

Research on Environmental Innovation Behavior of Heavy Pollution Enterprises under the Constraint of Resources and Environment

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Abstract

The sustainable development of economy is the theme of today's social development. In recent years, with the emergence of natural resources exhaustion, smog, global warming, water pollution and other issues, resource and environmental issues have become a hot topic in the world, and various countries have also Various environmental regulation policies have been introduced. As a major component of China's secondary industry, heavy polluting enterprises are not only the promoters of economic growth, but also the major resource consumption and environmental pollution. Heavy polluting enterprises want to achieve their own sustainable development, environmental innovation behavior will be the only way for enterprise development. Therefore, in order to meet the requirements of various stakeholders on the development of enterprises, it is of great practical significance to study the environmental innovation behaviors of heavily polluting enterprises.

Keywords

Resource and environmental issue; Heavy polluting enterprise; Environmental innovation behavior.

1. Introduction

Adequate natural resources and a good ecological environment play an extremely important role in ensuring steady economic growth and stable social development. Nowadays, with the emergence of environmental pollution, resource depletion and other issues, people's focus is no longer limited to the speed of economic development, but more concerned about the quality of economic development. China is actively pursuing the five development concepts of innovation, coordination, green, openness and sharing, and attaches great importance to innovation and sustainable development. The key words of the "Twelfth Five-Year Plan" are green. The "13th Five-Year Plan" clearly proposes to innovate the concept and method of environmental governance. The Third Plenary Session of the 18th CPC Central Committee clearly stated the goal of "building a beautiful China". It is to put the construction of ecological civilization to an unprecedented height. The national policy reflects the government's high attention to environmental construction. It also emphasizes that the National Environmental Innovation Plan must be fully implemented in all aspects related to national life to achieve economic and environmental conditions. The long-term goal of sustainable development. The introduction of environmental regulation policies has also forced companies to consider economic, environmental and social benefits in the production and operation process. Therefore, environmental innovation behavior will be an important way to solve the economic development problems and the dilemma of sustainable development of resources.

Heavy polluting enterprises are premised on resource depletion and environmental pollution. This extensive production model is no longer in line with the current theme of green sustainable development. The organic combination of green development and innovation will be an important way to achieve new development. China's heavily polluting enterprises should strive to seize the opportunity of green development and actively implement environmental innovation behaviors.

2. Analysis of Environmental Problems in Heavily Polluting Enterprises

Environmental pollution means that the discharged substances exceed the purification capacity of the environment itself, that is, the concentration and toxicity of the pollutants no longer decrease with time, thus causing certain damage to the ecological environment. At present, the problems caused by heavy polluting enterprises can be summarized into the following two points.

2.1. High Energy Loss, Backward Production Process and Less Green Products

Most of the production and operation of heavily polluting enterprises involve high-energy-consuming industries such as steel, coal, oil, and mining.

Most of the production of these enterprises is extensive production, backward technology, old equipment, low technology, and most of them do not meet industry standards. In the long run, it will cause serious waste of resources, and it will produce a large amount of solid waste such as fly ash and tailings in the production process. The solid waste will accumulate carbon dioxide, smoke and other toxic substances to the atmosphere after long-term accumulation and decay. Harmful pollutants.

Heavy-duty enterprises are indispensable for resource consumption and waste generation in the production process, but we can improve the production process, finish the products, and recycle and reuse the waste to reduce the excessive resources. Consumption and waste. The main reason for the low green products of heavy polluting enterprises is the backwardness of the production process. We should increase the research and development of new products and new processes, and implement green innovations.

2.2. Three Wastes Have Large Emissions and Serious Pollution

At present, 70% of environmental pollution emissions come from heavily polluting enterprises, and the discharge of waste water, waste gas and solid waste is the main source of pollution. Regarding wastewater pollution, metallurgical wastewater, papermaking wastewater, coking coal gas wastewater, metal pickling wastewater, chemical fertilizer wastewater, etc., have been smuggled without being effectively treated, causing serious pollution to surface water and groundwater, exceeding the environment. Self-purification ability. At the same time, the discharge of industrial wastewater containing nitrogen and phosphorus will cause algae and other aquatic organisms to reproduce abnormally. Regarding exhaust gas pollution, from the serious degree of pollution of the industry, the pollution levels are metallurgical industry, coal industry, equipment manufacturing industry, power industry, cement building materials industry, etc. The pollutants in the air are mainly sulfur dioxide, nitrogen dioxide, carbon monoxide and Ozone, etc. Regarding solid waste pollution, the metallurgical and steel industries are the main sources of pollution. From the perspective of waste types, there are mainly tailings, fly ash, waste slag, slag, desulfurization gypsum, fly ash and so on. These solid wastes react under certain conditions and undergo transformation, which has a negative impact on the surrounding environment. If the treatment is improper, harmful substances will endanger the environment and human health through water, gas, soil and food chain.

