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A Study on the Dynamic Mechanism Encouraging the Development of New Energy Industry

MA Yunze*

School of Economics, Nankai University, China

Abstract

The new energy industry is a complex system and its normal operation needs strong, stable and lasting driving forces. The driving forces contain technology progress, market demand, construction of industry chain, government policy and development environment. Technology progress, market demand and construction of industry chain constitute the inner driving force system, while government policy and development environment constitute the external driving force system. These two driving force systems and the harmonious cooperation between them constitute driving force mechanism. The perfect driving force mechanism is the important condition to encourage new energy industry.

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Introduction

In recent years, with the carbon dioxide (CO₂) from fossil fuel emissions increasing, global warming and the resultant environmental problems have caused international society's worries. Therefore, *United Nations Framework Convention on Climate Change* stipulated that the whole world greenhouse gas emissions should be reduced by 50% till 2050; *The Kyoto Protocol* stipulated that major developed industrial countries should reduce the CO₂ by 5.2% compared with 1990 from 2008 to 2012; The Copenhagen Climate Conference stipulated that CO₂ should be reduced by 30% till 2020 on the basis of 1990. Therefore, reducing the CO₂ emissions and developing the new energy is becoming a necessary requirement for the development of the society and economy.

* Corresponding author. Tel.: 13821705948; fax: +0-000-000-0000.

E-mail address: mayunze7005@163.com.

At present, China is on the phase of accelerating industrialization, urbanization and modernization, and the energy consumption is soaring. However, China's energy supply is based on traditional energy, which not only causes serious environmental pollution but also results in substantial greenhouse gas emissions. China has become the second largest nation after the United States in terms of greenhouse gas emissions, and our energy supply relies heavily on coal. Oil resources are relatively scarce, while dependence on foreign oil is intensifying. Therefore, the development of new energy industry is of great strategic significance to reduce carbon emissions, improve energy structure, ensure energy security of supply and promote economy and society sustainable development. In September 2010, the State Council promulgated the " *State Council's Decision on Accelerating the Fostering and Development of New Strategic Industries* " and proposed China should focus on cultivating and developing the seven strategic emerging industries, such as energy-saving and environmental protection industry, new energy industry, and new energy vehicles industry in "twelfth five-year", which provides important chances to the development of new energy industry.

1. Relevant literature review

At present, domestic academics have considerable interest in the development of new energy industry and many scholars studied the new energy industry from various angles such as the current situation, existing problems and development strategies. Geng Jiachuan and Wu Qingping(2010)discussed how to activate the new energy industry to promote the rapid development of national economy from the perspective of breaking monopoly, developing technology and creating a low-carbon culture. Zhu Xiaobo(2010) analyzed the present situation and existing problems of tax policy on the new energy industry and gave advice on promoting China's new energy industry on the basis of positive external effects. Xie Jingren(2010) studied on how to promote the new energy industry from policy support, cluster development and management innovation in view of the weak economic incentive policy, the incomplete industry chain, the imperfect market security policy and the defective technical service system. Sun Yufang and Li Jingmin(2006) made systematic comparison between the internal and external policies and brought forward policy suggestions to promote China's renewable energy industry. Wang Faming and Mao Jianqi(2010) studied on new energy industry based on technological progress. Zhu Xiping and Chen Ying(2010) studied on how to promote the development and utilization of new energy industry based on the reform of fiscal and tax system and financial system. Shi Jichun (2010) pointed out that it was necessary for the public power of state to get involved and use the values of economic law to exert governmental function so as to promote the development of new energy and renewable energy.

In summary, the current research paid more attention to technology, cost, financing, policy system and law institution etc, but rarely studied the dynamic mechanism of new energy industry from dynamic system. Only can the full play of dynamic factors and unblocked mechanism ensure the healthy and rapid development of the new energy industry.

2. The dynamic mechanism encouraging the development of new energy industry

New energy industry is a complex system and its normal operation requires strong, stable and lasting driving forces .It is feasible to divide the related factors into internal and external driving forces. The former generated by the interaction of the elements within the system is the basic power encouraging the development of new energy industry, while the latter is an important condition encouraging the development of new energy industry through the former. The internal driving force includes technology progress market demand and industry chain, while the external driving force contains government policy and development environment.

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