

Analysis on the investment history and trend of Japanese new energy automobile multinational companies in China

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Abstract: With the change of the global economy and the investment environment of China's automobile industry, the investment of Japanese new energy automobile multinational companies will also change. In the new round of investment, Japan's multinational companies of new energy vehicles aim at seeking the market, and the investment field extends to the automobile service field, focusing on the development of new energy vehicles. The investment location shifts to the central and western regions in a gradient way, and the investment methods are more diversified. Firstly, this paper summarizes the development background of Japanese new energy automobile industry. Then, from three angles of policy, technology and market, it deeply analyzes the investment process of Japanese new energy automobile multinational companies in China; Finally, drawing lessons from Japan's successful experience and combining with China's local actual situation, this paper puts forward some suggestions for the development of China's new energy vehicles.

1. Introduction

In recent years, facing the increasingly severe energy situation and huge pressure of emission reduction, Japan's automobile manufacturing industry is brewing a major technological revolution, replacing traditional fuel vehicles with energy-saving and environmental-friendly new energy vehicles [1]. At present, the technology is relatively mature, the market demand is increasing, and it gradually enters the stage of comprehensive promotion, which is expected to become the new engine of Japanese automobile industry in the future.

Japan's direct investment in China began in 1981, and its development process can be roughly divided into the initial stable development stage before 1990s and the rapid development stage after 1990s. At different stages of development, due to the change of Japan's industrial structure and the different international environment, Japan's direct investment in China also shows different characteristics [2-3]. Japan is the first country in the world to start the research and development of hybrid and electric vehicles in an all-round way, and plans to achieve 50% penetration rate of new eco-cars by 2020. Calculated by the annual growth rate of 1 million vehicles, Japan will become the country with the fastest popularization of new energy vehicles in the world. Driven by these factors, Japan is changing its direct investment strategy in China, and some new development trends have emerged.

2. Development background of new energy automobile industry in japan

2.1. Global energy background

After entering the 20th century, especially since the Second World War, the energy consumption mode based on coal has gradually shifted to oil and natural gas. In 1960s, oil consumption surpassed coal for the first time and became the dominant position of primary energy. After that, the two oil crises occurred in 1970s did not shake the position of oil in energy consumption. Since then, with the increasing consumption of natural gas, the proportion of oil and coal consumption has gradually decreased.

2.2. Japan's own energy security

Japan was originally an island country with scarce resources. Since the Meiji Restoration in 1868, Japan launched a series of aggressive wars, all for the strategic energy materials such as oil in the Asia-Pacific region. After the Second World War, Japan rose rapidly from the ruins mainly relying on the cheap oil price at that time. However, in the two oil crises in 1970s, the rising oil price and oil embargo made Japan suffer, which caused a heavy blow to Japanese economy. After the "lost decade" from 1991 to 2000, in 2003, Japan imported 4.282 million barrels per day of crude oil and 3.487 million barrels per day from the Middle East, accounting for more than 80% of the total imports.

2.3. Japan's own industrial background

With the continuous downturn of the global automobile market, the competition in the automobile industry becomes more intense. At the same time, the rising price of oil in the world market and the increasing pressure of energy conservation and emission reduction brought by human climate change make new energy vehicles gradually valued by everyone [4]. As the technology of new energy vehicles continues to advance, the cost of new energy vehicles is getting lower and lower. The government's various tax reduction and subsidy measures for new energy vehicles have made the sales of new energy vehicles keep rising in Japan.

3. Investment history of Japanese new energy automobile multinational companies in China

3.1. Analysis of investment structure in China

The development of any new industry can not be separated from the government's supporting policies. Since 1970, the Japanese government has devoted nearly one third of its industrial planning to new energy vehicles, especially electric vehicles. Since then, the research and development of electric vehicles has become a "national" project [5]. Table 1 summarizes the policies on new energy vehicles formulated by the Japanese government since 2001.

Table 1 Japan's new energy vehicle policy formulated in recent years

Year	Japan's new energy vehicle policy	department concerned
2001	"Action Plan for Low Pollution Development and Popularization"	Ministry of Land, Infrastructure, Transport and Tourism, Ministry of Environment and Ministry of Economy, Trade and Industry
2006	"New National Energy Strategy"	Department of Resources and Energy, Ministry of Economy, Trade and Industry
2007	"New generation automobile and fuel plan"	Department of Resources and Energy, Ministry of Economy, Trade and Industry
2010	"New generation automobile strategy"	Ministry of Economy, Trade and Industry

In the early 1980s, Chinese auto companies and Japanese auto companies started technical exchanges, but no joint venture was established. In the field of passenger cars in China, Japanese auto companies set up joint ventures later than European and American auto companies. Chrysler and Volkswagen entered the Chinese market in 1984 and 1985 respectively, while Japanese auto companies entered the Chinese market more than 10 years later. At present, the products of Sino-Japanese automobile joint ventures are mainly concentrated in the field of passenger cars, and Japanese automobile companies mainly invest in Toyota, Nissan and Honda.

