

# Research on Green and Low-Carbon Development Countermeasures of Anshan Iron and Steel Industry Under the Goal of "Double Carbon"

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## ABSTRACT

Green low-carbon and economic and social win-win is the only way to achieve sustainable development. Through the new growth point, new momentum and new path of green low-carbon development of Anshan iron and steel industry, Anshan City will continue to improve the quality and efficiency of green development. This paper mainly expounds the status quo and obstacles to the implementation of green and low-carbon development of Anshan iron and steel industry, and puts forward countermeasures and suggestions from the government, enterprises and the public to strengthen the construction of a new path to achieve green and low-carbon development of Anshan iron and steel industry.

## KEYWORDS

Anshan, Iron and steel industry, Green and low-carbon, Countermeasures

## 1. RESEARCH BACKGROUND

In recent years, due to the high energy consumption of industrial production and serious environmental pollution, The State Council issued the "Carbon Peak Action Plan before 2030", promising that China will not increase carbon dioxide emissions before 2030, and then slowly reduce them after reaching the peak. The Kyoto Protocol signed by our country has a profound impact on the steel industry. The steel industry is a highly polluting and high-energy consuming industry, which requires a large amount of raw materials such as iron ore, coke, and coal to produce products. These raw materials contain a large amount of chemical components, which release a large amount of gas and solid waste during the combustion process, causing serious environmental pollution. Anshan iron and steel industry is an important pillar industry, is the city's economic development degree and comprehensive strength level of the main basis. Only by implementing green and low-carbon development can Anshan iron and steel industry solve the problem of heavy pollution and heavy energy consumption, change the past practice of only paying attention to the disposal of waste pollutants after production, and implement circular economy into the entire industrial chain. Therefore, Anshan iron and steel industry to implement green and low-carbon development and win-win economic development is the only way to achieve sustainable development.

## **2. THE IMPORTANCE OF IMPLEMENTING GREEN AND LOW CARBON DEVELOPMENT IN THE STEEL INDUSTRY OF ANSHAN CITY**

In today's society, environmental pollution is serious, the implementation of green and low-carbon development of Anshan steel industry is conducive to the city's steel industry to strengthen environmental management, improve the steel industry green and low-carbon business strategy and assessment and evaluation standards, which has important practical significance.

### **2.1. Contribute to the sustainable development of Anshan steel industry**

The iron and steel industry will incorporate environmental management into the business strategy management of enterprises, and carry out green and low-carbon development mode for enterprises, which can always supervise every link of the steel industry in the production and operation, master the latest situation, timely stop the harm caused to the environment in the production process of the steel industry, and save natural resources, which is the inevitable guarantee for the long-term development of the steel industry.

### **2.2. Help Anshan iron and steel industry fulfill environmental responsibility**

Because the iron and steel industry is mainly based on economic benefits, when the economic benefits and environmental benefits are contradictory, they are often at the cost of sacrificing environmental benefits, and the active initiative of implementing environmental management is not high. The implementation of green and low-carbon development will help the steel industry fulfill its corporate social responsibilities, help the steel industry take into account the environmental interests while satisfying the economic interests, develop together, and consciously fulfill the environmental responsibilities and obligations of the steel industry.

## **3. COMPOSITION OF GREEN AND LOW-CARBON DEVELOPMENT SYSTEM OF STEEL INDUSTRY**

The green low-carbon development and operation system of the steel industry mainly includes five elements: green procurement, green production, green marketing, green logistics and green recycling. The implementation of green and low-carbon is to prevent people from causing damage to the environment in the production and operation process and daily life, adopt a series of operation and management measures, with suppliers, manufacturers and retailers as the main objects, environmental management, cleaner production, energy conservation and emission reduction as the way to reduce energy consumption, and achieve the win-win goal of economic and social interests while protecting the environment. Make the company become the leader in the same industry.

### **3.1. Implementation of green procurement**

Green procurement refers to the concept of resource conservation, environmental protection, product life cycle, and the development of a series of procurement policies, enterprises in the procurement to measure the material of raw materials, considering whether the production process can reduce waste gas, waste residue pollution, whether it can be recycled, whether it can reduce secondary pollution to the environment and other issues.

### **3.2. Promote green production**

Green production is usually referred to as clean production, which refers to reducing the pollution of smoke and waste gas to the environment in the process of producing products, reducing energy

consumption, saving resources, reducing the harm caused by industrial production to the environment, and reducing the load on the environment.

### **3.3. Carry out green marketing**

Green marketing refers to changing the traditional marketing that only emphasizes the importance of low carbon in enterprise business strategy, selling products with new marketing concepts, integrating green and low carbon concepts into product packaging, production, sales and other processes, using environmental influence as a means of publicity to promote green products, increase market share, open up new markets and increase product sales. To bring economic income to enterprises, fundamentally change the way of sales.

