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## ENERGY TRANSFORMATION AND SUSTAINABLE DEVELOPMENT OF CHINA

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Energy is an important pillar of the modern economy and the basis for dynamic sustainable development of human society and its survival. However, it is likely that the economy and the growth in energy consumption are also becoming more and more evident. Developing new types of clean energy sources and accelerating the diversification of energy supply is a fundamental way to resolve the contradiction between economic probabilities, energy demand and environmental protection. This article mainly talks about the transformation and enhancement of China's power industry and support policy support.

**Keywords:** green economy; energy transformation; green finance; energy; environment.

## ЭНЕРГЕТИЧЕСКАЯ ТРАНСФОРМАЦИЯ И УСТОЙЧИВОЕ РАЗВИТИЕ КИТАЯ

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Энергетика является важной опорой современной экономики и важной основой и движущей силой выживания и развития человеческого общества. Однако с развитием экономики и ростом населения потребление энергии также увеличивается день ото дня, и ухудшение экологической обстановки, вызванное потреблением энергии, становится все более очевидным. Разработка новых видов экологически чистых источников энергии и ускорение диверсификации энергоснабжения является фундаментальным путем решения противоречия между экономическим развитием, спросом на энергию и охраной окружающей среды. В этой статье в основном говорится о преобразовании и модернизации энергетики Китая и соответствующей поддержке финансовой политики.

**Ключевые слова:** зеленая экономика; преобразование энергетики; зеленые финансы; энергетика; окружающая среда.

**Improvements in energy infrastructure and carbon emission.** The State Council Information Office of China and the White Paper on China's Energy Development in the New Era in December 2020 dropped the carbon intensity of 2019 carbon emissions by 48.1 % compared with 2005, exceeding the target of 40 % to 45% reduction compared with 2005 and reversing the rapid growth of carbon dioxide emissions. In 2019, coal consumption was 57.7 % of total energy consumption, 10.8 percentage points lower than 2012, clean energy consumption

of natural gas, hydropower, nuclear power and wind power accounted for 23.4 % of total energy consumption, 8.9 percentage points over 2012; non-fossil energy was 15.3 %, 5.6 percentage points over 2012, achieving the target of non-fossil energy consumption reached about 15% by 2020<sup>[1]</sup>. New energy vehicles developed rapidly, in 2019 the new increment and ownership reached 1.2 million and 3.8 million respectively, accounting for more than half of the global total; by the end of 2019, the national electric vehicle charging infrastructure reached 1.2 million, built the world's largest charging network, effectively promote the transportation energy efficiency and energy consumption optimization structure.

**The role of new energy in transformation of China industry.** At present, the world is facing increasingly severe challenges in energy and the environment: the extensive economic development model brings huge energy consumption, and energy consumption puts great pressure on the ecology and the environment, and these pressures threaten the process of global economic development. How to solve environmental and energy security and economic development is urgent and important. China needs to build a clean, low-carbon, safe and efficient energy system, control the total amount of fossil energy, improve the utilization efficiency, implement renewable energy replacement action, and build a new system based on new energy.

According to the data provided by the China National Bureau of Statistics and the China Carbon Peak research report, by the end of 2020, China had generated 1.25 billion kilowatts of fossil energy generation, 370 million kilowatts of hydropower, 280 million kilowatts of wind power, 250 million kilowatts of solar power generation, and 49.89 million kilowatts of nuclear power generation. Among the installed capacity of fossil energy power generation, coal power was 1.08 billion kilowatts and 100 million kilowatts. Non-fossil energy power generation accounted for 43 % of the final assembly capacity. In the next 10 years, China's installed power capacity will increase to 3.8 billion kilowatts, and clean energy will account for 68 % [2].

**Green finance as a factor of transformation of the energy sector.** Finance is the core of modern economy, and it plays an important leading and supporting role in the process of realizing energy transformation. In 2018, the People's Bank of China led the establishment of the national financial standardization technical committee of green financial standards working group, established the basic framework of green financial standards, including green financial general basic standards, product and service standards, credit rating evaluation standards, information disclosure standards, statistics and sharing standards, risk management and guarantee standards, etc. In April 2021, the People's Bank of China, the National Development and Reform Commission and the China Securities Regulatory Commission revised the latest Catalogue of Green Bond Support Projects (2021 edition), which put forward a more scientific definition standard of green projects. In June 2021, the People's Bank of China issued the Green Finance Evaluation Plan for Banking Financial Institutions, which included the green financial evaluation results into the central bank's macroprudential management tools through quantitative and qualitative index evaluation, and encouraged the banking financial institutions to actively expand their green financial business. With the system of green financial product framework continues to enrich. Financial institutions have actively explored green finance. They have formed a series of products, such as green credit, green bonds, green funds, green securities, green insurance, and carbon finance, and have carried out innovative practices in many green finance reform and innovation pilot zones [3]. By the end of 2020, the Chinese green credit balance is nearly 12 trillion yuan; the stock of green bonds is 813.2 billion yuan; the green financial assets have good quality, and the non-performing rate is far lower than the non-performing loan rate of commercial banks. At the end of the first quarter of 2021, the balance of green loans reached 13 trillion yuan, up 24.6 % year on year, 12.3 percentage points higher than the growth rate of various loans in the same period; The issuance scale of green bonds exceeded 120 billion yuan, exceeding half of last year, of which 65.6 billion yuan [4].

**Conclusions.** As the largest developing country, a major manufacturing country and an important exporter, how to quickly achieve energy transformation and achieve carbon reduction targets while developing its economy is still a challenge that China must face. At present, the process of energy transformation is good, energy transformation is technically feasible, beneficial to the economy, and guided by relevant policies, but it still needs a long time of exploration. We hope that the energy system of China and more other countries will embark on a green road of sustainable development as soon as possible.

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