

Outstanding Problems of Coal Consumption and Atmospheric Environment

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Abstract

In the market economy environment, the demand for coal resources is increasing year by year, which is conducive to enhancing the vitality of economic development and accelerating the pace of social transformation and upgrading. However, the burning of coal will produce a large number of pollutants, causing the problem of atmospheric environmental pollution, which will threaten people's lives, health and safety. This paper will analyze the prominent problems of atmospheric environment caused by coal consumption, and explore the solutions to the prominent problems of coal consumption and atmospheric environment.

Keywords

Coal consumption; Atmospheric environment; Prominent problems

Introduction

Coal consumption has become a key aspect of current energy consumption. Only by ensuring the efficient supply of coal can we provide energy security for the construction and development of various sectors. Especially in the new era, coal resources have been widely used in the power, metal smelting, and chemical industries, with coal consumption showing a year-on-year upward trend. However, coal is not a clean energy source. Its combustion produces sulfur dioxide and soot, damaging the surrounding atmospheric environment. This not only negatively impacts the production and living environment but also restricts my country's sustainable economic development, failing to meet the requirements of current green development. Under the goals of energy conservation and emission reduction, the coal consumption structure should be rationally adjusted. From the perspective of sustainable development, we must strengthen the effective control of air pollution, truly achieving effective coordination between economic development and environmental capacity, and avoiding a series of contradictions and problems caused by exceeding environmental carrying capacity.

1. Prominent Atmospheric Environmental Problems Caused by Coal Consumption

1.1 Sulfur dioxide pollution

Sulfur dioxide is a major pollutant from coal combustion. In the air, it undergoes chemical reactions under the influence of external factors, which is the main reason for the formation of sulfates and sulfuric acid. Simultaneously, with the increase in coal combustion, more particulate matter is produced, leading to sulfuric acid fumes and causing smog. This not only affects people's normal lives but is also a key factor in inducing diseases. Nitrogen oxides also react with sulfur dioxide. With the increase in nitric acid and sulfuric acid content, atmospheric acid deposition occurs, causing widespread acid rain. Since the implementation of energy conservation and emission reduction policies, effective improvements have been made in sulfur dioxide pollution, and investment has been continuously increasing,

2.2 Adjusting the consumption structure

In coal consumption, the basic goals and requirements for energy conservation and efficiency improvement should be clearly defined to promote the increase in coal resource utilization and continuously improve the current energy-saving industrial system. An energy consumption standard system should be established to classify and assess coal consumption in different sectors, and mandatory thresholds should be set to prevent high-energy-consuming industries from negatively impacting the current consumption structure. The consumption structure of sectors such as power, construction, and transportation should be optimized and upgraded to facilitate the smooth implementation of energy conservation efforts. To adapt to the consumption characteristics of the new era, the development and utilization of clean energy, including wind, geothermal, and solar energy, must be accelerated to effectively complement coal consumption. Emphasis should be placed on the application of low-carbon energy to meet the requirements of high-quality energy. For example, in the power industry, the construction of hydropower and wind power projects can be actively promoted, which is conducive to ensuring ecological security. The incremental control of coal consumption should be strengthened by comprehensively refining current management objectives and enhancing effective constraints on production work. To effectively address the current non-point source pollution problem, the use of residential coal should be gradually reduced, and the construction of natural gas projects should be actively promoted. Natural gas combustion produces carbon dioxide and water, which will not pollute or damage the atmospheric environment. In adjusting the consumption structure, a comprehensive and detailed investigation and analysis should be conducted to clarify the local energy structure, reserves, and development status, so as to improve the utilization rate of clean energy, prevent the blind pursuit of cleanliness from affecting the local economic development, and truly ensure the balanced control of coal consumption.

