



Research Article

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The research on corporate social responsibility in The Haze Governance

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ABSTRACT

In recent years, China's air quality has deteriorated and the phenomenon of haze weather has increased. In order to control haze, the country speed up the adjustment of energy structure, make environmental laws and regulations, and control enterprise pollution emissions. But just relying on the government to force companies to pay attention to environmental pollution is not enough; the enterprise is the main role of the environmental pollution. Air pollution caused by haze mainly comes from industrial pollution. In the haze governance, enterprises should take the initiative to assume and fulfill their social responsibilities. The current research on the haze governance focuses in the field of astronomy, earth science and environmental science and other technology science. There is little research from the management perspective. From the perspective of corporate social responsibility in the management, this article explores the behavior lacking of corporate social responsibility in the haze governance, analyzes that what social responsibility enterprises should assume in the haze governance and proposes recommendations for that how to promote enterprises to bear corporate social responsibility in the haze governance.

Keywords: Corporate Social Responsibility; Haze; Governance

INTRODUCTION

In recent years, hazy weather appears in most parts of China and environmental pollution problems have become increasingly prominent. In the regions like Beijing-Tianjin-Hebei, the Yangtze River delta, the Pearl River delta, PM2.5 pollution aggravates and haze occurred frequently. Haze weather brings inconvenience to people's life, and also affects people's health. In order to control haze, PM2.5 monitoring indicators were added in Ambient Air Quality Standards (AAQS) released newly in 2012.

Enterprises are the maker of fog haze weather, and their emissions cause the air pollution. However, form the current actions of enterprise to control haze; they did not assume the corporate social responsibility that they should assume. As the biggest consumer of environmental resources and the major source of environmental pollution, enterprises have responsibility for environmental problems. In front of the deteriorating environment, enterprises should undertake their social responsibility. What the enterprises with a sense of social responsibility should consider not only is the production profits, but also includes how to save energy, how to reduce pollution emissions, and how to control the pollution from the source, in order to achieve sustainable economic development.

2. The concept of haze

Haze weather is a new kind of weather phenomenon emerged in recent years. Haze is the combination of fog and haze. From the meteorology, the fog and haze are two different meteorological concepts and meteorological phenomena. Fog is a product of water vapor condensation (or sublimation) in the air near the ground layer, and is the aerosol system which consists of a large number of tiny water droplets or ice crystals suspended in the air near the ground. Haze refers to the situation that the particulates in the air such as airborne dust, sulfuric acid, nitric acid, organic hydrocarbons etc. make the atmospheric turbidity and the vision blurry, leading to the deterioration of visibility[1]. If the horizontal visibility is less than 10000 meters, such an aerosol system composed of non-aqueous

and leading to the obstruction to vision is called haze. It is the result of the interaction of particular climate conditions and human activities, and is a mixture of fog and haze.

Economic activities and social activities with high-density population are bound to a large number of fine particulate matter emissions. Once the emissions exceed atmospheric circulation capacity and its bearing degree, fine particles will continue to accumulate, and if it affected by static unstable weather at this time, they are prone to large-scale haze. The main component of haze is sulfur dioxide, nitrogen oxides and particulate matter. The first two of them are gaseous pollutants, and particulate matter, especially PM_{2.5} (particulate matter which aerodynamic equivalent diameter is less than or equal to 2.5 micron) is to blame for aggravating haze pollution. They combine with fog, making the sky instantly become gray.

3. The influence of enterprise production and operation to haze

The influence of enterprise production and operation to haze reflects in the influence of industrial pollution emissions. Enterprises provide raw materials and products for the economy and society, but also consume a lot of resources and energy and pour a large volume of pollutants. Wastes generated in the production process are mainly in the form of sulfur dioxide, soot, and dust. These substances getting into the atmosphere cause varying degrees of pollution to air quality and affect people's health. Enterprises' emissions are the major reason for the formation of fog and haze. For sulfur dioxide, nitrogen oxides and particulate matter these three main components of haze, industrial sulfur dioxide emissions is 19.117 million tons, accounting for 90.3% of total sulfur dioxide emissions; industrial nitrogen oxide emissions is 16.581 million tons, accounting for 70.9% of total emissions of nitrogen oxides; industrial soot (dust) emissions is 10.293 million tons, accounting for 83.4% of the total soot (dust) emissions (see Table 1).

