

Key Measures for Carbon Peaking and Carbon Neutrality: Build a Green, Low-carbon and Circular Economic System

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Abstract: Under the strategic requirements of high-quality economic growth and sustainable development, the concept of green economy came into being. Building a green, low-carbon and circular economic system is an important measure for the country to promote green economic development. In 2021, the State Council issued the “Guiding Opinions on Accelerating the Establishment and Improvement of a Green, Low-Carbon and Circular Economic System”, emphasizing its basic policy position in solving China’s resource, environmental and ecological problems, focusing on “ensuring the realization of carbon peak and carbon neutrality goals” and “promoting China’s green development to a new level”. In view of this, this paper will explore effective measures to build a green, low-carbon and circular development economic system and achieve the dual carbon goal from four aspects: development adjustment, target guidance, low-carbon energy conservation, and scientific and technological innovation, hoping to promote the green and high-quality development of China’s economy.

Keywords: Dual carbon goals; Green; Low-carbon and circular economic system; Measures

1. Adjust the Industrial Structure and Alleviate the Greenhouse Effect

For a long time, many countries and regions have taken measures to pay attention to economic development and ignore environmental quality, but with the increase of economic activities, the quality of the global ecological environment is decreasing day by day. In other words, economic development is accompanied by environmental destruction. In order to alleviate the greenhouse effect and achieve the dual carbon goal, China should start from the development aspect, with the goal of controlling greenhouse gas emissions, adjust the development path, goals, and methods, and take into account the construction of the ecological environment in the process of economic development, so as to reduce the damage of human activities such as economic activities to the environment as much as possible^[1].

At present, many countries around the world have signed the Paris Agreement on global climate change, clarifying the time node for carbon neutrality, and working together to control the global warming value within 1.5°C by the end of this century, and reduce the emission of greenhouse gases caused by carbon monoxide and carbon dioxide. Most countries in the world, including China, have shifted the focus of development from the economy to the ecological environment, so as to jointly build a home for human beings.

As the world’s second largest economic entity, China plays an important role in the world. China should actively assume the responsibility of global environmental change, start from the main way of causing carbon emissions - economic development, adjust the industrial structure, ban traditional industries with high pollution and large emissions, vigorously support the development of emerging industries, and appropriately adjust the proportion of heavy industry, light industry, and emerging industries^[2]. For example, the purchase of modern equipment in thermal power plants can not only improve the combustion rate of coal, let the coal be fully burned, and improve the utilization rate of coal, and the final gas produced by the full combustion of coal is mainly carbon dioxide, although it can also exacerbate the greenhouse effect, but compared with carbon monoxide, the pollution degree of carbon dioxide is lower; At the same time, when China is improving high-polluting and high-energy-consuming industries, it is also necessary to develop new industries, such as high-tech industries, and develop technology-based and environmentally-friendly industries. With the strong support of the state, all parts of the country have responded to the call to develop high-tech industries and clean energy industries and seek new economic growth points.

The state has promulgated a series of documents at the overall level to promote economic transformation and upgrading, point out the future development direction for major economic entities, and mobilize the strength of the whole country to promote green economic development. With the strong support of the state, the high-tech industry has developed rapidly, not only for its own key point of national

economic growth, but also to help the transformation and upgrading of traditional industries with modern technology, such as the design and development of industrial equipment, which can effectively improve energy utilization and production efficiency, reduce energy consumption, reduce environmental pollution from industrial production, and reduce carbon gas emissions and alleviate the greenhouse effect from the root cause and development stage of production.

2. Clarify the Dual Carbon Goals and Accelerate Green Upgrading

China has determined the dual carbon goals of carbon peak and carbon neutrality, and has taken it as the main direction of future development. Under the guidance of the goal, China should comprehensively promote the green transformation of the economy, from the production system, circulation system, consumption system three aspects, the arrangement and deployment, with low-carbon energy saving, environmental protection, clean production as the goal to achieve a breakthrough focus, with modern technology will be agriculture, manufacturing, industry, service industry, information industry and other integration together, with emerging industries to drive the development level of primary, secondary and tertiary industries to improve the overall level, and promote the development of industrial clusters. Control the overall energy consumption of the country's fundamental industries such as iron and steel, petrochemicals, and promote their green transformation; efficient and clean development of agriculture, polluting fertilizers are eliminated by the market, and more attention is paid to the safety and scale of agricultural production; the equipment used in light industry is more efficient and the energy consumption is lower; the call of the whole industry in the service industry to correspond to low-carbon and environmental protection; new industries establish cooperative relations with other industries, provide modern technical support and modern equipment support, and improve the production efficiency and resource utilization rate of various industries.