Honda's investment areas in China are Guangzhou and Wuhan. Honda's partners are Guangzhou Automobile Group and Dongfeng Motor Co., Ltd. The whole vehicle production bases have been established in Guangzhou and Wuhan, and three engine production bases have been established in Guangzhou, Wuhan and Fuzhou. In 2012, Honda produced 650,000 vehicles in China.

3.2. Analysis of investment scale in China

Since China joined WTO in 2001, Japan's investment in China's transportation machinery industry (mainly automobile industry) has grown rapidly, from over 20 billion yen in 2002 to over 180 billion yen in 2005. In addition, the expansion of investment scale in Japanese automobile industry has led to the expansion of investment scale in auto parts and related industries. For example, the investment scale of glass, paint, steel and other materials industries and automobile maintenance and other service industries has also expanded rapidly [6]. According to the survey of Japan Auto Parts Industry Association, as of 2006, the number of Japanese auto parts direct investment projects in China ranked first in the country for five consecutive years.

Combining automobiles with lithium batteries has always been the direction of Japanese enterprises. According to the statistics released by Japanese auto industry groups, hybrid vehicles accounted for 17.1% of domestic auto sales in Japan in 2011, up 4.8% year-on-year. Combining automobiles with lithium batteries has always been the direction of Japanese enterprises. According to the statistics released by Japanese auto industry groups, hybrid vehicles accounted for 17.1% of domestic auto sales in Japan in 2011, up 4.8% year-on-year.

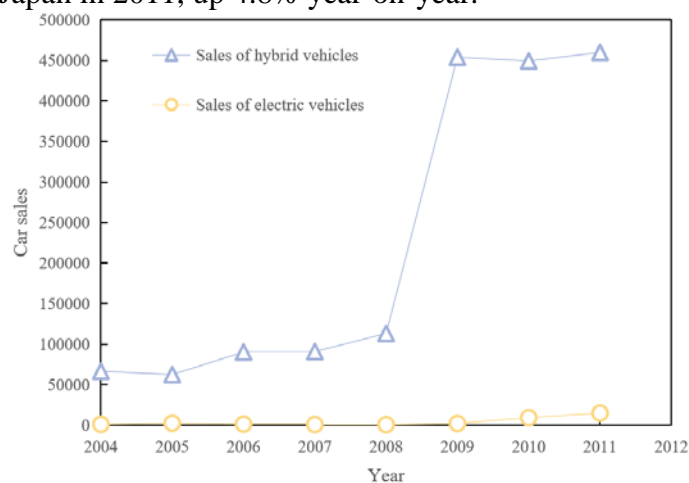


Figure 1 Sales of hybrid vehicles and electric vehicles

After 2006, the investment in transportation machinery industry decreased obviously. From over 180 billion yen in 2005 to over 100 billion yen in 2010. The main reason is that the transportation machinery industry needs a process of digestion and adjustment after large-scale investment. In 2010, Japan's transportation machinery industry's investment in China accounted for more than 15% of Japan's direct investment in China, second only to the motor industry. In Japan's direct investment in China, the motor and transportation machinery industries account for the highest share, accounting for more than 30% of the total Japanese direct investment in China [7]. In 2011, Japanese companies' direct investment in China reached 4.372 billion US dollars, up 61.9% year-on-year.

3.3. Analysis of market share in China

Since 2009, the market share of Sino-Japanese automobile joint ventures in China has gradually shrunk. According to the "Sales Share Table of Chinese Passenger Cars by Series (2010)" published by Japan Tengshu Research Institute, China's independent automobile brands are far ahead in terms of quantity. A total of 6.284 million passenger cars were sold, accounting for 45.7% of the total sales of passenger cars. Japanese passenger cars sold a total of 2.677 million vehicles, accounting for 19.5% of the total sales of passenger cars, while European passenger cars sold a total of 2.365 million vehicles, accounting for 17.2% of the total sales of passenger cars. However, the market share of Japanese cars is decreasing. According to the car sales volume announced by the Automobile Association in 2012, Japanese is the only car with a declining market share among the joint-venture car companies, and its annual cumulative market share has declined from 18.19% to 17.59%, but Japanese cars still occupy a large proportion in the mid-end passenger car market.

4. Trend analysis of Japanese investment in China in the 21st century

4.1. Seeking the market as the investment goal

After the financial outbreak, the Japanese multinational companies of new energy vehicles, which are under the background of global economic rebalancing, have more prominent market motives in their investment in China. The investment target of Japanese multinational companies of new energy vehicles in China will change from seeking resources to seeking markets. The huge automobile consumption potential of many small and medium-sized cities in China has not yet been released. The car ownership of 1,000 people in the third-tier cities is only 5-8, and that of 1,000 people in a large number of medium-sized cities in the west is less than 5. Therefore, small and medium-sized cities will become the main force driving the development of China's automobile industry.

