

Research on the Collaborative Development of New Energy Vehicle Industry in Chengdu-Chongqing Economic Circle

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Abstract: The formation of Chengdu-Chongqing economic circle makes the coordinated development of Chengdu-Chongqing regional economy become an important topic. To realize the goal of "Chengdu-Chongqing Economic Circle", we must promote the industrial cooperation in the region in a scientific and reasonable way. Although the new energy vehicle industry is a bright spot in promoting the economic development of the two places, there are still problems such as homogeneity of industry structure, vicious competition between regions, and weak infrastructure. Therefore, from the perspective of new regionalism, this paper puts forward corresponding policy suggestions on the coordinated development of new energy industries in the two places.

Keywords: Chengdu-Chongqing Region; Economic Circle; New Energy Vehicle Industry; Synergy; Thinking and Research

Introduction

Chengdu-chongqing region has carried out cross-regional cooperation for more than ten years, but the results are not obvious. Even as a pillar industry in the two provinces, the auto industry still faces problems such as increased competition, local protectionism, and small industrial scale. Under the new situation, whether the two cities can change the previous model, take new energy vehicles as the main battlefield of development, and actively seek the coordinated development of regional industries has become one of the key issues for the high-quality economic development of the two places.

1. Development status of new energy vehicles in Chengdu

Industrial structure, the industrial chain of new energy vehicles, mainly by the "three electricity" (battery, motor, electronic control) and charging equipment, the battery industry is the largest, but also the most input. In terms of battery materials, battery materials, membranes, electrolytes, etc., it is the battery, assembly, assembly and other industries ^[1].

1.1 Power battery

The cathode material of lithium battery is divided into ternary material, lithium manganate and so on. Among them, ternary material batteries and lithium iron phosphate batteries are the current mainstream products. Chengdu has more than 10 new energy vehicle battery manufacturers, but the key technology of battery diaphragm, battery thermal management and other fields of research is very little, and there is not much cooperation with vehicle manufacturers.

1.2 Drive motor and electronic control system

At present, the most used in China's new energy vehicles are permanent magnet synchronous motor and switched reluctance motor. Among them, permanent magnet synchronous motor, AC asynchronous motor is the main market. The number of enterprises in the field of electric motor and electronic control is small, and the cooperation with domestic automobile manufacturing enterprises is not much, and the contribution to the development of the entire industry is very small.

1.3 Vehicle manufacturing

Chengdu is the backbone of Chengdu's new energy vehicle industry, mainly producing new energy buses, special vehicles and trucks. There are more than ten automobile production enterprises, including Yajun New energy, Zhongzhi Yike, Chengdu Yinlong new energy.

2. The idea of trans-regional coordination of new regionalism

"Regionalism" generally refers to the mutual influence of social and economic development between geographically adjacent countries or regions through intergovernmental cooperation and organizational mechanisms. The realization of industrial cooperation in the region by new regionalism is not only the current reality of our country, but also the important theoretical basis of industrial cooperation in Chengdu-Chongqing economic circle. The new regionalism includes three basic ideas: regional identity, subject diversification, and regional governance model [2]. First of all, a sense of regional identity is a sense of belonging to the place one is in. This is the cornerstone of the coordinated development of a region. People in a region must recognize each other, trust each other, enhance each other's cohesion, form consistent development and achieve common development. Secondly, the main body of the government is diversified. New regionalism advocates the strengthening of cooperation among governments, enterprises, citizens and non-governmental organizations in industrial cooperation. Different from the traditional top-down leadership of the government, it is the joint management of multiple subjects. Third, the management mode of network area. As there are cross-regional issues in industry collaboration, breaking administrative boundaries will bring challenges to intergovernmental collaboration, so it is necessary to establish good cooperative relationships and form an orderly and multi-level network management model with local enterprises and organizations.

3. Difficulties and strategies for the coordinated development of Chengdu-Chongqing new energy automobile industry

3.1 The dilemma of cross-domain new energy automobile industry coordination

With the formation of Chengdu-Chongqing economic circle, the relevant departments of the two provinces have taken corresponding measures. The cooperation in the new energy automobile industry is mainly carried out around the industrial chain and technological innovation. From the new regionalist point of view, the current problem remains:

The cooperation and development plan between countries is not clear; Chengdu and Chongqing are two major central cities, and the significance of their development is obvious. However, between the central cities of the new energy automobile industry, there is not much attention. [3]

The long-term model of cooperative development is not sound; At present, the cooperation of Chengdu-Chongqing new energy vehicles industry is still in its infancy, and it will face the formulation, implementation and improvement of a series of policies within a year, which also needs the cooperation and practice of all aspects.

