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Discussion on Cleaner Production Technology of Different Industrial Pollutants

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ABSTRACT. *With the continuous development of economy and society, the environmental protection problems in industrial production have become increasingly prominent, which has aroused great attention from the society to the development and application of cleaner production technology. For cleaner production technology, scientific and reasonable application time can significantly reduce the harm of industrial production to the environment and human beings, and kill all kinds of potential environmental problems in the cradle. Starting from the related concepts of cleaner production technology, this paper expounds its application effect, puts forward scientific application methods, analyzes the future development direction, and provides valuable guidance for practical work.*

KEYWORDS: *Cleaner production technology; Industrial pollutants; Application method; Development prospect*

1. Introduction

Since the 1970s, the international community has put forward the concept of cleaner production. With the gradual development of industry, governments of all countries have also implemented cleaner production policies and formed various technologies and models for the development of cleaner industry. The goal of cleaner production is to reduce the environmental pollution caused by industrial production from the source, and to deal with the problem of energy and resource consumption. A large number of practices show that the application of cleaner production technology can achieve the expected results, and the concept of cleaner production has been highly respected all over the world, which is an important development trend of international environmental protection. The implementation of cleaner production in China is relatively late. At this stage, we need to actively explore the application of cleaner production technology in industrial production to achieve the purpose of energy conservation, consumption reduction, pollution reduction and efficiency.

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2. Overview of Cleaner Production Technology

2.1 Clean Production Technology Carries out New Creative Ideas

That is to say, during the period of industrial production, the concept of environmental protection and related comprehensive prevention strategies are applied to minimize the harm to the environment and society caused by industrial production, so as to achieve the goal of reducing production costs and expenditures, while creating better ecological benefits and generating better economic benefits. The connotation of cleaner production involves three key contents, namely, clean energy, clean production process and clean products. Among them, the clean energy includes the development of energy-saving technology, the development and utilization of renewable energy, and the effective use of conventional energy; the goal of the clean production process is to minimize the application of toxic and harmful raw materials and intermediate products, recover raw materials and intermediate products, improve management, and improve the efficiency and quality of utilization; the main clean products It is based on the premise of not harming human health and ecological environment as the leading factors, fully considering the process of manufacturing products, analyzing the actual situation of recycling and utilization after the application of products, reducing the use of raw materials and energy, and avoiding the waste of resources[1].

2.2 Cleaner Production Objectives

There are many goals to be achieved in cleaner production, which can be summarized as follows: first of all, through the comprehensive application of resources, as well as the implementation of the substitution of scarce resources, the rational application of secondary energy, coupled with the implementation of water-saving, energy-saving and consumption reduction, the best use of natural resources, reduce the consumption of resources, and ultimately maximize the efficiency of the application of natural resources and energy. Secondly, effectively reduce the formation of discharged wastes and pollutants, so that the production of industrial products and consumption process can be integrated into the environmental state, reduce the phenomenon of industrial activities endangering human beings and the environment, minimize the harm to the environment, and improve economic benefits[2].

2.3 Cleaner Production Technology

Clean production technology is mainly from two aspects, namely, saving resources and protecting the environment. From the first day of designing products to the application of products and the final disposal, it is comprehensively considered. Clean production technology can have an important impact on production, but also on service, it is also required to consider environmental factors[3].

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3. Cleaner Production Technology of Different Industrial Pollutants

The development of clean production technology in the process of industrial wastewater, waste gas and solid waste treatment is not coordinated, that is, the output control technology level of three pollutants in industrial production is significantly different. The number of provinces with a clean production technology efficiency of 1 is significantly less than that with a clean production technology efficiency (wastewater treatment). In general, the control of wastewater treatment in China's industry is better than that of waste gas and solid waste. It can also be seen from the change trend of the technical efficiency of national industrial cleaner production that only the technical efficiency of industrial waste water cleaner production shows an increasing trend, and the corresponding efficiency values of waste gas and solid waste show a downward trend. At the same time, the efficiency of clean production technology of three pollutants treatment has been improved in different years respectively, which does not achieve synchronous growth, which also shows that China's industrial enterprises do not achieve effective control of the three emissions at the same time, so in the process of policy-making and actual production of enterprises, we should pay attention to the control of these three pollutants at the same time, and should not avoid the emphasis on light, biased[4].

