

# Research on China's New Energy Development Path Based on Circular Economy

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**ABSTRACT.** *With China's rapid economic development, energy is consumed in a large amount at the same time. It is difficult to achieve sustainable development in long-term extensive use of energy. Changing the use of energy and developing new energy technologies can not only ease the current energy supply problem in China, but also contribute to the development of circular economy in china. The best path new energy development is an important guarantee for the development of circular economy, through the use of new energy technologies to achieve sustainable development goals and improve the quality of circular economy, This paper the research and application of new energy technologies in the development of China's circular economy to find the problems in the development and use of new energy technologies: insufficient government policy support, lack of talents in the development of new energy technologies, and lack of research and development and innovation capabilities in new energy technologies. Practical solutions are proposed: perfecting policies and regulations, cultivating new energy technology talents through multiple channels, improving independent research and development and innovation capabilities, finding the best path for China's new energy development, accelerating the upgrade of new energy technologies and thus promoting China's development of a circular economy.*

**KEYWORDS:** *Circular economy; New energy; Development;*

## 1. Introduction

Energy has always been an important material foundation for the economic development of various countries, and it is related to the national economy and people's livelihood and national strategic competitiveness[1]. China's economic development has entered a new normal, and the quality and efficiency of energy development are prominent. The development of new energy can solve the key issues of energy use. The "Thirteenth Five-Year Plan" period is the decisive stage for building a well-off society in an all-round way, and it is also an important period

for promoting the energy revolution. Building a clean, low-carbon, safe and efficient new energy system is the key to energy development. A circular economy can help China achieve its sustainable development goals, and new energy development is an important part of achieving a circular economy[2]. The new energy industry, with its characteristics of high efficiency and environmental protection, alleviates the problem of resource shortage caused by the rapid development of China's economy, and also alleviates the problem of China's increasingly serious environmental pollution[3].

## **2. Problems in the development of new energy**

### ***2.1 Inadequate government policy support***

Compared with traditional energy technology, new energy technology research and development requires more financial support, and in the subsequent use process, it also pays more attention to the balance of the ecological environment. Therefore, from the short-term cost accounting, new energy technology research and development does not have an advantage over traditional energy technology, but from In the long run, the development of new energy technologies is more in line with the goal of sustainable development and achieves a balance between ecological environment and economic benefits[4]. In order to solve the current dilemma in the development of new energy technologies, the government should introduce some supporting policies, but these policies are not comprehensive enough to solve the problems encountered in the development of new energy technologies. For example, the government will provide certain subsidies, loans, and tax incentives for the development of new energy technologies. However, government subsidies are limited and the subsidy standards are not clear. The subsidized companies are likely to become dependent, and the unsupported companies have difficult development. In addition, the tax incentives are insufficient and their duration is limited, which has led many companies to develop new energy technology on the sidelines.

### ***2.2 Lack of talent for new energy technology development***

New energy technology requires compound talents due to its particularity. In addition to technical innovation talents, it also needs to have comprehensive knowledge in knowledge promotion and investment finance. First of all, as a developing country, China is slightly inadequate in the construction of talent teams for new energy technologies. The lack of construction of a complex science and technology talent training system cannot meet the large demand for talents in new energy technology development enterprises. Secondly, the management of talents by Chinese companies lacks scientificity. In actual work, the treatment and working conditions of managers are superior to those of technical and scientific researchers, which will affect the enthusiasm of scientific and technological talents and further affect the development of this technology. Finally, the state and enterprises lack financial support for technical personnel and scientific research personnel training or

cross-border exchanges, and there is no professional career planning and guidance for the long-term development of these personnel, resulting in a shortage of talents in China's new energy technology, which in turn affects Long-term development of the new energy industry[5].

