

Discussion on Coordinated Development of Energy Economy and Environment in China

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Abstract. in recent years, China's economy has made great progress, its development is based on energy consumption as the energy power, the problem of energy consumption is that the pressure on the environment is increasing day by day. The pollution caused by the combustion of fossil energy is especially serious. China's future economic development, energy development is both the foundation and guarantee, and clean, pollution-free environment is the necessary basic conditions for our human survival. Therefore, how to achieve the coordinated and sustainable development of economy, energy and environment is an unavoidable subject in the future economic development of our country.

Keywords: economy, energy, environment.

1. Current Situation of Energy Economy and Environmental Development in China

With the development of the global economy and the increase of population, the consumption of energy has increased greatly, and at the same time, it has brought more serious environmental problems. As a developing country with high economic growth, how to effectively ensure the coordination of energy, economy and environment is an urgent problem. In general, the development of domestic economy is still based on a large amount of energy consumption, the coordination of energy, economy and environment is not high, there is a great contradiction between the three. From the point of view of energy consumption, domestic energy consumption is increasing year by year, but the utilization rate of energy has not been high, and with the acceleration of urbanization, the gap between supply and demand of domestic energy will become larger and larger. Import a large amount of energy from abroad every year. From the point of view of economic development, the domestic industrial structure is mainly industrial, and the dependence on energy is obvious, so it is urgent to complete the transformation and upgrading. From the point of view of environmental protection, the traditional industrial production mode has caused a large amount of discharge of waste water and waste gas, which has a serious impact on the natural ecological environment, and the proportion of economic losses to GDP has increased year by year. Through the above analysis, we can find that there are many problems in the development of energy, economy and environment in China. We must carry out more in-depth research on economic growth, energy development and environmental protection, and formulate more scientific and efficient economic development strategies so as to achieve the coordinated and sustainable development of the energy-economy-environment system. In recent years, with the rapid development of China's economy,



it has also caused a lot of energy consumption and serious environmental pollution. The problems faced are as follows:

Table 1. Summary of Energy Issues in China

Huge Energy consumption	The use of energy resources in China has been in intensive development and rapid consumption. For example, in the old industrial base of Northeast China, the initial exploitation of petroleum and coal has always provided important energy security for the economic development of our country, and the northeast region is called the eldest son of the Republic. But since it was founded, with coal The continuous output of oil and gas resources directly led to the energy decline and depletion in Northeast China, the crude oil reserves of Daqing Oilfield, Liaohe Oilfield and Jilin Oilfield decreased sharply, and the coal resources of Heilongjiang, Liaoning and Jilin were almost exhausted.
Large total energy resources, small per capita share	China's population is the first in the world, with a large population base and a large number of people, which makes the distribution of energy in our country completely inferior to the per capita, and many of the energy per capita is less than 1%, ranking last in the world
Uneven distribution of energy	For example, the coal resources of our country are distributed in North China and Northwest China, the water resources on which human beings depend are concentrated in the southwest, and the oil and natural gas resources are distributed in some areas of the eastern coast, the central and western regions, and the national energy distribution is partially concentrated and the national distribution is uneven

2. Comparison between China and the World Energy Environment

In its April 2013 report, the International Energy Agency said, despite efforts to control pollution and coal use, but carbon emissions from global energy supplies have not changed much in 20 years. 1990, Carbon concentration, that is, the value of carbon emissions per unit of energy consumed, 2.39 tons of oil equivalent per ton; And in 2010, The value is 2.37. Biofuels, building energy-saving measures, sewage control in coal-fired power plants, and the development of carbon capture and storage technologies are all "surprisingly slow".

2010, China's GDP power consumption is 1.03 kWh/USD, 2.6 times the world average, 3.8 times the OECD, Environmental costs of unit GDP are among the highest in the world. 2011, China's average energy consumption per 10,000 GDP of 0.79 tons of standard coal, It is about 2-3 times that of the United States, 4-5 times that of Germany and 8 times that of Japan (People's Daily Overseas Edition, 4th edition, 19 June 2012). There is also a big gap between the energy consumption of major products and the world's advanced level, for example, the overall energy consumption gap of cement is 23%, but China's environmental improvement is also very strong, In the past decade or so, Wind energy, solar energy and other clean energy rapid development leading the world.

3. Interrelation of energy, environment and economy

3.1. Energy and environment interrelationships

In the production and consumption of coal, China can be called one of the big countries, in addition, China's industrialization level and the speed of urbanization are also in the forefront of the world. Under the requirements of the new era, our government attaches great importance to the relationship between energy and environment. At present, the issue of energy and climate change has become the focus of international attention. On the one hand, economic development has put forward high standards for the "quality" and "quantity" of energy, and the supply and demand are seriously unbalanced. On the other hand, unlimited use of energy in the process of economic development has caused serious climate

problems. The high-speed development economy needs sufficient energy as the support, at the same time, the massive use of energy causes the serious destruction of the environment. "A paradox of energy—— environment is created between energy use and conservation.