Table 1 Industrial sulfur dioxide, nitrogen oxide and soot (dust) emissions from 2008 to 2009

year	sulfur dioxide		nitrogen oxide	Soot (dust)
	Emissions (million tons)	Share of total emission (%)	Emissions (million tons)	Emission (million tons)
2008	19.913	85.8	—	12.556
2009	18.659	84.3	—	10.519
2010	18.644	85.3	—	10.519
2011	20.172	91.0	17.297	11.009
2012	19.117	90.3	16.581	10.293

A wide range of fog and haze often appear in large-scale atmospheric circulation with weak cold air, good water vapor condition, static wind or breeze in ground layer. Controlled by the surface static unstable weather, regardless of the size of the city, its pollutant emissions from energy consumption which required for its local transportation, life and production have continued to accumulate in the lower atmosphere.

At the same time, due to the high humidity and larger water vapor in haze weather, droplet provides adsorption and reaction sites to accelerate the transformation of reactive gaseous pollutants to the liquid particle composition, and particulate matter is also easy to accelerate the generation of haze as condensation nuclei, so they interact with each other, making pollution rapidly [2]. Therefore, pollutant emissions in production and operation produce haze in the meteorological effect. Polluting emissions from production, motor vehicle exhaust, construction, coal for heating in winter and others, lead a significant decrease in air quality, and cause atmospheric pollution, resulting in the occurrence of haze weather.

4. HAZE AND CORPORATE SOCIAL RESPONSIBILITY

4.1. Corporate Social Responsibility

The concept of corporate social responsibility (CSR) comes from the western developed countries. In 1924, Oliver Sheldon first proposed the concept of CSR when he inspected companies in the United States [3]. In 1979, Carroll summarized the definition of corporate social responsibility on the basis of previous studies. He said that corporate social responsibility covers the social expectations to enterprise in economic, legal, ethical and discretionary at a specific point in time [4]. He believes that corporate social responsibility can be divided into economic responsibility, legal responsibility, ethical responsibility and philanthropic responsibility; corporate managers should not only be moral, but also undertake a variety of internal and external responsibility. Scholars, international organizations and institutions have varied expressions on corporate social responsibility, differing from the focus. Nevertheless, the basic meaning of corporate social responsibility is consistent. Corporate social responsibility refers to, in creating profits and being responsible for their shareholders, the enterprise should undertake the responsibility to employees, customers, community and environment, including complying with business ethics, ensuring production safety and occupational health, protecting workers' legitimate rights and interests, protecting the

environment, supporting charities, making contributions to social welfare, protecting vulnerable groups, and so on[5].

Haze has a serious impact on environment. The responsibility that enterprises should undertake in the haze governance mainly is environmental responsibility. Corporate environmental responsibility belongs to the category of corporate social responsibility. George Enderle, American economic ethicist, pointed out that CSR includes three aspects, that is, economic responsibility, social responsibility and environmental responsibility. The environmental responsibility is mainly refers consume fewer natural resources to make the environment withstand less waste for sustainable development. We believe that environmental responsibility refers that the enterprise as a social person should be responsible to the environment of stakeholders actively in the pursuit of their own economic benefits to make their behavior conform to the requirements of the environmental moral and legal. They should consciously be committed to environmental protection, comply with environmental laws and promote environmental ethics to promote the sustainable development of economy, society and nature.

4.2. Behaviors lacking of corporate social responsibility in the haze governance

4.2.1. Weak corporate environmental awareness

Corporate environmental awareness is reflected in the course of its business activities depending environmental resources. Environmental awareness guide environmental responsibility behavior. As can be seen from the evolution of corporate environmental responsibility, under the guidance of the government environmental management, corporate environmental responsibility is paid attention to gradually. But overall, the enterprises' environmental responsibility consciousness is still relatively dim, leading that they did not perform environmental responsibility well in production and business activities. Business philosophy is still money-oriented. The short-term behavior is serious with one-sided pursuit of economic interests ignoring the environmental benefits. Then, it is difficult to achieve a reasonable balance between business and environmental protection [6]. Because of the characteristics of cumulative and hysteresis of environmental problems with the absence of strong external pressure, enterprises do not take the initiative to carry out environmental responsibility for pollution control projects which would to invest large without the help to reduce costs. Weak environmental awareness leads to weak corporate responsible behavior in haze governance, resulting in a large number of energy consumption and pollutant emissions, such as excessive emissions of soot, dust and other fine particulate matter.

