Strategic research on the development of China's new energy automobile industry

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Abstract. With the continuous development of economy and society, the development of automobile industry is faster and faster, but it also faces severe challenges. As is known to all, the traditional automobile industry USES oil as fuel. Although it can bring more efficiency to people's travel, it also has serious pollution to the environment, and oil resources are increasingly scarce. Based on this situation, the development of new energy vehicles has become an inevitable trend, with a very huge market development space in the future. This paper first discusses the development status of China's new energy vehicle industry, and then explores the problems existing in the development process of new energy vehicles based on its current situation. Finally, combining with the development characteristics of China's new energy vehicle industry in recent years, the development strategy of new energy vehicle industry is formulated.

1. Introduction
Traditional cars are fueled by gasoline and diesel, and their carbon emissions account for 20-25% of the total emissions during driving [1], which is one of the sources of global warming and climate anomalies. The development of new energy automobile industry plays a decisive role in the upgrading of China's automobile industry, reducing environmental pollution and saving energy. In recent years, the Chinese government has formulated a series of policies on industry, consumption and taxation to strongly support and promote the new energy automobile industry, which has greatly promoted the development of the new energy automobile industry and better maintained and promoted the rapid economic progress. At present, it has attracted high attention from the academic circle.

2. Development status of China's new energy industry
The so-called new energy vehicle refers to the vehicle with new technology and new structure, mainly including PHEVs, BEVs and FCVs [2], which adopts unconventional vehicle fuel as the source of dynamic force and integrates the advanced technology of vehicle power control and drive [3]. At present, China's domestic new energy vehicles are mainly pure electric vehicles and hybrid electric vehicles. Since 2000, China has started to make special plans for the development of new energy vehicles and successively issued financial support policies to encourage the research, development and promotion of new energy vehicles and support the development of new energy vehicle industry from both the supply and demand sides. In this context, the production and sales of new energy vehicles have increased significantly. Statistics from the forward-looking strategy research institute show that...
in December 2017, the sales volume of new energy vehicles in China was 163,000, with a year-on-year growth of 55%. In the whole year of 2017, the production and sales volume of new energy vehicles in China were 79,400,000 and 770,000. 70,000 vehicles, up 153 percent year-on-year. 6% and 153. 3%. Among them, the sales volume of pure electric vehicles is 144,000, with a total annual sales volume of 652,000. The sales volume of plug-in hybrid vehicles is 19,000, with a total annual sales volume of 125,000. From the perspective of use structure, compared with private new energy vehicles, urban bus new energy vehicles develop rapidly. From the perspective of power structure, pure electric vehicles and plug-in hybrid electric vehicles have developed rapidly. From January to November 2017, the production and sales volume of pure electric vehicles were 52. 60,000 and 500,000. 20,000 vehicles, up 56 percent year-on-year. 5% and 60. 9%.

3. Main problems in the development of China's new energy automobile industry

With the continuous development of the new energy vehicle industry, China's new energy vehicle industry has not been implemented in real time, and there are still many problems in the development process, which are mainly divided into the following points:

3.1. The effect of industrial scale economy is weak

The scale economy effect in China's automobile industry is not ideal, the management gap among enterprises in different regions, and the market supervision is not strong enough to form a large-scale market economy effect. At present, each enterprise's own "behind closed doors" is likely to become the problem of inconsistent technical standards and industrial development pace, which has a serious impact on the pattern and subsequent development of the new energy automobile industry [4].

3.2. Insufficient energy supply

3.2.1. Inconvenient charging. The electricity consumption of new energy vehicles is extremely huge. At present, the driving distance of one-time charge is about 200km2. However, there is no charging facility on the current expressway, so it cannot be used for long-distance use at all [4].

3.2.2. Different battery interfaces. At present, most of the new energy vehicle batteries are independently developed by enterprises, and each enterprise has its own standards. When the battery is charged, there will be a situation that the battery interface and charging device interface do not match [4].

3.2.3. Slow battery charging and insufficient storage capacity. At present, China is still in the first generation of battery materials, most of the power is lithium battery, this kind of battery charging is slow, and the storage capacity is insufficient, which is the biggest bottleneck problem [4].

3.3. Marketing problems

3.3.1. It is difficult to make short-term profits. Due to the low ownership of new energy vehicles and the shortage of users, a large investment in the construction of supporting facilities for new energy vehicles in the early stage, high labor cost for follow-up operation and low market benefit in the short term, many enterprises are reluctant to invest in the construction of related industries in the early stage [4].

