

Research on Low Carbon Evolution Path of Large Coal Enterprises

Jia Xianmin^{1,2}, Wang Xilian³

1 School of management, Xi'an University of Architecture and Technology; Xi'an 710055, China

2 Business College, Xi'an International University, Xi'an 710077, China

3 School of management, Xi'an University of Science and Technology, Xi'an, China

Keywords: Low Carbon, Evolution Path, Large Coal Enterprises

Abstract. This paper briefly introduces the connotation and development significance of low-carbon economy, emphasizes the necessity of coal enterprises to develop low-carbon economy and the challenges and problems faced by coal enterprises in developing low-carbon economy. Finally, it is pointed out that adopting circular economy model, system construction, and technological innovation are the main path of low-carbon economic development for coal enterprises.

Introduction

Low-carbon economy is based on low energy consumption, low pollution, low emissions and high efficiency, high efficiency, high efficiency (three low three) as the basis, to low-carbon development as the development direction to energy-saving emission reduction for the development of carbon And technology for the development of green economic development model, is the human society following the agricultural civilization, industrial civilization after another major progress. The development of low-carbon economy is to abandon the previous first pollution control, the first low-end high-end, first extensive development model after the intensive approach is to achieve economic development and resources and environmental protection win-win inevitable choice. China has become the world's largest coal production and consumption, the future of China will be long-term dominate the world's coal production and consumption of the dominant position. Coal itself is high-carbon energy and the use of coal must be accompanied by carbon dioxide emissions. With the growing global environment and climate, and our important role in maintaining world environmental work, the development of low-carbon economy has become increasingly urgent, coal enterprises are facing increasing pressure to reduce the development of low-carbon the economy has become an important concept of sustainable development.

The Connotation and Development Significance of Low Carbon Economy

The so-called low-carbon economy is under the guidance of the concept of sustainable development, through technological innovation, institutional innovation, industrial restructuring, new energy development and other means, as much as possible to reduce coal, oil and other high-carbon energy consumption and reduce greenhouse gas emissions Economic and social development and ecological environment protection win - win situation of a form of economic development.

The development of low-carbon economy, on the one hand to actively assume environmental responsibility to complete the national energy saving indicators of the requirements; the other hand, to adjust the economic structure, improve energy efficiency, the development of new industries, the construction of ecological civilization. Low-carbon economy is the essence of energy efficient use, clean energy development, the pursuit of green GDP problem, the core of energy technology and emission reduction technology innovation, industrial structure and institutional innovation and the concept of human survival and development of a fundamental change. "Low carbon economy" put forward the background, is the global warming on human survival and development of the severe challenges. And energy and economic implementation of the results of major changes may be gradually towards ecological civilization out of a new path, through low-carbon economy model and

low-carbon lifestyle, to achieve social sustainable development. Although coal companies are producing "carbon" enterprises, but coal pollution and carbon emissions in the process of using coal generated in society. Coal enterprises to develop low-carbon economy, from the source of energy-saving emission reduction, can reduce pollution costs, but also become a new economic growth point, access to double wealth.

The Necessity of Coal Enterprises to Develop Low-Carbon Economy

The development of low-carbon economy is the only way for the transformation and development of coal enterprises. Chinese coal enterprises are natural resources extraction industry, the production process by the natural geological conditions, equipment, technical level, quality of staff and other factors, long-term in the extensive growth model there are still many problems. Such as extensive mining of coal serious damage to the ecological environment, including coal mining on the destruction of land resources and occupation of water resources damage and pollution and pollution of the atmospheric environment. In order to achieve the rapid growth of production, coal enterprises in the mining process of coal resources "picky", to abandon the mining of more difficult coal resources, resulting in coal resource recovery rate is too low, the average coal mine recovery rate of only 32% amazing. At the same time, the coal washing is not enough attention and raw coal into the wash rate is low, resulting in large emissions of pollutants. For a rich coal country, Chinese coal main energy status unchanged, the total demand continues to increase. However, in the face of "Chinese GDP by 2020, carbon dioxide emissions by 40% -45% in 2005," the international commitment to Chinese energy as the main body of the coal industry in the "second Five-Year" period to achieve low-carbon transformation, It is urgent and urgent. Development of low-carbon economy, promote scientific development, is the only way for the transformation of coal enterprises.