4.2.2. Inadequate environmental protection measures

Due to the effect of the thought of "rational economic" and short-term behavior of government, enterprises, as market economy microscopic body, have no enthusiasm and initiative of environmental protection. There are no comprehensive environmental protection measures within the enterprise. Enterprises lack the enthusiasm to environmental investments with less or no inputs. Enterprise's environmental protection facilities has a great deal of dependence on technical processes and hardware facilities, and once these technical processes and hardware facilities be put into construction, it is not easy to recycle, forming the so-called "sunk costs" and having the strong characteristics of asset specificity[7]. As a result, some firms simply pursue economic benefits and have no enthusiasm for investment in environmental terms, thinking that environmental protection investment would increase the cost of business. Enterprises focus on selecting items into new products and expand business scale, but lack invests in those pollution control projects and cleaner production. In the haze governance, it is not only lack of investment in protection facilities, but environmental protection facilities are not in place to reduce cost.

4.2.3. Imperfect corporate environmental management system

In the haze governance, enterprises lack of comprehensive environmental quality management system. On the one hand, on the set of internal management positions, there is no set of full-time staff positions for environmental protection and pollution control, such as atmospheric administrators, dust administrators and other specific administrators. There is no professional environmental protection work. On the other hand, enterprises ignore the implementation of environmental standards. Most enterprises in our country did not attach enough importance to the implementation of environmental standards and lack the idea of environmental quality management, so that the implementation of corporate environmental responsibility is only a passive reaction under the government's rules and regulations [8]. China has made many relevant atmospheric policies and regulations, like Atmospheric Pollution Prevention Act, Ambient Air Quality Standards, Air Pollutant Emission Standards, Boiler Air Pollutant Emission Standards, Power Plant Air Pollutant Emission Standards, and these policies and regulations have strict rules for sulfur dioxide emission, nitrogen oxides emission and other pollutant emissions. But the enterprises did not comply with the regulations well resulting in excessive emissions.

4.3. Corporate Social Responsibility in haze Governance

The natural environment is not just to provide resources for human production and living, but the external conditions affecting the development of human beings. Earth and its survival in any species, are not the external object

independent of human civilization, on the contrary, they are indispensable ecological factors constituting human civilization.

Enterprises, as human tissue engaged in production activities, should use resources rationally and protect the natural environment. Enterprises as the main body of the industrial economy, from raw materials to finished products, all production processes are likely to have a discharge of pollutants. In the production process, corporate environmental responsibility consciousness is dim and excessive emission phenomena still exist. Part of enterprises' pollution control facilities is not running properly, some even without any environmental protection facilities. The escalating trends of haze and the absence of behavior with corporate social responsibility make we have to review corporate social responsibility in the haze governance. Enterprises should bear the following two aspects of responsibility for the natural environment in the production and management.

4.3.1. Rational and effective use of natural resources

Natural resources are the material basis of human survival and development, and the basic factors for ecological civilization, which is not only have a "scarcity" in the economic sense, but also have a valuable sense of independence. However, if humans want to maintain their own survival and development, it is bound to consume large amounts of material resources for production, which is conflict with the scarcity and independence of natural resources. How to resolve the contradiction problem is that the contemporary human society has to face and consider seriously. From the most realistic point of view, improving the effective utilization of resources is an important way to solve environmental problems. As human organization of production, enterprises should treat the nature at the height of ecology, be cautious to the development and use of natural resources, otherwise, it is not only a violation of nature, but is extremely irresponsible to human beings.

For the rational development and utilization of the growing shortage of natural resources, enterprises should establish new principles of demand, produce based on the reasonable needs of human development, emphasize the human harmless demand for resources and the environment, combine effective use of resources and protect the environment, fully consider the ability of long-term supply of natural resources and long-term afford ability of ecological environment, and see priceless natural resources as a wealth in accordance with the requirements of fairness and sustainability under the premise of full respect for nature. In the specific production process, enterprise should maximize the efficient utilization of resources, save resources, improve old production technology and equipment, adopt new technologies and materials recycling technology with less energy consumption and low material consumption, implement production with no waste, try to use alternative resources, reduce the consumption of non-renewable resources to solve the contradiction between production and resource scarcity.