There are significant regional differences in the efficiency of cleaner production technology in the three pollutants treatment processes. The efficiency of cleaner production technology in the eastern and central areas is on the rise, while the efficiency in the western and northeast areas is on the decline. The technical efficiency of clean production in the process of wastewater and waste gas treatment in the eastern region is at a low level, but its technical efficiency of clean production (solid waste treatment) is at the national leading level, and the waste gas control technology obviously needs to be improved. In addition, the efficiency of clean production technology (waste water treatment) in the western region is significantly lower than that in other regions, so it is necessary to strengthen the control technology of waste gas in industrial production. The technical efficiency of clean production (waste gas treatment) is the best in the central region, but the technical efficiency of clean production (waste water treatment) is at the lowest level in the country, and the central region obviously needs to improve the waste water control technology. The technical efficiency of clean production in the process of wastewater and waste gas treatment in Northeast China is at the second level in China, and the technical efficiency of clean production (solid waste treatment) is at the lowest level in China, which shows that the overall pollutant control technology in Northeast China needs to be improved, especially the solid waste control technology in industrial production needs to be strengthened[5].

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4. Policy Suggestion

4.1 Increase Investment in Waste Gas and Solid Waste Treatment in the Allocation of Industrial Pollution Control Investment

Relevant research shows that insufficient total investment in environmental protection is one of the important reasons for the inability to substantially improve the environmental quality, so it is particularly important to expand the total investment in environmental protection of waste gas and solid waste; optimize the investment structure in environmental protection, at present, the investment in environmental infrastructure construction in China plays a major role, so it should be increased for industrial waste gas and solid waste pollutants in the process of policy-making. While optimizing the allocation of environmental investment, we should also establish an effective fund supervision and operation system to ensure that the funds are put into pollutant treatment[6].

4.2 Improve the Intensity of Environmental Regulation on Waste Gas and Solid Waste

Optimize the unified standard to measure the implementation of local government environmental regulations, especially pay attention to the realization of a sound performance appraisal system, change the single assessment mode focusing on economic growth, reflect the basic requirements of ecological civilization construction, and improve the assessment weight of waste gas and solid waste treatment indicators[7].

4.3 Develop Cleaner Production Standards for All Industries

Raise the threshold of green technology access, eliminate the industrial enterprises with large input, small output and high pollution, so that the surviving enterprises can obtain more profits, which is conducive to these enterprises to increase R & D investment, promote green technology innovation in the industry, make full use of resources, and achieve sustainable development.

4.4 Actively Improve Environmental Protection Tax Law

We should use price leverage to encourage enterprises' green innovation with tax rate difference, promote enterprises' green technology progress, limit the application of high-energy consumption products, realize resource conservation and effective utilization, and reduce waste discharge from the source[8].

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5. Conclusion

In the world's environmental protection strategy, clean production technology is an important part. It innovates the traditional production mode and changes the extensive economic production mode. The current application of cleaner production technology organically integrates resources and environment to minimize the formation of pollutants during the production of products, while ensuring the green and healthy development of products. In the future development, the application of cleaner production technology in industrial production can effectively reduce the level of environmental pollution, reduce energy consumption, and provide people with a better environment for production and life. Therefore, we should adhere to the implementation of cleaner production technology in industrial production, constantly explore new application methods, and create more social and economic benefits for social development.

References

[1] Kou Dong, Niu chonghuai, Yao Xilong (2017). Comparative study on cleaner production technology of different industrial pollutants. Science and technology management research, vol.37, no.18, pp.241-250.

[2] Chen Xuemin, Zhang Shan, Zhou Yuexi, et al (2017). Whole process control of pollutants in refining and chemical integrated industrial wastewater. Environmental engineering, vol.35, no.10, pp.171-174, 124.

[3] Li Menglin, Wen Lili, Wang Conghe, et al (2017). Study on the regional and industrial distribution changes of metal production and heavy metal pollutants in industrial wastewater in China and EU. Journal of Peking University, (NATURAL SCIENCE EDITION), vol.53, no.6, pp.1053-1067.

[4] Our research group (2017). Building a clean production technology system to improve water pollution control level - "integrated research and demonstration of water saving and emission reduction clean production technology in petrochemical industry cluster area". Environmental protection and circular economy, vol.37, no.7, pp.4-8.

[5] Liu Tiantao, Zhang huaidong (2016). Progress in the treatment of major pollutants in the textile industry. Dyeing and finishing technology, vol.38, no.9, pp.61-63.

[6] Chen Peng (2017). Methods of promoting clean production technology to control energy consumption and heavy pollution industries. Environmental protection and circular economy, vol.37, no.9, pp.8-10.

[7] Huang Jianqi, Chen Zhitian (2017). Application and development of environmental protection technology in clean production of building ceramics. China ceramic industry, vol.24, no.2, pp.49-53.

[8] Huang Guixin (2016). Electroplating cleaner production technology and application. Guangzhou chemical industry, vol.44, no.15, pp.144-147188.