The development of low-carbon economy is the internal demand for sustainable development of coal enterprises. China is in the industrialization, urbanization, modernization of the rapid development stage, the rapid development of heavy chemical industry. Large-scale infrastructure construction cannot stop, a large number of energy demand and rapid growth is difficult to change. Rapid growth in energy consumption has resulted in significant emissions of greenhouse gases and air pollutants. At present, Chinese 85% of carbon dioxide, 90% of sulfur dioxide and 73% of the soot are from coal-fired emissions, the main air pollutant emissions ranked first in the world. This coal-centered energy structure is difficult to change for quite a long time to come. Therefore, Chinese future carbon emissions situation is very grim and the development of low-carbon economy is to achieve sustainable development of our strategic choice. Reduce the carbon emissions, the impact of the coal market can be imagined. If there is no cleaner, more economical coal use technology, coal market share reduction is difficult to avoid. This requires coal enterprises to increase investment in low-carbon technology, vigorously develop low-carbon economy, and continuously improve the quality of development, cultivate new economic growth point. Coal enterprises to develop low-carbon economy, follow the trend of the world, in line with Chinese national conditions, is to implement the scientific concept of development and coal enterprises to achieve sustainable development of the inherent needs.

The development of low-cut economy is the future common development direction of coal enterprises. Coal is Chinese pillar of energy, for a long time accounted for Chinese primary energy production and consumption of about 70% of the total, is the main source of high-carbon emissions. As the large coal consumption, China is still in the use of high-carbon energy as the main driving force of the development stage. However, it must be recognized that low-carbon development has gradually become a strategic issue, is the "post-crisis period," the direction of the real economy and the way out is to promote Chinese internal structural adjustment of the endogenous power and inevitable direction. Low-carbon development of coal enterprises not only can reduce the consumption of coal, reduce the carbon emissions in the mining sector, but also through the provision of clean coal for follow-up industries such as thermal power generation, coal chemical industry, metallurgy and other industries to create conditions for low-carbon development. And actively

promote the construction of low-carbon economy in coal enterprises for China to change the mode of economic growth, adjust the industrial structure, improve the efficiency of coal use and the protection of the ecological environment is of great significance. Chinese coal enterprises to develop coal-based circular economy, from the source to promote energy conservation, is to achieve resource development, environmental protection and regional economic and social development of an important way for the whole society to achieve low-carbon development has far-reaching impact.

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Innovative energy management model. The energy management system is the "energy" as the core of the control and management, mainly through the "activities, products and services" to identify energy factors to determine the specific energy targets and indicators to reduce energy consumption and improve energy efficiency, in line with low-carbon Economic "low energy consumption, low pollution, low emissions" concept. Ximeng Group Coal Mine as the only coal enterprises in Shandong Province to implement energy management system construction pilot enterprises is the first coal industry to carry out the work of the enterprise. At present, the preparation of the completion of the coal industry with the characteristics of the energy management manuals, procedures documents, and establish a standardized, standardized, standardized, full participation in the energy management system. At the same time learn from the experience of the previous system construction, the energy management system into the environment, security, occupation, health system, the formation of "four in one" mode of operation, and energy management division training.

Through the introduction of the contract energy management model (EMC), the mine has carried out the contract energy management project cooperation, the scope of the mine main belt energy saving, the power plant fan, the washing plant coal transportation equipment, the water pump energy saving, the cement plant high voltage motor frequency conversion and so on Covering the production of mines, power plants and other non-coal enterprises. The new mining group Huafeng Coal Mine actively learns and draws on the advanced concepts and practices of international and domestic energy-saving management work. The technical service contract signed with Beijing Hekai Yisheng Technology Co., Ltd. applies the contract energy management mode to transform the high-voltage frequency conversion a good energy saving effect.

