Research on Green Innovation of Traditional Manufacturing Enterprises in the Context of Supply Side Structural Reform

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Abstract. With the government, enterprises and the public pay more and more attention to environmental protection, high energy, high emissions, and high pollution, the production cost of traditional manufacturing enterprises is rising sharply. Affected by the economic new normal, many of the traditional manufacturing enterprises are facing structural problems, such as excess production capacity, mismatch between supply and demand, insufficient competitiveness of high-tech products and so on. Combined with the theory of supply side structural reform put forward by the Central Committee of the Communist of China, this paper uses case analysis method to do a study on the traditional manufacturing industries in Liuzhou, a city in Guangxi, China, to find out a new way for traditional manufacturing enterprises green innovation direction of reform.

1. Introduction

In recent years, traditional manufacturing industry has a serious impact on the environment. As the establishment and improvement of relevant environmental laws and regulations, waste disposal costs rise sharply, which makes the production cost of traditional manufacturing has increased dramatically. As a result, many traditional industries have met the bottleneck of development. The theory of supply side structural reform provides a way for traditional manufacturing difficulties. This paper will discuss the traditional manufacturing enterprises in Liuzhou how to reform in the theme of green innovation in the context of supply side structural reform. After the reform of green innovation in the traditional manufacturing industries, we hope that this way can accelerate the enterprises transformation on green production, green marketing, green logistics and green consumption, reduce energy consumption, so as to improve the enterprise’s economic benefit, ecological benefit and social benefit.

2. Guangxi Liuzhou Traditional Manufacturing Industry Development Current Situation and the Environment Situation

In Liuzhou, metal, petrochemical, sugar, automotive and other heavy chemical industry are the pillar industries of traditional manufacturing. These industries not only consume large amounts of resources and energy, and the industry chain is shorter. The proportion of primary products, high consumption and low value products is bigger, meanwhile the proportion of high-tech products, deep processing products, and the proportion of high value-added products is small, so the industrial structure is a typical high energy consumption characteristics, with prominent structural contradiction. Some small and medium-sized enterprises with high levels of pollution are relatively strong environmental consciousness, and even some devoid of green environmental protection consciousness, at the same time affected by vested interests drive and restriction factors, such as insufficient funds, not enough emphasis on enterprise’s sustainable long-term development and environmental protection, also wanting to social benefit consideration, mainly to the serious
environmental pollution at the expense of their short-term benefits for enterprises. In Liuzhou, the emission of Sulfur dioxide is 81 million ton in 2011, and it is 51.2 million ton in 2015, which is decreased by 36.79%. And the emission of Nitrogen oxides is 54.3 million ton in 2011, and it is 53.8 million ton in 2015, which fell 16.33%. The emission of Sulfur dioxide is 93.5 million ton in 2011, and it is 54.4 million ton in 2015, which is decreased by 41.88%. From the data about emissions of chemical substances, we can see that Liuzhou major pollutants emissions are entering the overall peak and enter the decline in the transition period, while the annual coal consumption continues to increase, but the growth rate has slowed down, and the overall energy saving effect is obvious.

However, during 2015, the new “environmental law” resolutely strictly in accordance with the combat the illegal behavior of various environment, 95 amounted to find out the illegal enterprises, shall be ordered to stop 43, order to suspend production 33. To investigate and punish the illegal polluters 37,176 order deadline to correct, shut down outlaw 67, to make a decision on punishment according to the amount of 4.0269 million yuan in Liuzhou.

3. Related Theory

The structural reform of the supply side is proposed for the first time on November, 11th, 2015. Many experts have put forward the practical application of this theory from different view field. Yousheng Zhang (2015) said that combined with the theory of supply-side reform, it was pointed out that the reform and development of undergraduate colleges needed to pay more attention to the cultivation of students ‘innovative ability, so that graduates’ professional and quality could meet the needs of economic structural adjustment [1]. Shen Ren (2016) analyzed the status quo of population in China today, and put forward that the regulation of supply side management focused on healthy economic growth as the main means to improve total factor productivity across economic cycle [2].

In the study of green innovation of enterprises, Zhichun Xu (2012) found that green technology innovation and environmental regulation was the severity of corporate emissions reduction of the main factors [3]. Zhijie Guan (2014) made the green procurement and green technology innovation mechanism linkage model, put forward the forestry enterprises in the green innovation related suggestions [4]. Xuemin Liu (2015) analyzed and discussed the target model and obstacles of green transformation of Chinese enterprises, and put forward that the government should exercise the public power in accordance with the law, play the role of the government and bring into play the function of market’s interest inducement [5]. Zhijun Feng (2013) found that the efficiency of green innovation was relatively high in economically developed coastal areas, while the efficiency of green innovation in the northwest and middle reaches of the Yellow River was relatively low [6]. Qiaohua Li (2015) thought that market orientation and policy orientation had a positive influence on the green innovation of enterprises, and the positive effect of green innovation on green innovation was stronger than that of green process innovation, while the green product innovation and enterprise performance were positive to influence the relationship [7].