In addition, all provinces and cities will promote the development of industrial clusters, build industrial parks, promote energy recycling, promote the construction of a green, low-carbon and circular development system, and vigorously develop high-quality, high-value-added, low-pollution, and low-energy-consuming green industrial parks, so as to form industrial concentration advantages and promote high-level regional economic development. For example, all provinces and cities should take the lead in building a green trade system, develop trade in green products with high added value, strictly control the import and export of high-polluting and high-energy-consuming products, and do a good job in low-carbon, energy-saving and green development in China, so as to make full preparations for economic entities to show their green development style on the international stage, and influence and promote the green construction and development of the international economy, build a modern development system with domestic and international dual circulation and double promotion, and accelerate green transformation and upgrading.

3. Improve the Energy System and Develop Clean Energy

Petroleum and coal are the main energy sources that support economic development in the traditional stage, and they are still indispensable for production and life in the current stage. Although the energy consumption rate has been reduced with the support of technology and modern production equipment, carbon dioxide and carbon monoxide produced by the use of oil and coal are still the main sources of carbon emissions, and they are also the “culprits” of the global greenhouse effect. At the same time, oil and coal are non-renewable energy sources, and with the use of production and life, the global storage of non-renewable energy is decreasing, and the world is facing a dual development crisis of energy shortage and environmental damage^[3]. In view of this, countries should focus on the development and utilization of clean energy, so as to improve the energy structure and replace non-renewable energy in some industries, such as wind energy, geothermal energy, and hydropower, with renewable and pollution-free clean energy. Water and wind in nature can be used as the main raw materials for power generation, replacing part of thermal power generation, adjusting the energy structure, developing more renewable clean energy, taking clean energy as the key point of low-carbon and green development, building a complementary and integrated development model of clean energy and fossil energy, and preventing the problem of energy supply interruption in the process of energy structure adjustment.

In addition to the “optimal structure”, in order to achieve the dual carbon goal, it is also necessary for the state to strengthen the control of total energy consumption, from the perspective of “total control”, publicize and guide major enterprises to strengthen energy management

and resource conservation, promote the efficient allocation of resources and energy, control the use of energy and resources from the source, go deep into the front line of construction, transportation, municipal, industry and life, increase the proportion and use rate of renewable energy, and strictly control the use and energy consumption rate of various resources.

4. Accelerate Scientific and Technological Innovation and Promote Green Development

Modern technology plays an important role in promoting the green and low-carbon development of the economy, which can effectively reduce energy consumption, control pollution, and improve efficiency, which is an important support for achieving the dual carbon goal^[4]. China should start from the perspective of science and technology, accelerate scientific and technological innovation, highlight the advantages of new technologies in helping environmental protection and green economic development, and build a green development model. For example, in recent years, the new energy vehicle industry has developed rapidly, major brands have developed new energy vehicles, and the number of brands specializing in new energy vehicles has also increased, and the number of new energy vehicles in the streets and alleys has gradually increased. New energy vehicles are powered by electric energy, which can reduce the use of non-renewable energy and reduce the carbon emissions of car driving compared with traditional gasoline-powered vehicles.

5. Conclusion: To build a green, low-carbon and circular development economic

system to promote the realization of the dual carbon goal, we must always adhere to the market-oriented principle, take green development as a clear direction for economic construction and development, give full play to the role of national macroeconomic regulation and control, promote economic and industrial structure adjustment, green transformation and upgrading, improve the energy structure, replace some non-renewable energy sources in the work with renewable clean energy, and at the same time, control the total amount of energy, improve energy utilization, reduce carbon emissions, and accelerate the realization of carbon peaking and carbon neutrality.

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