For the staff can adopt reward and punishment incentive strategy, give corresponding rewards to the employees who make contributions to the new energy vehicle enterprises, so that every staff can always maintain a self-motivated. At present, talent competition is the key to enterprise competition, we must strengthen the training of talents, so as to increase the competitiveness of enterprises. When recruiting technical personnel, we should not only focus on talents with high technical ability, but also pay attention to the quality of technical personnel, strive to create a perfect team and promote the development of new energy vehicles in Our country.

4.2 The Government Introduces Policies Benefiting Consumers

The government puts forward corresponding policies to encourage consumers to spend. The government can provide purchase subsidies and tax breaks so that consumers can get more preferential policies. The state may grant new energy enterprises certain financial subsidies for key technology research and development. Quantitative subsidies for battery leasing enterprises can be discussed. After deducting the subsidies, the battery leasing enterprise will rent the batteries of new energy vehicles to private individuals at the price of neighbors and provide maintenance and replacement services [3].

4.3 Establish the Enterprise's Own R&D Path

China has the advantage of rich coal resources and reserves, ranking third in the world in proven recoverable reserves. A large amount of coal has been mined and applied to thermal power generation, which can meet the charging demand of a large number of electric vehicles. At the same time, China has also mastered advanced ultra-high voltage, ultra-high voltage long-distance power transmission technology, and built the scale of the world's leading developed power supply network, with good construction and improvement of the capacity of charging service ability, can strongly support the promotion and application of new energy vehicles throughout the country. In addition, the combination of lack of oil resources, long-term dependence on imports, as well as internal combustion engine, gearbox, technical science, material science and technology started late, lag behind developed countries and other factors, resulting in pure electric vehicles become the best option for the development of new energy vehicles in China. We can refer to traditional automobile enterprises or foreign automobile enterprises to establish research and development paths in line with their own development. Such as building a reasonable enterprise organizational structure, clear R & D, manufacturing, sales, after-sales and other work content, so that the work responsibilities of each department can be clear, the rights, responsibilities, interests of technical directors have effective distribution, improve enterprise efficiency through management.

4.4 Improve the Competitiveness of its Own Products

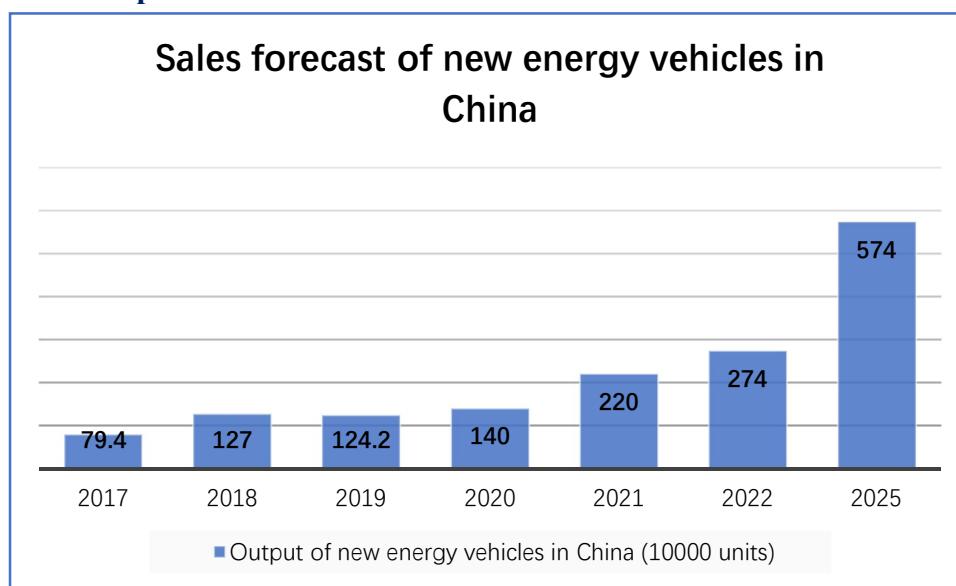


Figure 1. sales forecast of new energy vehicles in China

Improving the core competitiveness of their own products is the way out of the development of new energy vehicle enterprises, only by constantly improving their core competitiveness can they gain a place in the market. At present, new energy vehicles have passed the stage of mixed fish and dragon, and products without core competitiveness have been gradually eliminated from the market. Brands such as Nio, Ideo and Xiaopeng, which take the high-end route, and Hezhong, which take the middle

and low-end route, have all experienced the test of the market and developed not only because of subsidies. Therefore, the market recognition, consumer recognition, new energy enterprises can develop for a long time. At present, China's new energy industry is developing for the better, new energy vehicle sales are rising, competitive independent enterprises have a firm foothold, low quality products are gradually being eliminated from the market.

5. Conclusion

In a word, new energy vehicles play an important role in automobile enterprises and better maintain the concept of low-carbon economy for automobile enterprises. China's new energy vehicles have gone through the extensive development stage, only relying on government subsidies, it is difficult to support the development of enterprises, must rely on excellent products and reputation, in order to long-term development. We hope that new energy vehicle enterprises will introduce advanced equipment at the same time, the simultaneous introduction of technical personnel and advanced research and development ideas, from both software and hardware, to promote the development of new energy vehicles in China, to achieve the goal of "double carbon" to contribute to the strength of the automotive industry.

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