4. Supply-side Structural Reforms to Promote Liuzhou Enterprises Green Innovation Development Strategies

4.1 Regional industrial cluster strategy

The enterprises of Liuzhou can implement regional industrial clustering strategy and build enterprise strategic alliance. Through the mutual cooperation and innovation of industrial cluster enterprises, we can promote the coupling of various elements of industrial clusters, realize the green innovation of industrial products, and finally make enterprises move toward low carbonization and green enterprise smooth transition.

Liuzhou government can adopt a hybrid investment approach to promote innovation and cooperation between enterprises platform to strengthen the cluster of enterprises of ecological innovation cooperation. The government can invest some capital or land to take the lead in building
eco-innovation and cooperation platform, followed by the government can continue to introduce some preferential policies to encourage clusters of green development between enterprises innovative cooperation platform for the construction of green eco-creative cooperation industrial park, the government of such enterprises green innovation cooperation between the policy to be convenient and some subsidies and incentives.

4.2 Open development and ecological strategy

Liuzhou enterprises to implement green innovation in the structural reform, can be open to industry platforms and cooperative development, use development of ecological strategy to promote enterprises and supply chain upstream and downstream business cooperation and cooperation with schools and related scientific research units, so that “production study and research” three aspects of the organic integration. In this way, the enterprises of Liuzhou are committed to green manufacturing, intensive development and low-carbon development in three areas to improve and research and innovation, and further promote the product to the ecological, economical and intensive aspects of healthy development. The strategy makes the companies work hard at green manufacturing, low-carbon development and Intensive development.

4.3 Coordination and cooperation mechanism of strategy

For most of the enterprises in Liuzhou green innovation in the lack of capital investment, the government and enterprises can establish a coordination and cooperation mechanism to encourage enterprises to industrial collaboration, innovation and collaboration, market collaboration. On the one hand, it can save the input costs of green innovation through cooperation, on the other hand, it can integrate and share the green innovation resources and technologies of each enterprise, so as to create more new technologies and facilitate the new green development and be beneficial to technology dissemination. Therefore, Liuzhou enterprises should focus on industry collaboration, innovation and collaboration, market collaboration.

4.4 Establish market linkage mechanism strategy

Supply side structural reform requires enterprises not only to supply side reform, but also to grasp the demand side of the reform and development, therefore, Liuzhou city government can help enterprises to establish market linkage mechanism, by correctly handling the government and market the coordination of regional resources to do a good job, the establishment of the interests of compensation and sharing mechanism to further accelerate the green innovation towards the direction of market development.

Liuzhou municipal government should be fully aware of the development of green innovation needs to be market-driven, at the same time, the government can guide and supervise the establishment of appropriate laws and regulations to encourage enterprises to form green innovation in the market linkage mechanism. What’s more, the government should carry out efficient and overall arrangement of regional resources in land planning, and optimize the allocation of various resources such as land, water, mineral resources and ecology so as to construct an efficient, coordinated and sustainable development pattern of land space.

4.5 Establish the compensation and benefit sharing mechanism strategy

Pagiola (2005) found that in the process of industrial production damage to the ecological environment, there were several groups of interest-protectors, destroyers, beneficiaries and victims [8]. Therefore, it is necessary to implement the policy of stimulating ecological protection behavior in order to truly play the real role of payment for ecosystem service. Specifically, payment for ecosystem service is to protect the ecological environment and promote harmony between man and nature for the purpose, according to the value of ecosystem services, ecological protection costs, and the development of opportunity costs, the comprehensive use of administrative and market instruments to adjust the ecological environment protection.
5. Summary

Through the above description, this paper can draw the following conclusions:

1. Liuzhou enterprises must use the supply side of the reform of the theory of green innovation and transformation of the enterprise development.

2. Liuzhou green innovation and reform of enterprises need business, government and the public to work together.

3. Liuzhou enterprises through regional industrial clustering strategy, open development of ecological strategy, cooperation and cooperation mechanism, the establishment of market linkage mechanism strategy and the establishment of the compensation and benefit sharing mechanism strategy to carry out green innovation reform and development.

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