

# SD Modeling and Simulation of Sustainable Development of Energy Environment Social Economic System

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## Abstract

Energy and environmental work has a positive role in promoting the internal management of enterprises and the development of market economy. Enterprises should continuously optimize and adjust the functions and positioning of the energy environment and use the means of energy environment to optimize their own management according to changes in the industry and the times. , To promote the transformation and upgrading of enterprises, while driving the sustainable development of the market economy. In order to promote the stable development of my country's economy, it requires the hard work of enterprises to actively carry out activities such as corporate team building and excellent corporate management personnel exchange conferences, making full use of technology and outstanding corporate personnel to promote the development of my country's market economy. Enterprises vigorously strengthen the energy environment, so as to promote the stable development of my country's economy for a long time. In the management and operation of modern enterprises, energy and environmental work plays an important role and value. By improving the internal management of the enterprise, it can promote the sustainable operation and development of the enterprise. The energy environment is essentially about coordinating the relationship between enterprises and departments, so as to implement the supervision and management of enterprises, provide effective management norms and system guarantees for modern enterprises and optimize the internal management of enterprises while also driving the market economy. Continuous development.

**Keywords:** Energy Environment, Social Development, Simulation;

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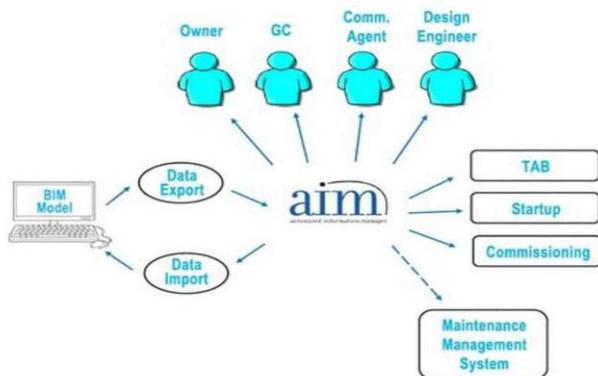
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## 1. Introduction

Energy and environment is an important management major in the field of market economy. This major is very applied and involves multiple disciplines, such as economics and management. Based on the nature of energy and environmental work, it can be divided into industrial and commercial enterprise management and energy environment and industrial and commercial enterprise management can be divided into internal control departments and strategic management

departments, so some people will confuse industrial and commercial enterprise management and energy environment. The core goal of energy and environmental work is mainly to establish and maintain the order of the market economy. Energy and environmental units can supervise and manage the subjects of market economic activities through corresponding management measures, ensure the operational stability of market economic subjects and promote high-quality market economy in my country development of. There is a certain internal

connection between the energy environment and economic construction and development of an enterprise. This is essentially a process of mutual promotion and mutual improvement. The energy environment can promote the improvement of modern enterprise systems, ensure the scientific and stable internal management of the enterprise and drive the overall The development of economic construction. At this stage, with the increasingly fierce market competition, the contradictions between the interests of different subjects have become more apparent. To a certain extent, industry competition requires the energy environment to provide coordination. It is difficult to alleviate this fierce competition situation simply by relying on market-oriented operating mechanisms. , The guidance of energy environment can fully make up for the lack of market operation, build a good economic development environment and standardize orderly transactions between enterprises<sup>[1]</sup>. The energy management system is in the figure below.



**Figure1.**Energy management system.

**2. Energy, Environment, Social and Economic System**

*2.1. The energy environment of the enterprise promotes economic development*

To a certain extent, energy and environmental work and economic development play a role in mutual promotion and mutual improvement. The enterprise management system plays a good role in promoting the overall adjustment of the economy. With the continuous development of the social economy, the

conflicts between different groups of related interests have become more and more intense. If the market mechanism itself alone is not able to ensure the healthy development of the market economy. The energy environment can guide the market economy to a certain extent, can further make up for the shortcomings of the market itself, create a good market economy environment and ensure fair and equitable transactions between markets, thereby further promoting the sustainable development of the market economy<sup>[2]</sup>. The energy supply system is in the figure below.

