

Research on the Development and Countermeasures of New Energy Vehicles in Sanya

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Abstract

Clean energy vehicles are the commanding point of technological revolution and industrial transformation in the field of global transportation and travel. The development of clean energy vehicles in Hainan Province is a specific measure to promote the strategy of building an ecological province, and an important part of building a free trade port and accelerating the construction of a beautiful new Hainan. We should seize the opportunity of the times, cultivate the new energy automobile industry from the perspective of the whole industrial chain, actively promote the agglomeration and integration development of the new energy automobile industry, and make positive contributions to the construction of the free trade port.

Keywords

Hainan, New energy vehicles, Development and Countermeasures.

1. Analysis on the Current Situation of New Energy Vehicle Industry in Sanya

1.1. Policy Factors

China's energy saving and new energy vehicle industry development plan (2012-2020) released on July 9, 2012 puts forward the goal of new energy vehicle industry development. With Sanya gradually encouraging the development of new energy vehicles, on April 15, 2020, Sanya New Energy Vehicle Association held the Sanya new energy vehicle promotion and application 2020 press conference and strategic cooperation signing ceremony in Sanya Internet innovation and entrepreneurship center. According to the survey conducted by the Secretariat of Sanya New Energy Vehicle Association, by March 2020, 94 new energy vehicle charging stations and nearly 3000 charging piles have been built in the city. In 2020, we will continue to implement measures such as subsidies for new energy purchase, restrictions on new energy purchase, subsidies for charging electricity fees, subsidies for construction of charging piles and policies for restrictions on purchase of new energy vehicles in an all-round way, so as to ensure that by the end of 2020, the number of new energy vehicles will account for about 3%, and the proportion of electric vehicles and charging piles will reach 3:1, that is, three vehicles must have one charging pile.

1.2. Economic Factors

Since the reform and opening up, with the continuous development of China's economy and the continuous improvement of China's national living standards, automobile has become a necessary tool for every household, especially with the rapid rise of Alibaba and other e-commerce, the demand for logistics vehicles has also increased greatly, but at present, most of the cars on the market are diesel engines, and China is not a very rich oil resource Rich countries, which leads to China's need to continuously import oil. With the increase of world crude oil prices,

The price of fuel oil in China is naturally rising. Although the price of fuel oil has been lowered several times, with the decrease of crude oil supply, the price of fuel oil in China is bound to increase. Therefore, in terms of oil price, new energy vehicles can be said to have the best advantage, and the cost advantage also creates a good development opportunity for new energy vehicles.

1.3. Social Factors

With the continuous improvement of China's oil import rate, in 2017, China's oil dependence on foreign countries reached 60.6%. The environmental awareness of carbon dioxide emissions ranking first in the world, energy conservation and pollution reduction has become increasingly popular. At the same time, Sanya Municipal government is also vigorously promoting environmental protection knowledge. It is the further increase of consumers' environmental awareness that increases the purchase intention of environmental protection products.

1.4. Technical Factors

In the process of the transformation of automobile industry to new energy, the most important thing is the technical support. Only with excellent technical support, can we develop new energy vehicles with good price and performance. However, up to now, China has not made significant progress in core technology, and there are few types of cars to choose from. The existing models are basically based on traditional cars, and the core component structure and core technology of new energy vehicles have not been fully mastered. In terms of patents, China currently only accounts for 3% of the world's patents, while Japan has a high number of patents 72%, ranking the first in the world; in terms of core technology, China's battery technology is also backward, especially the lithium-ion battery patent technology. Only 1% of China's international patents, many of which still rely on imports.

2. SWOT Analysis of New Energy Vehicle Industry in Sanya

2.1. Advantages

First of all, China's automobile market has a huge capacity. Due to its large population base and comprehensive coverage of highway transportation network, China has a population of nearly 1.4 billion, accounting for one fifth of the world's population, and is a potential consumer market. Secondly, the development of new energy automobile industry in Hainan not only has unique ecological environment advantages, but also has policy advantages leading other regions. At the same time, Hainan is a relatively independent geographical unit, with first-class ecological environment, relatively low cost of risk management and trial and error, so it has a unique location advantage in system innovation and technology innovation.

The core competitiveness of Hainan lies in its excellent ecological environment. It is an important mission of Hainan to protect the ecological environment and leave the future generations with a lot of ecological wealth. Research shows that at present, the "contribution rate" of fuel vehicles to Hainan PM2.5 is about 35%. By vigorously promoting new energy vehicles, Hainan is expected to achieve the goal of reducing the annual average value of PM2.5 to a single digit by 2030, and will reach the best level in the world. Hainan has a high average temperature and a small climate temperature difference. New energy vehicles, especially electric vehicles, have high battery activity and long battery life, so their use efficiency is relatively high.