3.2. Environmental and economic interrelationships

1. environment is the foundation of economic development

Environment is a double-edged sword in economic development, which can not only inject vitality into economic development, but also become a hindrance to economic development. The favorable side is that a good ecological environment can strengthen the sustainable circulation of ecological resources and greatly improve the regeneration ability of resources so as to meet the demand of economic development for energy. The adverse side of the environment to the economy is: once the damage to the environment, we need to invest a lot of human, material and financial resources to manage, and will limit the development of some industries. For example, in recent years, many steelmaking plants have been shut down in order to improve the environment, which has a negative impact on the economic development of our country.

2. Economy dominates the environment

Economic development also has a positive and negative impact on the environment. The economic foundation determines the superstructure, so the positive influence is that after the economic level reaches a certain height, it lays a material foundation for increasing the investment in environmental management and promotes the development of environmental protection. In addition, the negative effect of economic development on the environment is reflected in: one-sided pursuit of economic development, failure to pay attention to the simultaneous development of environment and economy, resulting in serious consequences. Since the reform and opening up, many places have adopted extensive economic development methods, resulting in serious pollution of many rivers and lakes, and serious destruction of resources.

4. Basic theories and models of energy-environment-economy

The schematic diagram of the energy-environment-economic symbiotic system is shown in figure 1, in which the economic system is the core and key of the symbiotic system, and the energy system and the environmental system exist for the development of the economy. Strictly speaking, the energy system is included in the environmental system, but it belongs to the economic system at the same time. The realization of the value of the energy system needs economic development to realize.

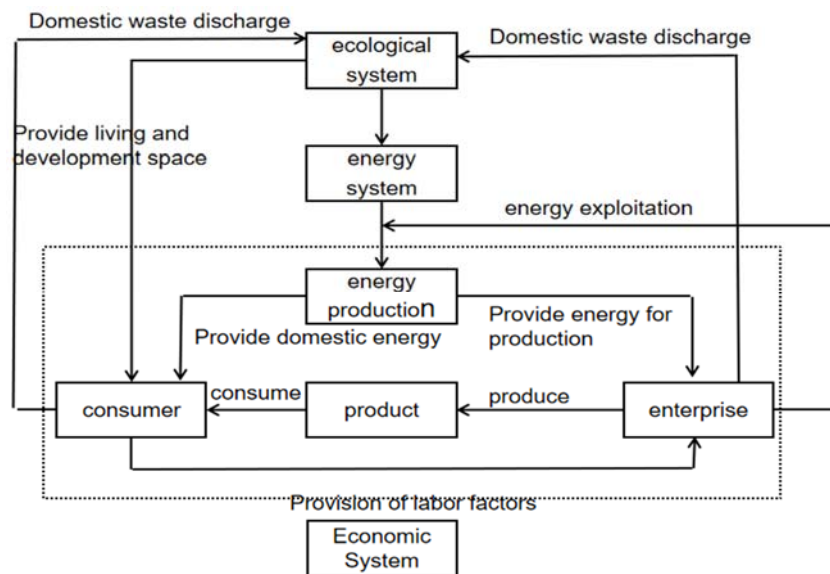


Figure 1. Energy-Environment-Economic Symbiosis

5. Conclusion

With the development of economy and society, the demand for energy is increasing, and the restriction of energy shortage on economic development is becoming more and more prominent. How to realize the stable supply of energy has become the key research topic at present. Based on the above analysis, the following suggestions are put forward:

1. optimize the economic drive subsystem. We should constantly adjust the industrial structure, transform and upgrade the existing economic development model, reform the traditional industries, speed up the transformation of kinetic energy, eliminate the backward high pollution industries as soon as possible, and develop the industrial mechanism of low carbon environmental protection.

2. optimize the energy support subsystem. Reduce the consumption of fossil energy, increase the proportion of clean energy in production, further optimize the composition of energy, and actively develop renewable energy.

3. optimize the environment bearing subsystem. Enhance public awareness of environmental protection, vigorously develop circular economy, and constantly increase investment in environmental protection.

References

- [1] Wu Kai. A Study on Information Disclosure of Energy Environment Accounting in Xinji Coal Mine of China [D].] Nanjing University of Posts and Telecommunications, 2020.
- [2] Li Bo, Li Haibo. Discussion on the Relationship between Ecological Resources, Energy Environment Performance and Economic Development [J] Business Economics Research, 2018 (24): 182 - 185.
- [3] Liu Yuting. Sustainable development analysis of energy —— economic —— environmental systems Private Science and Technology 2018 (07): 149 - 150.
- [4] Tian Xiuhua. Discussion [J]. on the Coordinated Development of Energy Economy and Environment in China National Circulation economy 2017 (07): 78 - 79.
- [5] Zhang Yuxiang. Analysis on Coordinated Development of Energy Economy and Environment in China [J].] and China Business Theory, 2016 (08): 174 - 175.
- [6] Lin Zhiqin. China's Medium- and Long-term Development Strategy for Energy and Environment Chinese soft science, 2013 (12): 45 - 57.

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