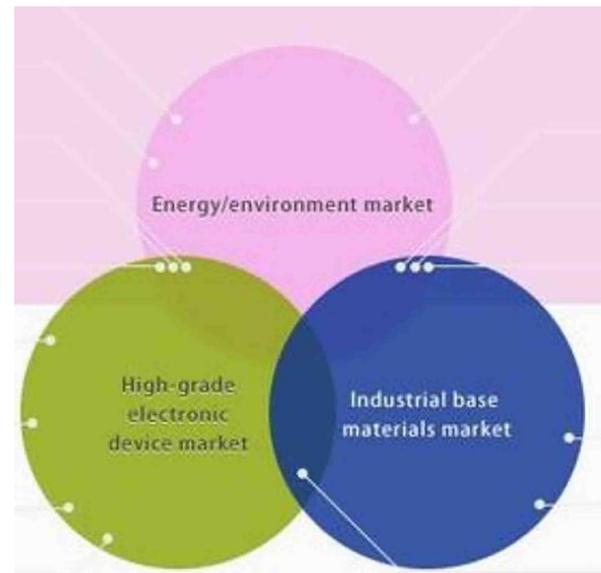


**Figure2.**Energy supply system.

*2.2. Economic development can effectively promote the energy and environmental work of enterprises*

From a certain point of view, economic development is also of great significance to promote the energy and environmental work of enterprises. The rapid development of the market economy has promoted the emergence of the energy environment. Under the market economy system, we need to maintain the stability of the market economy through the comprehensive management of the energy and environment departments. In order to further promote economic development, reasonable measures should also be adopted to ensure the harmonious development of energy and environmental work. Only by using the economy to rationally promote the development of the enterprise's energy and environmental system can the energy and environment promote economic development to the greatest extent. Compared with other sectors of society, the energy and environment

sector has its own unique characteristics and functions. The energy and environment department can push the economic development of the entire society to a certain extent and it can be seen that it can play one or two extraordinary roles. Government departments must first clarify the functional positioning of energy and environment departments. Energy and environment departments not only promote the development of the market economy, but also help government departments regulate the market and play a regulatory role. With the help of the energy environment, we can clarify the development status of enterprises and help maintain the order of the market economy. The energy and environment department first needs to clarify its own responsibilities and further improve the task of promoting economic development in its own good operation. As mentioned above, the energy and environment department has different characteristics from other departments. In addition to maintaining and managing market order, the energy and environment department also needs to do a good job of maintaining the enterprise and stabilizing the stable environment of the market economy. Stabilize the sound development of Chinese enterprises. The market economy in various parts of our country has been significantly accelerated to varying degrees, which is naturally inseparable from the good operation of the energy and environment departments in the enterprise. In terms of the energy environment of Chinese enterprises, there are corresponding regulations and standards. Only when the responsibility of running the energy environment well under this standard can further help enterprises serve economic development<sup>[3]</sup>. The energy device system is in the figure below.



**Figure3.**Energy device management system.

### 3. SD modeling analysis

System dynamics uses the system science idea of "Every system must have a structure and system structure determines system function". According to the feedback characteristics of the internal components of the system, the internal structure of the system is used to find the root cause of the problem. The cluster supply chain is a complex organic whole that responds quickly to market demands and its operation must have a power source that can provide sufficient power for the entire system. Similar to the development of enterprises, the ultimate driving force of cluster supply chain system operation comes from the pull of market demand and the promotion of enterprises' pursuit of profits. Specifically, there are four main factors that determine whether the entire cluster supply chain system can operate efficiently: professional markets (including raw materials professional markets and product professional markets), R&D technology, logistics and information. Among them, the raw material market and R&D technology play a major role in promoting the development of the cluster supply chain. The product professional market plays a role in pulling it from the perspective of market demand, while logistics and information play a supporting role in the development of the cluster supply chain. The four factors work together to form

a power mechanism for the development of cluster supply chains. Through a comprehensive analysis of the diamond model and driving factors in the cluster supply chain, it can be seen that the aggregation of production factors is one of the important reasons for the formation and development of the cluster supply chain. Therefore, production factors such as human resources, capital resources, raw material markets and technological research and development have become the main driving force for the development of cluster supply chains. The market demand of end customers has also become an important driving force for the development of cluster supply chains. The development of information and logistics will play a supporting role in the development of cluster supply chain. The energy digital system is in the figure below.



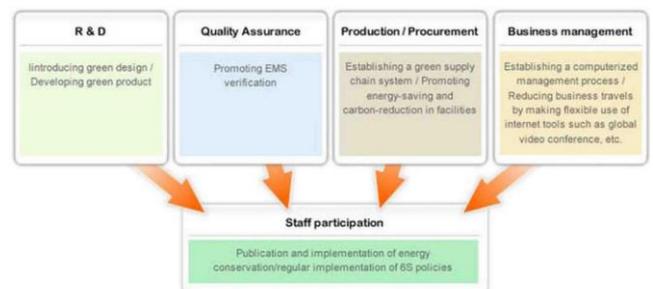
**Figure 4.** Energy digital system.

