

Analysis of Air Pollution Control Measures in Environmental Engineering

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Abstract: The air quality of the ecological environment is closely related to people's health. However, due to the rapid economic development in recent years, it has indirectly led to the continuous deterioration of the quality of the atmospheric environment. Effective control of air pollution in environmental engineering is an important measure to improve the ecological environment and the quality of people's lives. Therefore, this paper combines the main causes and hazards of air pollution to analyze environmental protection measures in-depth.

Keywords: Environmental engineering; Air pollution; Control measures

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1 Introduction

With the gradual acceleration of industrialization, various pollutants discharged into the atmosphere are also increasing. If these pollutants cannot be effectively treated, the quality of the atmospheric environment will be threatened. Especially in the process of industrial processing and production, a large amount of gas will be generated, so it is necessary to implement comprehensive air pollution control measures to effectively solve the problem of air pollution^[1].

2 Analysis of Current Status of Air Pollution

As haze and other air pollution seriously affect people's quality of life, relevant national environmental protection agencies have begun to

formulate environmental protection targets. With continuous efforts, the content of polluting gases such as sulfur dioxide and nitrogen dioxide has been determined, thereby gradually achieving the emission reduction target^[1]. However, the large amount of waste gas generated by the huge base of Chinese industrial enterprises still has a serious impact on the natural environment, mainly.

2.1 There are too Many Types of Air Pollutants

The air pollution problem has become more and more serious, mainly due to the emergence of forest resources, domestic sewage, incineration and marine emissions, which have seriously affected air quality and the environment, and causing air pollution. Under the current overall background of environmental quality management, there are still problems in supervision and governance. In the process of environmental governance, the business process of the environmental protection department is restricted, and it is difficult to effectively control air pollution. It has a serious impact on environmental protection. Therefore, only by proposing the right development plans for air pollution and environmental problem can we propose effective pollution control measures right from the source^[2].

2.2 Government Policy Biases

The management of relevant government departments often pursues economic benefits, which affects the development of the local economy. In addition, local assistance policies are applicable to some industrial companies with severe air pollution. In the inspection process, the government usually cooperates with the relevant management personnel of the enterprise, which brings certain obstacles to the environmental

inspection work. In addition, the management personnel of the environmental inspection department will be restricted by the government in terms of the scope of management and supervision.

3 The Sources and Harms of Air Pollution

3.1 Sources

3.1.1 Car Exhaust

The rapid development of China's economy has greatly improved people's quality of life. People's consumption concept, level and structure have undergone tremendous changes. Cars have basically become people's daily necessities and their first choice for transportation. The number of individual differences is also increasing. The increase in the number of cars not only facilitates people's travel, but also causes certain harms to the environment. Car exhaust contains a lot of itch-inducing nitrogenous substances, which are directly released into the air. With the gradual increase in car ownership, car emissions also increase, which has a negative impact on the quality of urban control. Therefore, the government should pay attention to the issue of vehicle emissions, incorporate it into environmental governance and give priority to its control^[3].

3.1.2 Industrial Pollution

Industry is an important part of the global economic structure and an important driving force for the development of the national economy. However, industry not only promotes the development of the national economy, but also causes certain harms to the environment and seriously affects air quality. Industrial production has the characteristics of large-scale production. Industrial engines generally use combustion methods. During the combustion process, a large amount of toxic and harmful gases are directly discharged into the atmosphere, causing serious air pollution, and it is difficult to carry out environmental and air pollution control.

3.1.3 Soot-type Pollution

Coal is a necessity for people's daily production and life. Urban centralized heating and industrial production both need a lot of coal. During coal combustion, a large amount of dust and harmful gases will be produced, which will seriously affect the natural ecological balance and severely pollute the air.

The government should encourage the use of green methods for heating and industrial development, such as paying attention to issues of coal burning and switching to using natural gas to reduce the amount of coal consumption and effectively control air pollution.

3.2 Harms

The damages caused by the atmosphere to the human body can be divided into direct damage and indirect damage, and these damages are irreversible. Direct damage refers to the threat of human health by inhaling air containing substances harmful to the human body, and indirect damage refers to harmful gases that destabilize the atmosphere. Spacecraft enter the surface of the earth and affect the human body and crops by causing radiation damage. The smog phenomenon is the most intuitive phenomenon of air pollution that people can feel. In a smoky environment, people are more likely to suffer from respiratory diseases, which directly affect human health. In addition, harmful substances in the atmosphere enter rivers and soil in the form of precipitation, causing water and soil pollution, and ultimately affecting the sustainable development of society. Indirect damage severely affects economic and cultural development. Even today, China's economic development is quite different from that of developed countries^[4].