4.3.2. Pollution control

Human change the natural world step by step based on technological progress and the development of the production, and also changes our environment, which is the man's advantage. Every transformation, however, brings many unfortunate for nature and human beings, and as production levels rise, this unfortunate is becoming more and more serious. When humans revel in the victory of the natural world, they had to face the increasingly serious environmental pollution. Environmental pollution is the product of modern industrial civilization, but also the inevitable result of human and natural environment based on subject-object dichotomy. Environmental disasters and increasingly serious environment problem is forcing us to put down the human self-centered, seeking the way to be harmony with nature. The principle "do no harm" which is the fundamental values of human society, with its universal validity, is still must be strictly abided by in dealing with the relationship between man and nature, as demonstrated in the production of human activities to control pollution, reduce and avoid the damage of industrial waste to the environment as far as possible.

Enterprises play major role in the environmental pollution; therefore, they must bear the primary responsibility for pollution control. For this reason, enterprises should increase capital investment, improve production technology, control pollutant emissions in the production process, and vigorously develop "clean production" process. Through making product design, material selection, process reform, technology management, production process, product inner loop use and other aspects to be more scientific and rational, it is not only to achieve no pollution or contamination of the production process, but the products produced do not cause damage to the environment in the use and final disposal process, so as to control pollution and low the pollution damage to environment to a minimum. Enterprises not only have to avoid and control the enterprise' produce pollution to the environment from themselves, but also have to actively participate in social welfare activities, to become the main force of the environmental movement and to assume more social responsibility to environment protection.

5. CONSTRUCTION OF CORPORATE SOCIAL RESPONSIBILITY IN HAZE GOVERNANCE

In the haze governance, enterprises should comply with national laws and regulations, take responsibility in the discharge of sewage, waste gas, industrial waste, hazardous chemicals and pollution aspects; reduce energy consumption, improve the efficiency of energy utilization, develop recycling economy; respond to environmental changes and take responsibility in reducing greenhouse objects, adaptation to climate change and other aspects. Enterprises should actively undertake social responsibilities in the haze governance. They can proceed from the following aspects.

5.1. Strengthen the sense of environmental responsibility

Enterprises should strengthen the sense of responsibility for the environment. According to theory of competitive advantage, the company's strategy is the plan of action that they take their competitive advantage to capture market opportunities based on the analysis of the external environment and adaptation to the environmental requirements. This theory has long been seen as a magic weapon for the majority of entrepreneurs to win in the market competition. If enterprises want to get a foothold, become bigger and stronger, and achieve sustainable development in the market, there is need to strengthen awareness of environmental responsibility, undertake corporate environmental responsibility actively, and make responsible market players, which is responsible for both the social public and themselves. Enterprises should consciously abide by related environmental laws and regulations and emission standards in production and management, strictly comply with the principles which are reducing, reusing and recycling of circular economy, develop and use resources reasonably, minimize adverse effects of their production and business activities on the natural environment to realize sustainable development of economy and society.

5.2. Change business goals

Business goals are the most important factor affecting production and business activities. The change of production and business behavior will start from the change of business goals. The growth mode aiming at expanding the number of products without attention to economic benefits has been abandoned by more and more enterprises. In today with haze weather growing, people's environmental protection consciousness is increasing and the market also raise requirements for corporate environmental behavior, so as it is the most rational choice to take the improving of economic benefit as the goal for enterprise to seek development in the fierce market competition[8]. Those enterprises who comply with environmental trends can establish a good corporate image in the market. Good environmental management has become a key factor to gain competitive advantage. Business goals should no longer simply is the pursuit of economic benefits, but should be the pursuit of both economic benefits and ecological benefits. Therefore, enterprises should change business ideas and business concepts and improve awareness of corporate social responsibility to the environment.

5.2.3 Adopt cleaner production methods

Traditional enterprise pollution control mode is a kind of terminal control and treatment mode, whose main goal is contaminated waste discharge standard. The mode not only cannot solve the root problem of environmental pollution, but also is not conducive to the survival and development of enterprises. Therefore, in haze governance, enterprises cannot continue to use this model, but should move to a more scientific pollution prevention mode. Enterprises should change their mode of production, increase investment in environmental protection, and make use of cleaner production methods as far as possible [9].