2.3 Strengthen macroeconomic regulation

Government departments should actively transform their functions, recognize their responsibilities and obligations in atmospheric environmental governance, and take effective macro-control measures to achieve reasonable optimization of coal consumption. They should focus on adjusting the current industrial structure, especially creating a good environment for the development of the tertiary industry, solving the high energy consumption problem in the development of the secondary industry, preventing large-scale pollution problems, and achieving energy conservation and emission reduction. In view of the local economic development and coal consumption trend, relevant policies should be actively introduced, energy conservation and emission reduction indicators in different fields should be clarified, and the coordination between various departments should be enhanced to jointly implement policy requirements. The mining of high-sulfur coal should also be effectively supervised. It is strictly forbidden to mine coal with sulfur content exceeding 3%. If enterprises fail to comply with relevant policy requirements, effective administrative penalties should be imposed (Cong & Wang, 2019). Based on the actual situation, the current coal consumption industry plan should be comprehensively optimized, especially the production status of coal enterprises should be paid attention to, and quota management should be strengthened.

2.4 Conduct an environmental impact assessment

The implementation of environmental impact assessment work can also scientifically evaluate the current coal consumption situation, understand the impact of project construction on the atmospheric environment, and take effective prevention and control measures. For large-scale coal consumption projects, full-process management and control should be carried out, and the methods of pre-control, in-process control and post-control should be combined to obtain reliable environmental impact assessment results. Attention should be paid to the regular assessment and evaluation of relevant responsible units and public announcement. The supervision effect should be strengthened with the help of news media and the public to prevent the situation of exhausting resources. While adjusting the coal consumption structure, it is necessary to strengthen the effective constraints and control of enterprises in conjunction with the permit system, build a sound accountability mechanism, and improve the sense of responsibility of enterprises (Bai, 2016). Improve the current evaluation standards, strictly follow the requirements of relevant national laws and regulations, and help decision-makers to clarify the degree and characteristics of the impact of coal consumption on the atmospheric environment so as to carry out governance work in a timely manner. In the process of implementing environmental impact assessment work, the requirements of relevant national policies and laws and regulations should be strictly followed. At the same time, it is necessary to do a good job in connecting with the

pollutant discharge permit system, start from the early, middle and late stages of project construction to implement control and reduce the impact of coal combustion on the natural environment (Chen, 2015). Government departments should give full play to their leading role, do a good job in supervision in the connection between environmental impact assessment and pollutant discharge permit system, clarify the types and total amount of pollutants discharged in project planning and construction and the degree of pollution that may be caused, strengthen supervision of relevant enterprises with the help of temporary pollutant discharge permits, and do a good job in the effective coordination of economic construction and environmental protection.

2.5 Conduct publicity and education

Actively carry out publicity and education work, guide people to realize the urgency of energy structure transformation and upgrading, thereby creating a good social atmosphere and environment, and accelerating the process of green economic construction in China. Traditional publicity models are too backward and lack influence. Therefore, we should gradually expand publicity channels and methods, strengthen people's awareness of atmospheric environmental issues in various fields, actively optimize the coal consumption structure, and create good living conditions for people. Carry out publicity through WeChat, Weibo and short video platforms, especially formulate corresponding publicity plans for large coal consumption enterprises, promote enterprise reform and innovation, and gradually expand the scale of clean production. Actively publicize relevant policies and laws and regulations in China, strengthen the binding effect on enterprises, and gradually achieve the goal of energy conservation and emission reduction. Conduct visual analysis of the current overall situation of coal consumption in China, and carry out publicity through charts and videos to help relevant enterprises and responsible persons understand the severe situation of environmental protection work, and actively promote the clean production and industrial upgrading of enterprises to form a strong synergy.

3. Conclusion

Coal consumption is crucial for driving economic development, but the resulting air pollution has also drawn significant public attention. Only by strengthening the protection of the atmospheric environment can we truly achieve the requirements of green development. Sulfur dioxide and particulate matter pollution are the main types of pollution caused by coal consumption, placing enormous pressure on economic development and easily leading to human health problems. Therefore, we should enhance the rationality and scientific basis of coal consumption and address the current environmental issues through measures such as introducing advanced technologies, adjusting consumption structures, strengthening macro-control, conducting environmental impact assessments, and carrying out public education.

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