2.2. Disadvantages

From the economic level, as a third-tier city, Sanya's economic development needs to be enhanced, and people's overall consumption level is not high. However, new energy vehicles

are still in a period of technology research and development, and mass production cannot be achieved to reduce costs, so the sales situation of new energy vehicles is not very optimistic. From the technical point of view, although the research and development of new energy vehicles has been relatively mature, the scarcity of charging piles has not been properly solved, and the energy supply system has not been established. If consumers buy new energy vehicles, timely charging will be a big problem

2.3. Opportunities

From the international point of view, all countries regard the development of new energy vehicles as a means to seize the commanding point of economic development, and have formulated strategic plans for the research and development of new energy vehicle technology, product sales and other aspects. From the domestic perspective, the Chinese government has formulated a development strategy for a long time, at the same time, it provides a lot of policy support and financial subsidies to the new energy vehicle industry, to accelerate the promotion and application of new energy vehicles. Especially in recent years, under the guidance of the policy, the development of China's new energy vehicle industry has made great progress, which has become the largest production and consumption of new energy vehicles in the world Country.

From the perspective of early-stage policies, Hainan has announced that it will stop using traditional fuel vehicles and popularize the use of new energy vehicles in the whole island by 2030, demonstrating the global island economy's response to climate change and implementation of green travel. In March 2019, Hainan released and implemented the new energy vehicle development plan of Hainan Province. In 2018, the sales volume of national fuel vehicles decreased, but the sales volume of new energy vehicles increased by 61.7% year on year; in 2019, the sales volume of national new energy vehicles reached 1.206 million. If Hainan can take the ride of industrialization of new energy vehicles, it will contribute to the cultivation of 100 billion level industrial clusters.

The important mission of a free trade port is to build a soft environment with international market competitiveness, which involves opening to the outside world, investment liberalization, trade facilitation, financial internationalization, comprehensive legal protection and many other contents. Free trade zone has an open and loose industry access system, and the enterprise registration procedure is very simple and convenient. The finance of free trade port is highly internationalized and the financial interest rate is market-oriented; the financial service industry is highly open, allowing the free entry and exit of international capital; the personnel of free trade port are very free; the free trade pilot area cancels the tariff and non-tariff barriers of most goods, allowing the importers to import directly from the origin of automobiles. Hainan Province will become the best market for new energy vehicles. The general plan of China (Hainan) pilot Free Trade Zone specifically mentions that it will strengthen the opening up of key areas such as new energy vehicle manufacturing, and explicitly states that it will remove the restrictions on foreign investment in new energy vehicle manufacturing. Hainan free trade zone will be attractive to some foreign manufacturers seeking to layout the domestic new energy market. Under the policies of free opening, low tax and tax exemption, there will be more automobile enterprises and capital entering Hainan, and the automobile market in Hainan will also usher in a new era of diversified retail.

2.4. Threats

First of all, in view of the problems such as charging piles and endurance are not fully solved, many consumers' acceptance of new energy vehicles is not as good as that of traditional vehicles, which reduces the market demand of new energy vehicles; second, because the core technology of batteries has not made breakthrough progress, the cost of new energy vehicles is still high, which to a large extent, kills the enthusiasm of consumers to purchase cars and

produces for enterprises Product sales increase the difficulty; moreover, in recent years, the policy subsidy "decline" increases, resulting in the increase of enterprise production costs in the short term, which puts forward higher requirements for production enterprises; finally, with the new energy vehicles going to the market, Sanya will face the common competition between domestic new energy vehicle enterprises and international new energy vehicle enterprises, which is beneficial to Sanya's new energy vehicle industry is undoubtedly a huge challenge.

3. The Development of New Energy Automobile Industry in Sanya and its Countermeasures

3.1. Existing Problems

3.1.1. Product Maturity is not High

Compared with the world's top enterprises, Sanya's existing new energy vehicle products have a large gap. Due to the lack of high-end technical personnel, it is difficult to make a major breakthrough in the core technology of new energy vehicle products, making the innovation ability behind other leading enterprises. The low product maturity is not only reflected in the vehicle aspect, but also in the new energy vehicle parts aspect. The level is relatively backward, which mostly depends on the traditional automobile development technology. Therefore, the new energy vehicle product is not mature enough, which is a little weak in the fierce market competition.