### **3.4. Strengthen green logistics**

Green logistics refers to a series of circulation processes such as packaging, transportation, handling, storage, loading and unloading of products, in order to reduce the excessive consumption of energy for the purpose of scientific and reasonable planning and advanced means of transportation, to curb the harm caused to the environment, so that resources can be effectively used.

### **3.5. Implementing Green Recycling**

Green recycling refers to the recycling of waste in the production process of products in order to avoid enterprises' pursuit of economic interests while ignoring the damage to the environment caused by the production, circulation and sales of products.

## **4. THE CURRENT SITUATION AND COUNTERMEASURES OF IMPLEMENTING GREEN AND LOW-CARBON DEVELOPMENT IN THE STEEL INDUSTRY IN ANSHAN CITY**

### **4.1. Current situation and problems of implementing green and low-carbon development in Anshan City**

#### **4.1.1. The government lacks unified supervision**

The legal system for the green and low-carbon development of the steel industry by the Anshan Municipal Government is incomplete, lacking legislation related to green and low-carbon, and lacking detailed regulations for low-carbon enterprises. The city government's support for steel enterprises implementing green and low-carbon development is insufficient, lacking economic and policy support.

#### **4.1.2. High energy consumption in steel enterprises**

Anshan is the cradle of iron and steel, iron and steel enterprises are energy-intensive enterprises, the production process produces a large number of pollutants, resulting in excessive energy consumption, the effective utilization rate of iron and steel enterprises is low, all kinds of energy consumption are higher than the world average standard, Anshan iron and steel enterprises in the production process, produce a large number of pollutants, including solid waste, waste water, waste gas and other harmful substances. It will inevitably cause environmental pollution and restrict the long-term development of enterprises.

#### **4.1.3. People's awareness of green and low-carbon is weak**

When consumers choose steel products, they consider the quality and price of the products, while ignoring the damage to the ecological environment of the purchased goods, green and low-carbon consumption behavior has not yet been popularized, green consumption is still in its infancy, low-

carbon consumption behavior lags behind the awareness of green consumption, and people's low-carbon consumption behavior still cannot be widely implemented.

## **4.2. Countermeasures and suggestions for implementing green and low-carbon development in Anshan City**

### **4.2.1. Strengthen government supervision and improve laws and regulations**

The government establishes laws and regulations for the green and low-carbon development of the steel industry, and formulates environmental management and environmental governance measures suitable for the steel enterprises themselves. The government gives appropriate policy support, economic assistance and financial subsidies, increases support, encourages iron and steel enterprises to implement green procurement, carry out green marketing, supports green iron and steel enterprises, provides financial, technical, policy, tax and other support in the research and development and production of green products, and implements clear rewards and penalties. Iron and steel enterprises will deepen the green and low-carbon development into the full life cycle of iron and steel enterprises to produce products, and formulate feasible implementation plans.

### **4.2.2. Implement green production and reduce the emission of "three wastes"**

Anshan's entire iron and steel industry chain green, iron and steel enterprises from green procurement, green production, green marketing, green recycling and other aspects to improve the level of green and low-carbon development of iron and steel enterprises, iron and steel enterprises vigorously research and development of new products, find alternative green raw materials, reduce the use of high energy consumption, high pollution, choose to use clean energy, improve production efficiency. Reduce the "three wastes" emission generated in the production process of products, improve the comprehensive utilization rate of solid waste, waste gas and wastewater, create a complete closed-loop supply chain system, and establish an environment-friendly steel enterprise, which can not only reduce environmental pollution, but also meet the market demand of consumers for green products, so as to maximize the environmental value of enterprises. Create good ecological benefits for iron and steel enterprises.

### **4.2.3. Strengthen public participation and improve green consumption awareness**

Actively participate in the practice of green and low-carbon development, starting from daily life, such as saving water, electricity and gas, actively participate in garbage classification, reduce the utilization rate of plastic products in daily life, try to choose green and low-carbon travel modes such as walking, cycling and buses, and imperceptible the green and low-carbon concept into the public consciousness. Strengthen the publicity of green and low-carbon, hold environmental protection activities regularly, stimulate consumers' awareness of green consumption, strengthen the public's sense of environmental responsibility, achieve co-governance with the government and enterprise environment, select and purchase green products from the source, and form a closed-loop supply chain.

## **5. CONCLUSION**

Anshan City should speed up the promotion of green and low-carbon development, and give top priority to the prevention and control of environmental pollution in the iron and steel industry. Only by changing the traditional development mode, saving resources, improving energy utilization efficiency, adjusting the structure of the iron and steel industry and energy structure, and building a green and low-carbon production and operation system can people's livelihood and health be continuously improved. Finally realize the coordinated development of economic benefits, environmental benefits and social benefits.

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