

Science and Technology Promotion Policies of Strategic Emerging Industries in Anhui Province

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Abstract In recent years, based on advantages of industry, market, science and technology and other development environment, strategic emerging industries in Anhui Province are developing rapidly, and emerging industries such as new energy, new materials, new generation of information technology occupy an important market share in China and even the world. However, there are still a number of problems in the process of development, and the policy support has a greater impact. In this paper, the development status of strategic emerging industries in Anhui Province was discussed firstly, and then the challenges and problems of the development was discussed. Finally, some science and technology promotion policies of strategic emerging industries in Anhui Province were proposed.

Key words Strategic emerging industries; Market competitiveness; Policy support

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With the progress of science and technology, rapid economic development, and the rise of international trade protectionism, some major developed countries have strengthened the monopoly protection of key technologies and industries, while China is currently in the critical period of economic growth slowdown and structural adjustment. The Party Central Committee proposed that during the construction of China's modern economic system, it is necessary to position strategic emerging industries as new pillar industries, innovate development system, promote the development of new quality productivity, optimize and adjust the economic structure, and improve international competitiveness through the construction of emerging industries. In the *Decision of the Central Committee of the Communist Party of China on Further Comprehensively Deepening Reform and Promoting Chinese-style Modernization* approved on July 18, 2024, it is clearly proposed that it is needed to strengthen the innovation of key generic technologies, cutting-edge leading technologies, modern engineering technologies, disruptive technologies as well as the supply of new fields and new track systems, establish a mechanism for future industrial investment growth, improve the development policies and governance systems for strategic industries such as new information technology, artificial intelligence, aerospace, new energy, new materials, high-end equipment, biomedicine, and quantum technology, and

guide the healthy and orderly development of emerging industries. Facing a new round of industrial development and change, Anhui Province has accelerated the creation of emerging industrial clusters around key emerging industries such as automobiles, new materials and a new generation of information technology^[1]. Under the comprehensive coverage of the central policies, various industrial planning, financial subsidies, tax relief, credit support and other policies have been introduced in an orderly manner, and special local support policies for the development of strategic emerging industries have also been introduced. In this paper, the development status and problems of strategic emerging industries in Anhui Province were studied, and the suggestions of policy support in the process of scientific and technological innovation of strategic emerging industries in Anhui province were proposed.

1 Development status of strategic emerging industries in Anhui Province

Driven by scientific and technological innovation, Anhui Province's industries has developed rapidly in recent years, and the output value is accelerating towards the trillion yuan mark. Under the guidance of scientific and technological innovation, a number of strategic emerging industries such as new energy vehicles, new generation information technology, and new materials have developed vigorously. Since 2023, Anhui Province's new energy vehicles, advanced photovoltaic and new energy storage, integrated circuit and other emerging industries have made full efforts. Among them, the output of integrated circuit has more than doubled, and the output value of flexible display industry has increased by 1.9 times. The revenue of equipment manufacturing industry has exceeded one trillion yuan, and the output value of new materials industry has passed 520 billion yuan. Advanced

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photovoltaic manufacturing and new energy storage industry have also jumped to the forefront of the country. From 2015 to 2023, the proportion of the output value of strategic emerging industries in the industrial output value above designated size in Anhui increased from 20% to more than 40%. Strategic emerging industries such as new energy vehicles, quantum technology, artificial intelligence, and aerospace information have contributed more than 60% to the industrial economic growth of Anhui Province, becoming a powerful new engine and main driving force for high-quality development. Future industries such as quantum technology, advanced nuclear energy, and aerospace information have already begun to show agglomeration effects, and a number of new growth points and growth poles are developing. Today, among the "new three" products in the field of emerging industries, 20% of photovoltaic modules, more than 14% of lithium batteries, 9% of new energy vehicles in China and 10% of photovoltaic modules in the world have achieved "made in Anhui".

1.1 New energy vehicles The development of the new energy automobile industry is an important step for China to become an automobile power. In 2023, Anhui Province clearly positioned the automobile industry as the "first industry", aimed at "building an internationally competitive new energy automobile industry cluster", and took the lead in national legislation to promote the development of new energy automobile industry clusters. At present, Anhui has gathered seven vehicle enterprises such as Chery, Weilai, Volkswagen Anhui, Hefei BYD, Jianghuai as well as more than 2 800 parts enterprises, built a whole industry chain system of new energy vehicles, and has fuel, pure electricity, hybrid and fuel cell technology routes. In 2023, Anhui's automobile production reached 2.491 million, ranking second in the country, of which the output of new energy vehicles reached 868 000, ranking fourth in the country, and the revenue of the entire automobile industry chain exceeded one trillion yuan.

