

Evaluation of New Energy Vehicle Technology Investment Under the Development Framework of Chinese Society

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Abstract: It is expected that by 2018, the potential market capacity of China's car-sharing travel market is expected to reach 1.8 trillion yuan. With the continuous development of shared economy, shared travel is also a real impact, and even change the way people live and even values. A study published in September 2015 by McKinsey shows that in the United States, the millennial generation (referring to those who were born in the late 1980s) was 16 percent less likely to drive commuting than the previous generation. The proportion of private cars is 23% lower, and the frequency of public transport is three times that of them. In the Internet age, with the Internet about the car, short rental, sharing the popularity of cycling, people have gradually become accustomed to sharing the convenience brought about by the economy. Perhaps in the near future, "shared car" will share a bike, network bus and even aircraft train together, together constitute a new urban traffic system.

Keywords: New energy vehicle; investment evaluation; China Development

1. Introduction

Energy and the environment are becoming the two major determinants of the development of the world's automobile industry. In today's environment and energy urgency, the new energy-based travel tool based on convenient and environmentally friendly has become an urgent need of society. Air pollution and haze and other disasters increasingly endanger the human health, from the source to start the management of environmental measures on the point of view, environmental protection and energy conservation of new energy vehicles and large-scale application of the application is imminent. The new energy vehicles are regarded as the development direction of the new era of the automotive industry today. From environmental protection and technical aspects, the new energy vehicles will greatly reduce the use of limited resources such as oil, and for the reduction of automobile exhaust.

2. Investment evaluation of the new energy vehicles

2.1 Status quo

China's auto sales and car ownership of the rapid growth, greatly stimulated the demand for oil consumption in China, due to the relative lack of oil resources and oil production growth is relatively slow, domestic production has become increasingly unable to meet domestic demand, China Petroleum external The degree of continuous improvement. From the crude oil demand point of view, China's apparent consumption of crude oil in 1999 to 188.7 million tons, to 2017, rapid growth to 2000 million tons, while the domestic crude oil production increased from 160 million tons in 1999 to 500 million tons in 2017, Domestic crude oil supply gap widened year by year, net imports

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increased from 0.287 billion tons in 1999 to 1500 million tons in 2017, crude oil dependence from 14.4% in 1999 gradually climbed to 75% in 2007. Due to slow growth in domestic production and demand is still maintained rapid growth trend is expected to China's net oil imports will continue to expand, dependence on foreign oil will continue to increase. The continuous improvement of external dependence will not only seriously affect China's energy national security, but also bring huge economic pressure to China. ^[1]In particular, since 2007, due to international supply and depreciation of the dollar, the international crude oil prices from the beginning of the year about 30 US dollars / barrel level rose rapidly to 110 US dollars / barrel, as of March 2008 the international crude oil prices remained at 100 US dollars / Barrel above the level. Although the appreciation of the RMB against the US dollar over the same period about 10%, but still far behind the rise in crude oil prices.

The rapid growth of car ownership also caused a lot of air pollution such as sulfur dioxide, nitrogen dioxide, nitric oxide and other harmful gases and noise pollution, while emitting a lot of CO₂ and other greenhouse gases, to China has brought great environmental pressure, serious Threatening China's sustainable development. In 2007, the State Council promulgated the "Energy Conservation and Emission Reduction Comprehensive Work Program", the main objectives include: by 2010, million yuan of GDP energy consumption in 2005 from 1.22 tons of standard coal down to tons of standard coal below, reduced by about 20%; During the 11th Five-Year Plan period, the total discharge of major pollutants decreased by 10%. By 2010, sulfur dioxide emissions will be reduced from 25.49 million tons in 2005 to 22.95 million tons, chemical oxygen demand (COD) decreased from 14.14 million tons To 12.73 million tons and so on. To achieve the above objectives, China's auto industry must undertake important energy-saving emission reduction tasks, reduce dependence on traditional oil energy, improving the use of clean energy and alternative fuels.^[2]