3.2 Strategic suggestions from the perspective of new regionalism

3.2.1 Enhance the development of new energy vehicles in Chengdu

Propose ways to accelerate the development of new energy vehicle technology in Chengdu, improve local government support policies, and strengthen support for the research and development, production, procurement, retention and subsequent use of new energy vehicles; Actively promote the introduction of Geely, FAW, Volkswagen and other new energy vehicles to accelerate the development of new energy vehicles; Support Zhongzhi New energy, Yinlong new energy integration, Chengdu integration, and accelerate the mass production of new energy vehicles; Chengdu Kaimai Technology and South Korea's Samsung, Japan's Toshiba and other enterprises work together to lay a solid foundation for the development and application of new energy vehicle batteries. In terms of subsidies, we suggest subsidies based on safety and reliability. The development of the new energy industry has become rational, and the product research and development of manufacturers should not only focus on subsidy indicators, but should pay attention to safety, reliability and consistency [4].

3.2.2 Establish a sound network regional governance mechanism

It is necessary to establish a sound regional network management system, do a good job in the cooperation between the Chengdu-Chongqing government, and strengthen the cooperation between the government, civil organizations and enterprises. In the process of formulating policies, it is necessary to keep up with the development of relevant national policies, and formulate corresponding local policies in response to problems arising in reality. In the exchange and cooperation between the two places, a regular reporting meeting can be formed by the government, enterprises and non-governmental organizations. Policy implementation, according to different industries, set up a special team, such as the new energy automobile industry, can set up a special team, dedicated to the development of new industries.

3.2.3 Build two systems, find the "door" of industrial development

Building a new generation of information industry system characterized by "simultaneous development of data and intelligence". One is to let the data "speak", and to apply big data to actual work. Make full use of the resource advantages of cloud computing and big data, vigorously develop the collection, storage, processing, and application of big data, and consolidate the foundation of the big data industry. The second is to let the data "run the errand", so that the blockchain technology is fully used. It mainly studies the application of blockchain technology in tourism, food traceability, health care, energy, social management and other aspects. The third is to let the digital "brain", let the digital economy become the leader. The digital economy of Chengdu-Chongqing region is its dominant industry and plays a pivotal role in promoting the industrial chain of innovation cooperation between the two places [5].

4. The future development of new energy vehicles in Chengdu-Chongqing economic circle

It is proposed that Chengdu-Chongqing two cities should grasp the development opportunity of the twin city economic circle, face the development direction of the "new four modernizations" of the automobile industry, make full use of their own comparative advantages, and strive to build Chengdu-Chongqing area into a global automobile research and development, manufacturing and application base, and promote the transformation and high-quality development of the automobile industry in Chengdu-Chongqing.

4.1 Strengthening industrial coordination

Make full use of the comprehensive advantages of Chongqing automobile complete vehicle and accessories supporting industrial system, actively develop auto parts production enterprises in Sichuan and Chongqing area, and establish a domestic leading supporting industrial system; Relying on Chengdu's scientific and technological innovation resources, improve the ability of automotive research and development and technological innovation, and achieve breakthroughs in core components such as automotive engines, transmissions, and new energy batteries, so as to form the core technology of Sichuan-Chongqing automotive industry chain.

4.2 Accelerating the gathering of emerging industries

In the emerging high-tech field of intelligent connected vehicles, we will make full use of the unique advantages of Chengdu and Chongqing, strengthen the combination of artificial intelligence and big data technology with the automotive industry, lay out cutting-edge technologies such as autonomous driving and car networking, and jointly build a world-class intelligent automobile industry cluster.

In terms of new energy vehicles, make full use of the lithium resources with western Sichuan characteristics, combined with the demand for new energy vehicles by the two major automobile manufacturers in Chengdu and Chongqing, and jointly promote the development of the new energy automobile industry.

4.3 Promoting technological innovation cooperation

It is suggested that automobile enterprises, universities, scientific research institutions and other enterprises in Chengdu-Chongqing area should strengthen scientific research cooperation, establish a number of close industry-university-research alliances, and play a demonstration effect. Relying on the data of automobile manufacturing, sales, transportation and other fields accumulated by Chengdu-Chongqing for many years, we will jointly build a joint innovation center for big data of the automobile

industry, realize data sharing, and cooperate deeply in the construction of vehicle networking platform and big data mining, so as to provide solutions for battery big data management and road information construction in the new energy automobile industry^[6].

Conclusion

To sum up, the development of the new energy automobile industry requires perfect institutional support and market and government guidance. Only by organically combining the successful government and the effective market, strengthening the idea of "one game of chess", establishing a unified concept, strengthening strategic coordination, planning convergence and policy exchanges, and constantly deepening the industrial cooperation and complementarity in Sichuan and Chongqing can we truly achieve coordinated development and enhance the industrial synergy between the two places.

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