Clean production mode is a new kind of pollution control mode. Enterprises adopting cleaner production methods are conducive to reduce emissions of harmful gases or smoke from the roots in their production, which can be done to control air pollution from the sources of pollution, making the governance of fog and haze to achieve the best results. First of all, the mode does not see discharge polluted as the only goal and emphasizes on strengthening the management and technological progress to reduce the emission of pollutants to as far as possible and pursue zero emissions. So cleaner production mode takes environmental protection as one of the goals and harmonizes the environment and production to solve environmental problems fundamentally. Secondly, the mode is focus on full control of production. It is pay attention to make full use of energy resources, to reduce the use of toxic materials and to try to generate less waste in each link of production. Thus, the way of cleaner production reduce emissions of pollutants and achieve environmental benefits, also can improve the efficiency of comprehensive utilization of resources, helping improve the economic efficiency of enterprises. In addition, the method also attaches great importance to the control in the whole process of product life cycle. In product designation, raw material selection, production, use, disposal and other aspects, the impact on the environment are be taken into account, thus it will extend corporate environmental pollution control from the internal to the external, changing the mode that the enterprise only control for its own internal business pollution.

5.2.4 Innovate environmental management system

Innovative environmental management system is the requirement of the practice of scientific concept of development, as well as the inherent requirements of sustainable development of enterprises. Establishing and implementing innovative environmental management system will help to improve environmental awareness, improve the level of corporate environmental management, mobilize enterprise initiative of prevention and control of environmental pollution and establish scientific management concepts and methods that prevention first and protection from the source in the entire process control to build a good platform for the implementation of "low carbon economy" and the prevention of air pollution[10].

Environmental management system, to some extent, reflects the level of enterprise' environment awareness and its capacity to implement environmental protection, becoming the enterprise expression to its own environmental behavior. The new corporate environmental management system should be adapted to the needs of environmental protection. Environmental management should be implemented in every sector and each production processes, so that to make the enterprise take the initiative to consider and maximize the protection of the environment in the product designation, raw material access and use, even the entire production process[11]. So innovative corporate environmental management system is no longer simply an enterprise-based environmental protection department, but includes each department, the personnel at all levels, from senior leaders to front-line production workers to enable the enterprise form a complete environmental management system through internal integration. Since under the new environmental management system, environmental management objectives is to enable enterprises to strengthen efforts to control pollution in the production process to improve the economic benefit and social benefits, the new environmental management system will not conflict with the whole management system of enterprises.

5.2.5 Conduct environmental public welfare activities

Enterprises should to carry out public welfare activities to protect environment, and to be good responsible corporate citizen. To carry out resource conservation, environmental protection charity helps enhance corporate image. Enterprises cooperate with government and social to conduct environment public welfare activities, which is the embodiment of the enterprises to actively fulfill resource environmental responsibility. For the external, it can meet the social expectations, effectively advocate the corporate image and create a favorable external environment for their own development; for the internal, it can strengthen the awareness of employees to save resources and protect the environment, create a favorable business environment, and stimulate the staff's working enthusiasm and working efficiency.

CONCLUSION

Enterprises are important producer of haze. Although in the short-term, the investment of haze governance did not bring direct benefits to the enterprise, and even increases the cost of business, but in the long run it is conducive to the long-term development of enterprises. To fundamentally control the formation of the haze weather, it is necessary to strictly control the emissions of pollutants. This is not just something of the government, but requires the enterprise to participate in. Enterprise is the microscopic main body of economic operation, the direct provider of most material products and direct producers of the vast majority of pollutants, therefore changes in corporate behavior has important significance for the change of the overall economic development mode.

Environment is the external stakeholders of enterprises. Corporate social responsibility in the haze governance is mainly responsibility for environmental. In the production and management, enterprises should use of resources reasonably and effectively, reduce pollution and protect the environment. By strengthening the sense of environmental responsibility, changing production goals, using of cleaner production methods, innovating environmental management, energy conservation and emission reduction, etc. enterprises should undertake their social responsibility in the haze governance consciously and actively.

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