2.2 Development direction

From the development of China's auto industry itself, in the traditional automotive field, China's automobile enterprises mainly through the introduction of foreign investment, joint venture to carry out the development, only a small number of enterprises such as Chery, Geely and so on through independent innovation and independent brands to participate in market competition. On the whole, in the traditional automobile field, there are some problems such as lack of core technology, lack of independent innovation ability and brand weakness in China's auto industry. ^[3]For more than ten years, China's joint venture automobile enterprises have repeatedly repeated the "introduction of a backward introduction", cannot always establish a competitive advantage in the traditional automotive industry. New energy vehicles, especially hybrid, pure electric vehicles and fuel cell vehicles is different from the traditional car is very different or even completely different technology, is still in the early stages of R & D and industrial development, although China in the overall technical level and the core technology Capacity and the international advanced level there is a certain gap, but in some areas such as pure electric vehicle technology, China has carried out the ranks of the world's advanced level, other areas and the world's advanced level gap.^[4]Vigorously develop new energy vehicle technology, you can use some of China's new energy vehicles in the technical advantages, shorten the gap between China and the world's advanced level, to avoid China's auto industry in the future new energy vehicle industry in the process of further backward. If China's auto industry to seize the development opportunities of new energy vehicles, technically achieve a major breakthrough, it is entirely possible to achieve the leap-forward development of China's auto industry to improve the competitiveness of China's auto industry.

Therefore, from the perspective of energy security, environmental protection and sustainable development and the development of China's auto industry by leaps and bounds, China to vigorously develop new energy vehicle technology and accelerate its industrialization is absolutely necessary.

3. Development requirements

Compared to the United States, Japan and the European Union and other developed countries and regions, China's new energy in the industrialization of the industry was significantly behind the corresponding market demand is still in its infancy. In 2005, Toyota will be the main force of its hybrid Prius put on the Chinese market. Compared with the

global sales, domestic sales performance is poor. Price is one of the main reasons restricting the popularity of new energy vehicles, to Honda Civic, for example, the hybrid version of the domestic manufacturers to guide the price of 269,800 yuan, much higher than the ordinary version of the domestic manufacturers to guide the price of 14.78 ~ 178,800 yuan, of course And hybrid version of the imported models and the ordinary version has been a certain relationship, but cannot be large-scale production costs higher than the ordinary version, but it is the main reason. Although the country introduced the "energy-saving emission reduction" of the document, China's "Eleventh Five-Year" automobile industry development plan also proposed "to promote hybrid cars, diesel passenger cars and other energy-saving products development" and the 2005 new car consumption Policy also put forward on the new energy, hybrid cars have concessions, but all this has not yet been implemented. Due to the lack of appropriate tax, subsidies and other aspects of support, compared to the high price, hybrid cars in the fuel-efficient aspects of the advantages are not prominent, coupled with lack of understanding of the hybrid consumer, market demand will be a relative Long process.

4. Opportunities and challenges

From the new energy automotive industry manufacturers and their competitive relationship, in recent years, China's domestic manufacturers to participate in new energy vehicle research and development, demonstration and industrialization of the scale and scope of the show showing a rapid growth trend, including hybrid, pure electric and fuel The battery is involved in the hot areas of pure electric vehicles is currently China's new energy vehicle technology level is more leading areas in cars, buses and bus chassis and other aspects have made important progress. BYD, Dongfeng Motor, Tianjin Qing yuan, Chang An Automobile and Chery Automobile is a pure electric car research and development of the leading enterprises, which BYD developed a new generation of dual-mode electric vehicles, Tianjin Qingyuan construction of the electric vehicle industrial base and to achieve a pure electric The large-scale production of cars Shanghai Automotive, Dongfeng Motor, Ankai bus and other manufacturers have developed a variety of pure electric buses and bus chassis, and was included in the Development and Reform Commission new car directory, which shows that China's pure electric buses in the technology already have the industrialization The conditions of development. ^[5]As multinational auto manufacturers are not optimistic about the prospects for pure electric vehicles, so most of the multinational auto manufacturers did not participate in pure electric vehicle research and development and promotion, only Renault Nissan Motor plans in the global launch of pure electric cars.

5. Summary

New energy vehicle time-sharing rental model is shared economy, profit from the essence point of view is the lease. While the cost of expenditure is concentrated in the vehicle, vehicle operation and maintenance (maintenance, cleaning, management, maintenance, charging, scheduling, etc.), parking fees (line parking to the main parking), and member operations. The competition threshold of this industry is mainly in the vehicle rental indicators, car networking technology, operating platform software development (open the door, close the door, positioning, whistle, so that users more convenient car), cost control, car resources, hardware and software Support, parking outlets and so on.

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