3. Analysis of Environmental Innovation Behavior of Heavy Pollution Enterprises

3.1. The Connotation of Environmental Innovation Behavior

Corporate environmental innovation behavior is a corporate environmental behavior. The so-called "innovation" is a relative concept that emphasizes new or improved processes, technologies, systems and products related to the environment and resource utilization, emphasizing environmental concepts, environmentally friendly technologies, Research and development and application of technology and products emphasize the transformation of environmental technology results with green market as the orientation. Environmental innovation can achieve the coordinated development of economic and environmental benefits of enterprises and achieve their own sustainable development.

In China, corporate environmental innovation behavior is still a concept that has not been popularized, but Chinese enterprises have been very rich in environmental innovation. Traditional research fields such as cleaner production, green manufacturing, environmentally friendly products, environmental management systems and low-carbon technologies are closely related to the concept of environmental innovation. This paper considers that environmental innovation behavior refers to the implementation behavior of the content of environmental innovation in the actual production and operation process, that is, the technology adopted by the enterprise before production to reduce the negative impact on the environment during the whole life cycle of the product. Innovations in technology, products, systems, etc.

3.2. Overall Status of Environmental Innovation Behavior of Heavily Polluting Enterprises

It is everyone's responsibility to protect the environment. In recent years, with the successive introduction of national environmental regulation policies and the awareness of environmental public awareness, the production and management of heavily polluting enterprises no longer pursue economic interests as the sole goal, but to pursue the economy. The integration of interests and environmental benefits is actively taking on environmental and social responsibilities. At this stage, more and more heavily polluting enterprises have begun to pay attention to the environmental innovation behaviors of enterprises. The environmental innovation behaviors of "anti-treatment and treatment" have begun to slowly infiltrate into the production and management activities of heavily polluting enterprises. In addition to the efforts made by heavy polluting enterprises in the "three wastes" governance, many enterprises have also begun to implement environmental innovation design, increased research and development of green technology innovation, and increased the use of low-energy, low-pollution, environmentally-friendly materials. The research and development efforts have increased the recycling and utilization of waste materials, and also increased the improvement of the green technology of the products, and correspondingly introduced clean production equipment for green production. The efforts made by heavily polluting enterprises that are consistent with the development of economic benefits and the development of environmental benefits in environmental innovation have also led to environmentally friendly behaviors of other related industries. Today, with the goal of low-carbon economy development, research and development of new products, new processes and new equipment with "green" advantages will definitely give greater development opportunities for the future development of the company. Break through international green trade barriers and join the international market.

3.3. Problems in the Development of Environmental Innovation Behaviors in Heavily Polluting Enterprises

The development of environmental innovation behaviors of heavy polluting enterprises is closely related to the sustainable development of enterprises. Through the investigation and analysis of environmental innovation behaviors of heavy polluting enterprises, it is found that the development of environmental innovation behaviors of heavy polluting enterprises in China is still in the initial stage, and there are still certain developments. The problem.

3.3.1. The Company's Environmental Awareness Is Weak, and Environmental Innovation and Research and Development Investment Funds Are Insufficient

In recent years, with the introduction of the national ecological environment regulation policy, heavy polluting enterprises have begun to slowly shift the eyes of enterprise production and management to environmental benefits. Heavy polluting enterprises are slowly starting to use clean energy, introducing clean equipment, and strengthening the treatment of waste water and waste slag. However, due to the uncertainty of environmentally-innovated R&D by heavily polluting enterprises, this may mean that the investment in environmental innovation is lost. Therefore, the heavily polluting enterprises do not invest much in environmental innovation research and development. The lack of research and development of environmental innovation by heavily polluting enterprises is largely due to the lack of environmental awareness of the management of the company and the lack of a good interpretation of the country's development direction of the "green, low-carbon, recycling" economy.

3.3.2. Lack of Professional Environmental Management Professionals and Weak Environmental Management

In a series of important speeches, President Xi Jinping emphasized that "development is the first priority, talent is the first resource, and innovation is the first driving force." Professional environmental management talents are necessary conditions for the development of corporate environmental innovation behavior. China's research on environmental issues is later than that of Western countries. So far, the research on corporate environmental innovation behavior has not formed a whole category, so the talents of heavy polluting enterprises in this area are also very scarce. It is precisely because of the lack of talents in environmental management of enterprises that most polluting enterprises do not consider environmental issues in the whole process of enterprise production and management in dealing with environmental problems. They are almost passive, and most of them are treated as pollution first, environmental management. Relatively weak.

3.3.3. Insufficient Motivation For Corporate Environmental Innovation Behavior, Insufficient Government Funding

The current performance of heavy polluting enterprises on environmental innovation behavior is mostly forced by the pressure of whether enterprises can continue to operate smoothly. The main driving force is the external pressure from the government. In terms of market demand, the green demand of consumers is based on price. If there is no price advantage in the products of heavily polluting enterprises, the demand for green products may only stay at the ideological level, that is, the green of consumers. The effect of demand on promoting environmental innovation behavior of heavily polluting enterprises is not obvious. As far as the entire green supply chain is concerned, upstream and downstream enterprises of heavily polluting enterprises have not yet had special requirements for this, which is not enough to stimulate environmental innovation behavior of heavily polluting enterprises. The environmental innovation of heavy polluting enterprises stems from corporate social responsibility, but the fundamental purpose of enterprise production and management is to pursue the maximization of interests. When it is uncertain whether the environmental innovation behavior of enterprises brings economic benefits to enterprises, corporate social responsibility alone is not

enough to stimulate The vitality of corporate environmental innovation behavior. In addition, the state's financial subsidies for environmental management are very small, leading to heavy pollution enterprises in environmental management, only adopting some normative environmental behaviors, and lack of great motivation for the implementation of environmental innovation behaviors.