4.2. Diversification of investment methods

Our government has limited the investment mode and proportion in the key fields of automobile industry. In 2011, the Catalogue for Guidance of Foreign Investment Industries made specific provisions on foreign investment methods of some investment projects. For example, automobile electronic bus network technology, electric power steering system and electronic controller are limited to joint ventures, embedded electronic integrated systems are limited to joint ventures, and energy-type power batteries are also limited to joint ventures, and the proportion of foreign investment shall not exceed 50%. Therefore, the investment of multinational companies in Japan's new energy vehicles will still be dominated by greenfield investment, with sole proprietorship, greenfield investment and M&A investment coexisting.

4.3. Gradient transfer to the central and western regions

With the acceleration of opening-up in the central and western regions of China, the soft and hard investment environment is constantly improving, and the automobile consumption market is constantly expanding, so the automobile industry in the central and western regions is rising. Based on market factors and policy factors, the investment areas of Japanese new energy automobile multinational companies will gradually shift from the economically developed areas in the east and the automobile industry cluster areas in the northeast to the central and western regions, and Chongqing, Sichuan, Yunnan, Guizhou, Hunan and Henan will become important investment areas for multinational automobile companies. Sichuan and Chongqing have become China's auto parts industry cluster, and Chongqing has become an important auto industry base in Southwest China. In 2010, the automobile output reached 1.614 million [8].

5. Enlightenment of the development of new energy vehicles in japan to china

5.1. Diversified development

China and Japan are at different stages of development, and there is a great disparity in per capita GDP. However, even in Japan, the development of hybrid vehicles has gradually shifted to the promotion of electric vehicles and fuel cells, and other alternative fuel vehicles, such as gas vehicles and methanol vehicles, are supported to ensure diversified development. Considering the infrastructure construction of new energy vehicles, China needs to invest more financial resources, manpower and time to meet the normal use of new energy vehicles. Therefore, it will take some time for Chinese consumers to accept new energy vehicles, and it is unrealistic to set exaggerated goals blindly.

5.2. Establish and improve laws and regulations and clarify development strategies

At present, China has formulated laws and regulations related to the development of new energy vehicles, such as "Energy Saving and New Energy Vehicle Industry Development Plan (2012~2020)" issued by the Ministry of Industry and Information Technology in 2012, "Automobile Industry Development Policy" and "New Energy Vehicle Production Access Management Rules"

prepared by the National Development and Reform Commission, and "Automobile Industry Adjustment and Revitalization Plan" issued by the State Council in 2009. Although the overall planning of China's new energy vehicle development strategy has been involved in these laws, regulations and plans, there is no detailed plan for the specific realization path.

Drawing lessons from Japan's experience, China should further clarify the overall development strategy of new energy vehicles, determine the development goals in line with China's national conditions, work out the development schedule of new energy vehicles, stipulate the contents and forms of government support for the development of new energy vehicles at all levels, and give relevant state departments the power to enforce relevant regulations.

5.3. Create your own brand

China's dependence on imports of core components of electric vehicles is serious, and these components account for more than 70% of the total vehicle cost, which leads to the high cost of electric vehicles in China and becomes one of the main reasons why ordinary consumers cannot accept new energy vehicles. Japan's research on core technologies of new energy vehicles far exceeds that of China, and the construction of related supporting facilities is relatively perfect.

Although there are many brands of new energy vehicles in China, the market still lacks high-quality mainstream brands, and many brands are scattered in various regions. Due to the protection of local governments, they lack the strength to promote to the whole country and even the whole world, and excessive dependence on government subsidies is not conducive to improving technical level and reducing costs. Therefore, in our consumers' understanding, when it comes to new energy vehicles, most of them are brands from Japan or other European and American countries. In this respect, China can follow Japan's example, establish an integrated system of production, education and research, and promote cooperation between enterprises and universities to jointly develop advanced technologies.

6. Conclusions

In order to vigorously develop the new energy automobile industry, Japan has formed a strategic consensus among industry, government and academia. The Japanese government has formulated a series of policies and measures to encourage its development in fiscal revenue, technical support and infrastructure construction, and achieved results. Since the Japanese government has taken the development of new energy automobile industry as one of the major strategies to revitalize the national economy, Japanese automobile manufacturers have also taken the development of new energy automobile as an important strategy to expand the market, and countries around the world have gradually attached importance to new energy automobile under the dual pressures of environmental problems and energy problems, Japan's new energy automobile industry will have a good trend in the future.

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