3.1.2. The Technology Field Needs to Break through and Lacks the Industrial Chain Mode

One of the core technologies of the automobile is the power system of the automobile, while the new energy vehicle uses the most advanced battery and electronic control technology to control its power system. However, at present, China's technology in the field of battery technology is weak, the speed of research and development is slow, and the innovation ability of automobile is slightly inferior, which results in that the core technology of new energy automobile cannot be fully mastered, and it can only rely on foreign procurement, and some parts can only rely on imports. At the same time, the industrial operation mode is relatively scattered, there is no unified sales mode of the new energy automobile industry chain, which wastes a lot of human, material and financial resources, and the level of automobile research and development is stagnant, which seriously affects the opening of the new energy automobile industry mode in Sanya, so as to achieve further in-depth development.

3.1.3. Infrastructure Master Plan is not Perfect

The construction and development of infrastructure is the premise of the development of new energy automobile industry, which directly determines the development level of new energy automobile industry. At present, China's new energy vehicle industry is in the initial stage of market opening, the infrastructure construction is still in the exploration, and the overall planning of the facilities is not perfect. The main performance is that the number of charging stations does not coordinate with the number of cars, and the frequent replacement of charging stations not only consumes energy, but also directly leads to the low utilization rate of charging facilities. Secondly, the construction speed of charging pile is not fast, and it fails to combine the development characteristics of industrial mode and regional development mode to build a perfect infrastructure planning system, resulting in the lack of basic infrastructure basis in the development process of new energy automobile industry, which is not conducive to the better and faster development of the industry

3.2. Development Strategy

3.2.1. Improve Policies and Implement Them in Depth

In order to ensure that the new energy vehicle industry can open the market in our city, the government's support is essential, and the government should issue corresponding policies to promote the industry. Because China's new energy vehicle industry is still in the exploratory stage, and the relevant policies are not perfect, we can draw lessons from the successful experience of western countries and formulate corresponding policies. When formulating policies, the government should take full account of China's national conditions and the characteristics of the market economy, ensure the practicability and implementation of the policies, be able to get in-depth implementation in various regions, speed up the formulation of new energy vehicle standards, improve the infrastructure construction of new energy vehicles, issue corresponding inspection and acceptance standards, build a sound core technology system, and promote new energy vehicles Better and faster development of cars in China

3.2.2. Strengthen the Research and Development of Core Technology and Enhance the Innovation Ability

Whether the new energy vehicle industry can achieve good development and open up the market is the key to have core technology. The trend of technology research and development in new energy automobile industry should be guided by market demand. At the same time, the research and development of battery is also the key to occupy the market in the new energy automobile industry, so we should pay attention to the research of battery materials. Generally, the current battery type is lithium-ion battery, which not only has strong power, but also has a very long service life. In order to promote the rapid development of the new energy automobile industry in our city, we should integrate the excellent resources of the new energy automobile industry, form the business development mode of the industrial chain, integrate the advanced technology, equipment, excellent talents and a large amount of funds, so as to improve the utilization rate of resources, improve the efficiency of core technology research and development, and accelerate the development of the new energy automobile industry.

3.2.3. Promote Infrastructure Construction

The foundation of the development of new energy vehicle industry is the establishment of charging piles and charging stations. The government should give the greatest encouragement and support, thoroughly implement the construction of new energy vehicle infrastructure, determine the number of charging piles according to the number of new energy vehicles used in different regions and the overall urban planning, maximize the utilization of basic resources and reduce the loss of resources In order to improve the efficiency of charging pile. In order to promote the large-scale implementation of the infrastructure construction of new energy vehicles in our city, we can take government investment as the main body, attract various investments, realize the joint cooperation between the government and social capital, and provide sufficient financial support and infrastructure support for the development of new energy vehicle industry

4. Conclusion

The development of new energy automobile industry is an inevitable trend of the future development of automobile industry, an important measure to solve the contradiction between energy consumption and environment, which is related to the development trend of transportation industry and can promote the diversified development of China's economy. However, the development of the new energy automobile industry cannot be separated from the support of government policies and funds. The government should issue relevant policies to support the industry, and the industry should build and improve the technical system, so as

to form the industrial and systematic development mode of the industry, which can promote the new energy automobile industry to open the market and enhance the competitiveness of the market, so as to build a new energy automobile industry Perfect development of new energy automobile industry with Chinese characteristics

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