Clean production of coal. Coal gangue is the coal mining and washing process of solid waste generated in the process, the traditional way of dealing with it is directly discharged to the ground, the accumulation of gangue Hill. In the process of coal gangue, coal gangue is directly filled with coal gangue to prevent the collapse of the new gangue treatment methods, through the gangue "do not rise well, not up the mountain, do not transfer" to solve the "three" coal mining, coal gangue ground emissions, Pollution and land and other issues, to achieve the savings of coal resources and coal gangue solid waste reduction, improve the recovery rate of coal resources to extend the service life of the mine; from the source to reduce the solid waste coal gangue emissions, The land occupied and the pollution of the atmosphere, to achieve a clean production; to gangue roof, effectively prevent the coal caused by subsidence, to protect the mine geological environment.

The new mining group to improve the depth and breadth of the use of resources through the coal gangue, coal underground gasification, comprehensive utilization of coal gangue, coal deep processing, mining equipment remanufacturing, mine water use and comprehensive management of waste gas and other ways to reduce the waste The emission of resources, the realization of waste resources, waste products and leading industries between the semi-closed connection, the formation of a resource - product - waste - renewable resources of the new mining resources utilization model. At present, the new mining group in the comprehensive utilization of resources has formed a "smooth industry, with reasonable resources, alternative extension of appropriate, orderly update capacity," the stability of the ecological utilization of industrial system.

The new mining group through the intermediate products, waste recycling and energy cascade use, to promote energy-saving emission reduction enterprises to create low-carbon coal enterprises, effectively change the past resources - products - waste one-way straight line model, and gradually

formed a resource - - renewable resources feedback cycle-based economic model, to achieve a social and economic benefits of a win-win situation.

Industry extension model: ① horizontal expansion of the industrial chain, to achieve efficient recycling of resources. New Mining Group to the depth of the development of waste resources as the starting point, and continuously improve the comprehensive utilization of the grade, to achieve energy saving, energy consumption, pollution reduction, efficiency and effective unity. Horizontal development of a number of industrial chain, the use of coal gangue, slime resources development of the power industry, the use of fly ash, coal gangue development of new building materials industry, increase mine water recycling, the development of mining equipment remanufacturing industry; ② vertical extension of the industrial chain, Product structure adjustment optimization. New Mine Group to ensure the stability of the main coal industry at the same time, focusing on the maximum benefit of coal products, and vigorously promote the coal processing and deep processing of four washing plants for technological transformation, the implementation of the coal underground gasification project, Out of the remaining coal pillars, corner coal, etc. can be effectively used.

Diversified business development. New Mine Group established the "coal industry concentration, non-coal industry set optimization, industrial development and ecological" work ideas, based on the main coal business, vigorously develop the emerging service industry. From the "one coal dominance" of the industrial structure to form a "coal, electricity, chemical, construction" as the main body, machinery manufacturing, building materials, logistics and other related industries and other new pattern. New Mining Group firmly grasp the "Eleventh Five-Year" countries to develop energy-saving emission reduction industry favorable opportunity to actively cultivate the development of energy-saving environmental protection industry, after nearly five years of development has begun to take shape.

Conclusion

In order to adapt to the new development situation of low-carbon economy, some large domestic coal enterprises have done a positive and useful exploration in the low-carbon economy, and initially formed the low-carbon economic development model, which is of great significance to promote the development of entire coal industry and even the whole society. At the same time, we should also see that there are still some problems in the development of Chinese coal industry, such as resource recovery rate is low, greater energy consumption and so on. Therefore, just solve the technical and management issues, Chinese coal enterprises will have a greater low-carbon development space.

Acknowledgment

The National Natural Science Foundation of China(Grant No. 71303184);

The Humanities and Social Science Research of The Ministry of Education Youth Project of China (Grant No. 12YJC790075);

The Soft Science Foundation of Shaanxi Province(Grant No. 2013KRM05);

The Humanities and Social Science Project of Shaanxi Bureau of Education(Grant No.13JK0221).

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