3.3.2. High cost of battery replacement. New energy vehicles rely on the battery to provide power, as time goes by, the battery storage capacity gradually reduced, which requires owners to change the battery regularly, in the production of new energy vehicles, the battery production cost is the highest, for owners is a big expenditure [4].
3.4. The associated body often causes vector offset eliminate
For new energy automobile industry development, industry into the threshold of examination and approval departments focus on industry, science and technology department of technical route, the industrial sector of production and sales, investment management department focuses on the return on investment, financial and tax authorities of subsidies, the function of each department differences lead to the different requirements for new energy automotive industry management, these requirements are in conflict in some ways, but some aspects and repeat. For the new energy automobile industry, which is in the initial stage of development, there are too many responsibility subjects and interest related subjects, which will inevitably increase the coordination cost of industrial promotion.

4. The mainstream trend of the future development of China's new energy automobile industry

4.1. Establish a unified standard system
Because the new energy automobile industry in the market, there is no unified standard system, led to the present market economy is relatively chaos, although the competition of the enterprises is more, but have not build the standard system of the industry, then in view of the above, this question will require the government guide and car companies cooperate to establish and perfect the system of the industry standard. New energy vehicles of technical standards and inspection standard and so on all need to carry on the reasonable planning and construction, to bring good products into the market, and at the time of build a unified system also need to further development of the after-sales service and maintenance of new energy vehicles, let each area of vehicle repair and maintenance personnel to get timely training, unified standards and maintenance operation process, effectively solve the difficulty of after-sales service[5].

4.2. Strengthen the construction of supporting infrastructure
Because the new energy automobile mainly based on electric power resources, so the development of new energy vehicles is the construction of the charging station without a large amount of charging pile or, at the time of building large charging station can be next to the gas station building, the charging station as a subjunctive construction of gas station, not only effectively reduce the cost of investment, also convenient for looking for new energy vehicle owners charging sites, at the same time also need to consider to the durability of the new energy cars, more than in the parking area surrounding building electric pile, meet the parking demand and charging demand of consumers. Various policies have been introduced to attract social investment to participate in the construction of infrastructure facilities. For example, a series of preferential policies have been introduced to encourage enterprises to participate in the construction of charging piles and charging stations, and even encourage citizen communities to build public charging piles in their communities through crowd-funding. Fully mobilize social funds and resources to participate in infrastructure construction, so as to effectively solve the problem of difficult and inconvenient charging of new energy vehicles [5].

4.3. Select key breakthrough routes and adhere to independent innovation
New energy vehicle technology is still the core of development. As far as the current situation is concerned, China's new energy vehicles and new technologies are not enough to meet the needs of comprehensive development, and there are still many problems to be solved. In the process of improving technology, we must determine the development route, focus on new energy vehicles and new technology breakthroughs, comprehensive consideration of the feasibility and economy of new energy technology, the adoption of appropriate routes to promote the development of new energy vehicles. China's current suitable route for the development of new energy vehicles is: hybrid electric vehicles - pure electric vehicles - fuel cell vehicles. After the route is determined, it is necessary to focus on the research of technology, establish the correct value concept, find the right development route, concentrate on the research of technology, break through technological innovation, and create the characteristic brand. Specifically, we can promote cooperation between new energy vehicle
enterprises and scientific research institutions in universities and colleges, combine theory with practice, and continuously improve core technologies. In addition, we should actively create conditions to attract cutting-edge talents in the new energy industry, cultivate innovative talents, build high-quality research teams, and create more perfect core technologies [3].

4.4. Build and improve the industrial ecosystem to promote the use of new energy vehicles
Although they belong to the same category of transportation equipment manufacturing, there are great differences between new energy vehicles and fuel automobile industry ecosystems. In addition to the core parts supply system, new energy vehicles have their unique infrastructure environment, and the construction of charging facilities is the core. New energy vehicle infrastructure construction involves planning, land, fire control, public security, urban construction, price, power and financial department, relying on the market coordination, coordination and high cost, therefore, need the government to play a coordinating function, reduce the consumers and enterprises in the relevant system on the construction of infrastructure costs, construction costs and the cost [6].

Conclusion
To sum up, the development of new energy automotive industry is the key to the relationship to the social and economic development, only by constantly increasing investment for the development of technology, to make our country's new energy automobile enterprises to obtain stable position in the market, to further promote the development of new energy automobile industry in our country, in order to keep the revitalization of China's automobile industry.

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