Analysis and Research on Pollution Treatment Technology in Environmental Protection

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Abstract. With the rapid development of the economy, the industrialization process has brought about a rapid improvement in people's quality of life, but it has caused pollution in the natural environment on which we depend. In order to protect the environment, the government has issued a number of policies and achieved great results. Based on this, this paper analyzes the status of environmental pollution in detail, and focuses on the analysis of CCAS process and SPR wastewater treatment technology, clarifies the importance of advanced pollution treatment technology to environmental protection, and proposes targeted strategic recommendations to promote Better and more sustainable development of the environment.

Keywords: Environmental Protection; Pollution Control; Protection Mechanism.

1. Introduction
With the rapid development of the economy and the growing GDP, the whole society has deepened its understanding of environmental protection and ecological civilization construction, and the environmental protection cause has developed in an orderly manner. The effectiveness of pollution control is constantly emerging, but there is a serious problem in the construction of cities. Environmental problems, such as air pollution, water pollution, solid pollution, and noise pollution have infiltrated the city, seriously jeopardizing the physical and mental health of urban residents. In the central and eastern regions of China, smog has seriously affected the living environment of the city and the physical and mental health of the residents. At the same time, due to many factors in the governance process, the problem of urban air pollution has always been severe, which has affected the development of the city. How to effectively control urban air pollution and ensure people's green and healthy living space has become a fundamental problem that urban managers need to solve urgently. To this end, the relevant departments of urban environmental management are required to do their utmost to thoroughly explore the causes of air pollution and take corresponding measures to prevent and control them in order to provide a good living environment for the citizens.

2. Analysis of the Current Situation of Environmental Pollution in China
At present, China's urbanization process and urbanization level have been rapid development, environmental pollution control investment has been greatly increased. In the early1980s, the national investment in environmental pollution control annual investment of 2.5-3 billion yuan. By the end of the 1980s, the total annual investment exceeded 10 billion yuan. The total investment at the end of the
"Ninth Five-Year Plan" reached 101 billion yuan, accounting for 1% of the GDP for the first time. At the end of the "Tenth Five-Year Plan" period, the total investment reached 256.5 billion yuan, accounting for 1.37% of the GDP during the same period; at the end of the "11th Five-Year Plan" period, the total investment reached 761.2 billion yuan, accounting for 1.84% of the GDP for the same period; At the end of the five-year period, the total investment reached 880.6 billion yuan, accounting for 1.28% of the GDP for the same period.

In 2017, China's total investment in environmental pollution control was 953.9 billion yuan, an increase of 7.2 times over 2001, with an average annual growth rate of 14.0%. At the same time, the energy structure is unreasonable, resulting in an increase in energy consumption, and eventually air pollution becomes more and more serious. China has become one of the countries with the most serious air pollution in the world. In recent years, although the total amount of air pollutants in China's cities has shown a decreasing trend as a whole, air quality has improved in some cities with severe air pollution, but it is more hopeful than people's expectations for a better living environment. Great distance.

Table 1. National Investment in Environmental Pollution Control in 2017

| Index                                                                 | Numerical    |
|-----------------------------------------------------------------------|--------------|
| Total investment in environmental pollution control (RMB 100 million) | 9538.95      |
| Total investment of foreign-invested enterprises in the water,        | 48097.79     |
| environment and public facilities management industry (US$ million)   |              |
| Completed Investment in Industrial Pollution Control (Rmb10,000)      | 6815345      |
| Investment in the control of industrial pollution sources (10,000 yuan) | 6815345.49   |
| Completion of investment in wastewater treatment project (10,000yuan)  | 763760       |

3. Analysis of the Causes of Environmental Pollution

3.1. Pollution Caused by Industrial Production

Industrial enterprises have provided an important supporting role for China's economic development. The exhaust gas, waste water and solid emissions formed in the industrial production process will cause pollution to the environment, resulting in "three wastes" (waste water, waste gas, waste residue) and various noises. In the process of urban economic development, some industrial enterprises such as chemical, coal, machinery manufacturing occupy the leading position of economic development, but in the production process, these enterprises will produce many particulate matter and sulfur dioxide, nitrogen oxides and other gases, resulting in environmental Pollution.

3.2. Environmental Pollution From Urban Heating

China is a big coal country. The fuel used for heating is mainly coal. The combustion process of coal transports major pollutants to the atmosphere. The main component of coal is carbon and contains hydrogen, oxygen, nitrogen, sulfur and metal compounds. In addition to generating a large amount of soot when burning fuel, carbon monoxide, carbon dioxide, sulfur dioxide, nitrogen oxides, organic compounds and soot are formed during the combustion process. Therefore, in winter, the use of coal and other technologies for heating is mainly caused by air pollution problems.