1.2 New material industry New material industry is one of the key emerging industries in Anhui Province and one of the 4 trillion-level industries in the province^[2]. In recent years, Anhui has accelerated the layout of trillion-level new material industry, and has formed the industrial chains of straw sugar industry, new display materials, new energy battery materials, and magnetic materials. At the third International Conference on New Materials Industry in Bengbu, Anhui Province, various new materials such as "Chang'e steel", a cutting-edge new material for deep space exploration, glass for continuous power generation under low light, and bio-based new materials made of straw were displayed. By the end of 2023, 3 152 high-tech enterprises in the field of new materials have been identified, accounting for 20.6% of the total high-tech enterprises in Anhui Province, and the output value of new material industry exceeded 520 billion yuan.

1.3 New generation of information technology The new generation of information technology industry is the strategic, basic and leading industry of the national economy. Anhui Province in-

tensifies the development of cutting-edge technologies such as integrated circuits, new displays, aerospace information, and artificial intelligence, accelerates the building of a new generation of information technology innovation and industrial agglomeration with significant national influence, focuses on key directions such as the research, development and manufacturing of commercial rockets and satellite payloads, satellite operation services, general aviation, and unmanned aerial vehicles, attract aerospace, Zhongke Star Map, Galaxy Space and other leading enterprises, and lead or participate in the launch of Chaohu No. 1, "Hefei high-tech No. 1" and other satellites. The development of the space information industry is strong.

2 Challenges and problems in the development of strategic emerging industries in Anhui Province

The development of strategic emerging industries in Anhui Province has made great achievements, but it is faced some practical problems. For instance, the regional distribution of emerging industries is uneven, and they are too concentrated in some cities. Moreover, the innovation ability of the industries is not strong, and the investment in research and development is still insufficient. Besides, there is a lack of high-end technical personnel. The strategic emerging industrial chain should be improved, which affects the overall competitiveness of the industries, so it is necessary to speed up the integration and optimization of the industrial chain. From the perspective of relevant policy support of government departments, the reasons for the above problems lie in that the current Anhui provincial government and relevant departments have insufficient policy support for the development of strategic emerging industries, imperfect system and insufficient implementation. The government and relevant departments should actively explore and formulate relevant policies to vigorously support the development of strategic emerging industries, and improve the ability to ensure the development of emerging industries.

3 Science and technology promotion policies of strategic emerging industries in Anhui Province

3.1 Constructing the industrial structure and strategic layout suitable for the development of strategic emerging industries

It is necessary to promote the integration and cluster development of industries, optimize the horizontal layout of industries, improve the coordinated development mode of strategic emerging industrial chains, continue to maintain the central enterprises in the development of strategic emerging industries as the main force, build a multi-dimensional collaborative system between large, medium and small enterprises, actively encourage cross-integration and collaborative innovation between traditional and emerging industries, and form strategic emerging industrial clusters with international competitiveness. At the same time, it is needed to

strengthen the connection and supporting between the upper and lower part of the strategic emerging industrial chain, lead the development of the industrial chain, capital chain, talent chain, innovation chain, value chain and other overall industries through the vertical development pattern of leading enterprises, promote the standardization process of strategic emerging industries, and ensure that the industrial development standards follow the forefront of industrial development.

3.2 Further improving the policy support system of strategic emerging industries In the construction of the policy support system for the development of strategic emerging industries, it is needed to strive to improve its accuracy and effectiveness, and formulate professional and differentiated industrial support policies according to the characteristics and development stages of different industries to make the market mechanism, policy planning and management system more flexible and efficient. At the same time, it is needed to strengthen the guiding function of government in funds, give full play to the investment and traction role of government departments in major projects of strategic emerging industries, and drive the investment and support of social forces and funds in a market-oriented way, which not only solves the problem of financing for the development of strategic emerging industries, but also enhances the guarantee ability of factors, so as to promote the rapid and sound development of strategic emerging industries^[3].

3.3 Optimizing the service system of strategic emerging industries Government departments should establish and improve the market access standards and degrees of emerging industries, and constantly optimize and update them according to the situation, so as to improve and reduce the institutional transaction costs of emerging industries, provide all-round services and support the development of emerging industries, and effectively provide reliable services for enterprises. Moreover, it is necessary to continu-

ously improve the legal system of intellectual property rights, strengthen the protection of patents, trademarks, copyrights and other intellectual property rights, increase the cost of infringement, safeguard the interests and rights of enterprises as much as possible, stimulate the vitality of enterprises to innovate constantly, enhance the strength of innovation, actively introduce relevant policy support, promote the effective transformation and promotion of scientific and technological achievements of enterprises, encourage the continuous upgrading of industries, and enhance the visibility and market competitiveness of strategic emerging industries.

4 Conclusion

Anhui Province is rich in natural resources and human resources, which provides a good industrial environment for the development of strategic emerging industries. Meanwhile, Anhui Province also has a good infrastructure and other hardware environment for the development of emerging industries. At present, Anhui Province's strategic emerging industries are developing rapidly. It is necessary to construct a sound industrial structure and strategic layout, increase the improvement of the policy support system for strategic emerging industries, and constantly optimize the service system, which is the key to effectively promote the development of strategic emerging industries.

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