#### 4. SD development system integration analysis

##### 4.1. Space-based integration

The impact of global economic integration makes the development of cluster supply chains in the development interaction of "international flow" and "localization". Its development depends not only on local economic relations and various resources, but also on the involvement of core companies in the global value chain. Provide local scarce production factors for the cluster supply chain system. The establishment of a product cluster supply chain must

be based on the integration of local and regional resources to carry out the continuation of a global cluster supply chain system. Actively guide enterprises in the cluster to communicate with the outside world to open up the international market. Some countries and regions with highly developed economies such as the European Union, the United States, Hong Kong and Macao are the main markets for dairy products, while the United States and Hong Kong and Macao are also the main export regions for Mengniu companies. Enterprises in the cluster must strengthen their sense of service, strive to establish direct contact with customers in these countries and regions and expand their international market share<sup>[4]</sup>. The energy quality system is in the figure below.



**Figure 5.** Energy quality system.

##### 4.2. Information-based integration

The information required in the cluster supply chain has two main aspects: one is the information sharing between related enterprises in each link of the supply chain; the other is between the core enterprises and the collaboration layer enterprises in the cluster supply chain and the external loose enterprises that provide supporting services. Information communication. To establish a cluster supply chain in the product industry, it is necessary to establish information communication channels in these two aspects, establish and improve its own logistics information system, realize instant procurement, instant production and instant sales and improve the flexibility of the entire cluster supply chain system. Ensure a quick response to the market. To achieve development, an enterprise needs to establish a cost

control system based on its own operating conditions, cooperate with related tasks, conduct scientific control of these funds and make reasonable use of these funds on the basis of control. At the same time, it is necessary to formulate relevant cost control systems, conduct scientific and reasonable supervision and control of various T. operations of enterprises and adopt relevant measures to improve the effectiveness of enterprise cost utilization and improve the quality of relevant information. In addition, it is necessary to strengthen the connection and collaboration between various departments, form a complete supervision and evaluation system, strengthen communication between superiors and subordinates and crack down on unhealthy trends within the company, so that the entire company's financial system can be clear and clear<sup>[5]</sup>. The energy management system is in the figure below.



**Figure 6.**Energy management system.

#### 4.3. Logistics-based integration

The establishment of a reasonable modern logistics system plays a vital role in the development of the entire cluster supply chain. It reduces the transaction costs between enterprises in the supply chain system and promotes the diversification of enterprise products and services and improves the cluster supply chain. The agglomeration benefits of the industry and realize economies of scale. To establish a product cluster supply chain, it is necessary to establish a modern logistics system suitable for its development and create a horizontal and vertical logistics system. With the rapid development of science and technology and the popularization of

Internet technology, the level of informatization of enterprises at this stage is also directly related to the development and core competitiveness of enterprises. Based on this trend, the energy and environmental management departments of enterprises need to carry out corresponding reforms, improve the existing energy and environmental management platform and establish a complete information management platform. The establishment of an information management platform can record the operating costs of the enterprise and the expenses in the process of enterprise development, establish a file management mode and realize the effective combination of data and equipment, so as to facilitate the management of the staff and effectively improve the energy environment of the enterprise Management level. At the same time, through the establishment of an informatized management platform, it can help the energy and environmental management department of an enterprise to quickly transfer important information to the enterprise management and other management departments, promote the degree of informatization of the enterprise and enable the enterprise to come in an integrated form. working<sup>[6]</sup>.

#### 5. Conclusion

In the context of social and economic development, the pressure of competition between enterprises is increasing and the economic benefits of enterprises are closely related to cost control. Only by doing cost control can improve the competitiveness of enterprises among enterprises, so we must pay attention to the cost control of enterprises. The problem is to do a good job of controlling the financial cost of the enterprise, allowing the enterprise cost to be reasonably controlled, improving the economic efficiency of the enterprise, establishing a sound management and supervision system, updating the management mode and method and introducing new and new technologies into the cost management. For enterprises to do a good job of cost control in the context of economic

development, improve the competitiveness of enterprises and ultimately promote the long-term development of enterprises.

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