### ***2.3 Lack of new energy technology R & D and innovation capabilities***

The development of new energy technology is the support of the development of circular economy. As a developing country, although China has developed many leading technologies in the new energy industry, the core technologies of some new energy industries are insufficiently mastered, and new energy technology research is still stagnant. The utilization of new energy sources such as solar energy, wind energy, and tidal energy is not yet efficient. If this continues, it will be difficult to achieve sustainable use of resources and cannot support the development of circular economy. This phenomenon exists because of the new energy technology. Insufficient R & D and innovation capabilities. On the one hand, there is a lack of marketization and weak R & D capabilities in the research and development of new energy technologies. To be in line with international new energy technologies, it is necessary to improve the current technological level and standards. On the other hand, the new energy industry still needs technological innovation. There are problems such as weak independent innovation capabilities, key parts still need to be imported, and insufficient energy storage equipment. There are still problems in the development and innovation of new energy technologies in China, and further improvement of the technological level is needed.

## **3. The path of promoting the development of circular economy with new energy technology innovation**

### ***3.1 Improve policies and regulations***

The policies and regulations formulated by the government have a guiding role in the development of the industry. The development of the new energy industry is inseparable from the perfect policies and regulations formulated by the government. The development of the new energy industry is guided by the improvement of the policy and regulatory system. On the one hand, in accordance with the needs of China's economic development, establish and improve policies and encouragement mechanisms to support new energy technologies. These subsidy preferential policies should be more inclined to new energy companies with more mature technologies; encourage high-energy-consuming companies to transform; and attach importance to rural enrichment. Development of bioenergy. On the other hand, improve the legal system of new energy technology, restrict enterprises to attach importance to environmental protection in development through laws, encourage enterprises to use more new energy in production, and promote the development of new energy industries. At each stage of the development of new energy technology, applicable laws and regulations must be formulated to adjust the non-applicable legal

provisions. In addition, the supervision and management mechanism must be improved to support the healthy development of the new energy industry through strict laws and regulations.

### ***3.2 Multi-channel cultivation of new energy technology talents***

The key to the development of new energy technology is to cultivate high-level compound talents. Cultivating talents is not a short-term goal. It will be a long-term plan. China should establish a new energy technology talent cultivation fund, formulate a cultivation plan, define the cultivation goals, and strengthen international exchanges. Funding, inspection and supervision of talent cultivation throughout the period, real-time feedback and improvement have problems. We must provide generous treatment for the cultivation of high-tech talents or those who are introduced, so that these talents can devote themselves to technological innovation and research. In addition to cultivating new energy technology talents, in addition to the cultivation process, follow-up continuing education and learning should be strengthened to help technical personnel develop in all aspects through international technical exchanges and learning, and to promote a virtuous circle of new energy technology talents in China for the new energy industry. Make long-term contributions to development, and then promote the development of China's circular economy.

### ***3.3 Improving independent R & D and innovation capabilities***

In order to improve China's insufficient research and development of new energy technologies, it is necessary to increase investment in scientific research technology, recognize the importance of mastering new energy core technologies, and reduce the gap with advanced countries. The research and development of new energy technologies has become the key to the future development of economies in various countries, and it is also the support for the development of circular economy in China. China's investment in new energy technology research and development is huge, but the effect is not good, mainly because of the deviation of investment direction, more purchase of technology and equipment, neglecting independent research and development and innovation capabilities, neglecting the long-term planning of the new energy industry, leading to technology Insufficient financial support for R &D and innovation. By improving independent research and development and innovation capabilities to master core technologies, overcome technical difficulties, increase investment in key technologies and technologies, shorten the time to market for scientific and technological achievements, build efficient and effective research teams, promote the rational distribution of new energy industries, and provide a high level of new energy technology development And dimensions to promote the development of China's circular economy.

#### 4. Conclusion

New energy technology is ecological innovation technology, and circular economy is ecological economy. The development of new energy industry and the development of circular economy are for the better development of future society. The development of new energy industry can also promote the development of circular economy. Innovation in the extensive development and use of energy is also a revolution to the original economic model and an application of the concept of sustainable development. Economic development is a prerequisite for China to realize the construction of an ecological civilization. Promoting the development of a circular economy with the development of new energy industries is the general trend of China's economic development. In order to achieve this development goal, the full participation of the Chinese government, enterprises and the public is required. Through the participation of all parties to improve the level of new energy technology, promote the development of circular economy, and then achieve China's economically efficient and sustainable development.

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