3.3. Environmental Pollution Caused by Transportation

With the development of the economy, transportation equipment is increasingly perfect, but it brings certain pressure to the city's traffic, bringing a lot of noise pollution, and will also cause more serious automobile exhaust pollution. Increased PM2.5 and O3 pollution problems.
3.4. Environmental Pollution Brought About by Urban Construction
Many high-rise buildings have been covered to provide convenience for people's lives, while exacerbating environmental pollution. For example, construction dust on construction sites will pollute the urban environment. In addition, in the construction process of some cities, there was no scientific and rational planning and design at the beginning, only the construction of infrastructure was emphasized, and there were certain defects in the protection of ecological environment.

4. Environmental Pollution Control Measures

4.1. Establish Awareness of Environmental Protection
Government departments should increase publicity on environmental protection, so that corporate executives and the general public can establish environmental protection awareness and consciously abide by environmental protection measures such as garbage sorting to reduce pollutant emissions.

4.2. Reducing Pollutant Emissions
Relevant enterprises should improve energy utilization structure, use non-polluting energy (such as solar energy, wind energy, hydropower) and low-pollution energy (such as natural gas), pre-treat fuel (such as desulfurization before burning coal), improve combustion technology, etc. Can reduce the amount of sewage. Before the pollutants enter the atmosphere, the dust removal and smoke elimination technology, condensation technology, liquid absorption technology, recycling technology, etc. can be used to eliminate some pollutants in the exhaust gas, which can reduce the amount of pollutants entering the atmosphere.

4.3. Continuous Cycle Aeration System
The CCAS process is based on SBR (Sequencing Batch Reactor). With the rapid development of science and technology, the development of new non-blocking microporous aerators has created conditions for the widespread use of batch processing. The CCAS process is simple in operation and simple in requirements for the facility. It is suitable for the public. The core of the biological treatment is the CCAS reaction tank. The functions of phosphorus removal, denitrification, degradation of organic matter and suspended solids are all completed in the tank, and the effluent can reach the standard discharge. After the sewage is pretreated, it continuously enters the pre-reaction tank in front of the reaction tank. Most of the soluble BOD in the sewage in the area is adsorbed by the activated sludge microorganisms, and together with the pores in the lower part of the main and pre-reaction zone partition walls. A low flow rate (0.03-0.05 m/min) enters the reaction zone. In the main reaction zone, according to the "Aeration, Idle, Settle, Decant" program cycle, the sewage is decarbonized, denitrified, and repeated in "aerobic-anaerobic" in the "aerobic-anoxic" cycle. Dephosphorization is completed.

4.4. SPR High Turbidity Sewage Treatment Technology
The "SPR High Turbidity Sewage Purification System" of the invention combines the "primary treatment" and "three-stage treatment" procedures of sewage into an SPR sewage purifier tank, which is quickly completed in a 30 minute process. It allows direct inhalation of suspended solids (turbidity) up to 500 mg/liter to 5000 mg/liter of high turbidity sewage, treated effluent suspension (turbidity) below 3 mg/liter (degrees); it allows direct inhalation CODcr is 200mg/L to 800mg/L of high-concentration organic sewage. After treatment, the effluent CODcr can be reduced to 40mg/L or less to realize the regeneration and reuse of urban sewage.

4.5. Establish and Improve the Ecological Environment Protection Mechanism
According to the specific indicators and actual conditions of the enterprise and its surrounding environment, the corresponding environmental protection control system is formulated. The focus of this system is on the approval of industrial enterprises and engineering projects. While vigorously
developing pillar industries such as industry, we attach importance to ecological environmental protection and regard environmental protection attributes as a measure of urban construction.

4.6. Strengthen Real-Time Monitoring of Air Quality
Environmental protection is a long-term and complex task that requires the implementation of various control measures based on the understanding of various information. Therefore, we should increase the control of air pollution, pay attention to air quality monitoring, grasp the various pollutant indicators and data of the city, and analyze and sort the data to clarify the causes of pollution and propose pollution control measures in a targeted manner. The main indicators of urban environmental quality are: PM2.5, PM10, carbon monoxide, nitrogen dioxide, sulfur dioxide and other harmful gases and ozone.

4.7. Adopting a Comprehensive and Multi-angle Approach to Environmental Pollution
In order to control environmental pollution, in addition to the above measures, it is necessary to strengthen the control of the source of pollutants. It is ordered to shut down enterprises with serious pollution, and most enterprises are required to adopt environmental purification measures to pre-treat some fuels that are easy to cause pollution and improve some combustion devices. In addition, it is necessary to strengthen corporate management, encourage enterprises to adopt low-pollution production processes, and encourage tax reduction and other policies. Implement urban vehicle limit and limit measures to reduce emissions. Encourage the public to travel green and so on; for the particulate matter, it can be treated with multi-stage dust collector, and the gaseous pollutants can be treated by desulfurization and denitrification, absorption by absorption tower and catalytic combustion. Planting green plants for large areas for purification.

5. Conclusion
Environmental pollution has caused incalculable losses to the places where we live. We should increase the protection of the environment and start from a little bit of life. The problem of environmental pollution cannot be ignored. It is necessary to take decisive measures to strengthen the control of air pollution and to provide a good living environment for the citizens.

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