3.3.4. Less New Technology, Fewer New Products, Less Investment in Environmental Protection Equipment

Since most of the heavily polluting enterprises involve steel, petroleum, coal and other industries, their production structure and products are relatively simple. In the whole production and operation process, the behavior in environmental innovation is mainly reflected in the improvement of production process, the saving of raw materials, and the abandonment. Recycling, etc., new manufacturing processes and new products developed for industry characteristics. At the same time, due to funding constraints, the introduction of environmentally friendly equipment is also rare.

4. Countermeasures Suggestion

From the perspective of sustainable development, resource and environmental issues are the main problems that constrain the future development of China's heavily polluting enterprises. In order to solve this problem better, the government, enterprises and the public should actively participate in promoting the environmental innovation behavior of enterprises and realize the sustainable development of enterprises.

4.1. Government Level

4.1.1. Strengthen Environmental Law Enforcement Work

First of all, we should fully learn from foreign advanced management experience, strengthen the reform and innovation of the environmental regulation system, and achieve diversification of regulatory methods. Then, we should reasonably set the medium and long-term goals of energy conservation and emission reduction for the state and heavy polluting enterprises, clarify the responsibilities, rights and obligations at all levels, and guide the heavily polluting enterprises to transition to low carbon through environmental innovation behaviors. Third, improve the laws and regulations on waste disposal. Leading heavy polluting enterprises to deal with waste mainly from the end-of-pipe technology innovation, and to the direction of preventive environmental technology innovation such as clean process innovation and environmental product innovation.

4.1.2. Improve the Environmental Innovation Behavior Policy System

The government's funding policy support for heavily polluting enterprise resources and environment can promote environmental innovation of heavy polluting enterprises and guide the formation of environmental protection culture, and provide guidance and support for the development of environmentally innovative behaviors of heavily polluting enterprises. First, formulate a reasonable financial subsidy policy to improve product production management method projects, end treatment projects, environmental equipment purchase, environmental technology introduction and research and development, and related professional and technical personnel training. Secondly, a reasonable environmental tax policy will be enacted. For those enterprises that cause serious pollution to the environment, high pollution tax, fuel tax, pollution product tax, etc. will be imposed, forcing them to obtain high profits and having to carry out environmental innovation behaviors and adjust their production methods. Implement tax incentive subsidies for enterprises that implement environmental innovation.

4.2. Enterprise Level

4.2.1. Strengthening the Construction Of Environmental Awareness Of Enterprises

Many companies are not incapable of undertaking environmental protection investment, but are evading environmental protection investment. They do not realize that environmental investment will help enterprises gain competitive advantage in the long run. Environmental education and training for business leaders can guide companies to dispel concerns about environmental protection investments and raise their environmental awareness, thereby increasing their enthusiasm for improving their environmental behavior.

4.2.2. Strengthening the Construction of Professional Environmental Management Team

When recruiting environmental managers of enterprises, it is necessary to introduce senior management team members with complementary professional skills and key cross-functional departments to optimize the structure of senior management team and continuously improve the commonality of executive team members' cognition of each environmental innovation project goal. In addition, corporate executive team members should learn to use social capital in a balanced manner, take appropriate measures, strengthen the communication and communication between the executive team and other stakeholders, and create conditions for the executive team to search for knowledge. Green resources such as information and technology promote the circulation and application of these resources among various departments within the enterprise.

4.3. Public Level

Establish public awareness of environmental protection and effectively participate in environmental supervision. The public referred to here refers not only to the general public, but also to the buyers, users, investors, etc. of heavy polluting enterprises, as well as decision makers of environmental technology innovation behaviors. They have created environmentally friendly product markets, green procurement models, etc. It provides an intrinsic motivation for the development of corporate environmental innovation behavior. The public's awareness of environmental protection will directly affect the market demand for green products. Therefore, we should actively participate in environmental technology lectures, seminars and exchanges to enhance public awareness of environmental innovation and communicate this awareness to every public. The society must form a sound corporate responsibility supervision system. The development of the corporate social responsibility movement requires the support and attention of the whole society. In addition to the government's effective participation in environmental protection to supervise the development of Western corporate social responsibility, it is often the consumer, the investor and the mass media that are the general members of society. The power of social groups cannot be ignored. The formation of China's social responsibility supervision system can also make full use of the strength of the group, starting from the government and society, and forming a multi-level, multi-channel, all-round social responsibility supervision system.

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