Currently, heavy industry still accounts for a large part of China's economic development, and this proportion still prevents China's environmental pollution problems from being solved for a long time. Therefore, this economic development model is not a long-term, but a temporary or limited economic development process. In order to realize environmental protection and healthy economic development, it is necessary to start from the perspective of energy saving and the use of new technologies, and finally achieving a new form of economic and environmental development. In other words, the economic development in the early stages of heavy industry development sacrificed the environment, while air pollution adversely affected and slowed down economic development. In addition, air pollution greatly restricts cultural development. Currently, the concept of harmonious development between man and nature has been proposed. If this concept is not effectively implemented, it will not

only damage people's daily life, but also damage the diversified development of Chinese society and culture.

4 Control Measures of Air Pollution

4.1 Strengthen Monitoring and Establish a Public Monitoring System

Air pollution control in environmental engineering is a long-term comprehensive project. The long-term mechanism requires a variety of pollution control measures to maintain and strengthen the control effect. Therefore, in the treatment process, the environmental protection department must first fully understand its responsibilities and roles in the air pollution treatment process, use advanced concepts and ideologies to guide treatment operations, and continuously innovate and optimize its working methods to understand the causes of air pollution^[5]. Secondly, combined with the current situation of air pollution in the field of environmental engineering, comprehensively analyzed the characteristics and causes of air pollution, to propose corresponding treatment measures and establish standardized treatment procedures, treatment standards and related management systems.

And on this basis, establish a public monitoring system that shares information with the public and enables the public to participate in the monitoring of natural resources. Increase public awareness to promote the public's sustainable use of resources, and pay attention to the ecological environment and protect it. Relevant departments should organize inspection teams to effectively implement natural resources and ecological environment management. For some companies, regular inspections need to be done by the environmental protection department. The relevant units need to be modified, and production can only start after reaching the corresponding standards. We are implementing a system of pay to use of natural resources. Whether as a group or as individual, resources must be used consciously and rationally, and damage to the ecological environment must be limited.

4.2 Balance the Relationship between Economic Development and Environmental Protection

First of all, relevant departments must strengthen the investigation and management of enterprises

in the region, register polluting enterprises, and manage them centrally. Companies that do not meet the emission standards must shut down for rectification, establish specific overall measures, clarify rectification goals, and track the effectiveness of rectification. Secondly, it is necessary to optimize and adjust the industrial structure, such as improving production methods, relocating or closing polluting enterprises to reduce the possibility of air pollution. At the same time, local governments should support clean energy companies through policies and funds, and encourage more individuals and businesses to use clean energy to reduce air pollution. Finally, tighten the emission control of urban vehicles. Vehicles with excessive emissions are strictly prohibited from driving on the road, and at the same time strengthen the control of unqualified fuel.

4.3 Introduction to Cloud Computing Technology

Nowadays, cloud computing technology is not only developing rapidly, but is also applied in air quality monitoring and early warning systems. The application of cloud computing technology can not only help current environmental monitoring tasks, but also improve the accuracy of air pollution control. Cloud computing technology can not only reflect the urban environment more accurately, but also improve the atmospheric trend prediction based on past environmental development and weather patterns^[6]. At the same time, it can work normally and stably in the air pollution management process. From a software perspective, only in-depth analysis of existing data can provide more effective recommendations for air pollution control.

4.4 Development and Utilization of New Clean Energy

Carbon-based energy will cause huge damage during the combustion process, so scientific and reasonable methods must be actively adopted to solve the problem. All regions should focus on the current situation, thoroughly analyze the energy consumption situation, actively develop new environmental and clean energy suitable for the human environment, and strive to reduce air pollution. The state should emphasize on the development of clean new energy, fully integrate with actual industrial production, and develop various new energy sources. The use of these new clean energy sources can reduce emissions and has little impact on the atmospheric environment. If

all kinds of clean energy can be used scientifically and effectively, it will not only reduce the use of traditional energy, but also solve the problem of air pollution and maintain the ecological balance of the earth.

4.5 Rectify Illegally Emitting Enterprises

In the process of air pollution control, national departments and governments play a very important role. At the same time, it is necessary to find the root cause of environmental pollution and strengthen the comprehensive management of pollution problems. At this stage, many industrial enterprises in China have not carry out reasonable treatment in the exhaust gas emission process. Industrial enterprises are the main pollutant discharge enterprises. Relevant government departments must severely punish and impose corresponding penalties for enterprises that have this phenomenon. In the process of corporate governance, the relevant environmental protection departments should stand at the starting point and play a leading role in imposing penalties in accordance with relevant policies, laws and regulations.

5 Conclusion

In conclusion, severe air pollution seriously affects people's health and does not help social and economic

development, nor does it contribute to sustainable social development. Therefore, it is necessary to implement various long-term air pollution control measures. In the long run, strengthening and expansion of the effects of air pollution control will create a better living environment for the people.

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