

Chapter 17

Study on Chinese Low Carbon Economic Model

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ABSTRACT

Global warming, which is caused by over consumption of fossil energy during economic development in human society, threatens global ecological balance, tampers social and economic development, imperils energy security, ecological safety, water and food safety, and endangers the entire human race. Low carbon economy is a new economic development model based on low energy consumption, low pollution, and low-emission-based. This paper analyzes the Status quo and Limits of the Chinese Low Carbon Economy, making deep research on Design and Implementation Strategy of Chinese Low Carbon Economic model.

INTRODUCTION

Global warming, which is caused by over consumption of fossil energy during economic development in human society, threatens global ecological balance, tampers social and economic development, imperils energy security, ecological safety, as well as water and food safety, and even endangers the entire human race. Hence, the international community pays great attention to global warming and starts to reflect

on existing economic development mode. From the Kyoto Protocol to Bali Roadmap, many countries have been endeavoring to cope with global warming, attempting to reduce carbon dioxide emission incurred in economic growth, slow down climate change, and avoid irreversible influences on human race and natural ecological system. Therefore, the development mode based on low carbon economy is widely recognized in the world and becomes a goal of human development in the future.

Low carbon economy is a new economic development model based on low energy consumption,

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low pollution and low-emission-based, is another significant progress after agricultural civilization and industrial civilization in human history. Low-carbon economy covers almost all industrial fields. It calls for reducing the influence brought by economic development to carbon recycling in the ecological system, that is, decreasing carbon flux in the ecological system caused by economic activities of human beings, improving self-adjustment of the ecological system through cutting down carbon dioxide emission, reducing carbon sources and increasing carbon sink, and maintaining carbon balance in the biosphere and even ecological balance on the earth. Low carbon economy, as a matter of fact, relates to energy exploitation efficiency and clean energy structure. Its core lies in technological innovation, institutional innovation and ultimate change of human outlook on survival and development. Low carbon energy is the basic guarantee, clean production is the key point, recycling is the effective way, and sustainable development is the direction. On the one hand, China is short of energy, Chinese people have low per capita resource, and domestic environment is heavily polluted, so low carbon economy helps raise energy efficiency, improve energy structure and enhance energy security. On the other hand, low carbon economy is a necessary economic development mode in accordance with the China National Programs to Cope with Climate Change. China, as a big emission country of greenhouse gases, needs to lessen heavy realistic pressure and take international responsibility in ways of saving energy, reducing emission, transforming economic growth mode, creating an environment-friendly low carbon economic model, and gradually playing down dependence on high-carbon energies according to practical situations.

RESEARCH OVERVIEW

As the new economic development model, low-carbon economy attracts attention of domestic and foreign scholars. This article will present the main three research results:

RESEARCH ON CONNOTATIONS AND FEATURES

Low carbon economy was first found in *Our Energy Future, Creating a Low Carbon Economy*, British energy white book of 2003. The energy white book notes that through less natural consumption and less environmental pollution, carbon economy produces more economic outputs, creates new business opportunities and more jobs. The report *In the Black: The Growth of the Low Carbon Economy* issued by the Climate Group summarizes market development, analyzes benefits brought by low carbon mode, and makes the conclusion that the new mode turns out higher investment return by largely increasing output, shortening production period, enhancing production reliance, promoting product quality, improving working environment, and heating staff passion.

According to Zhuang (2005), one of the earliest Chinese scholars who study low carbon economy, the so-called low carbon economy is essentially to deal with energy efficiency and clean energy structure, focus on technological and institutional innovation, and aim to decelerate climate change and realize sustainable development. Bao (2007) points out that carbon emission amount has become a new index to evaluate economic growth mode, the new index will change modern industrial civilization based on fossil energy in all-round way, and the world will shift to ecological economy and civilization. Liu (2009) believes low carbon economy in modern times is a rational human choice to balance economic growth and welfare improvement, and economic development and environmental protection, and is a kind of reasonable cognition of harmonious relations between mankind and nature, mankind and society, and people and people.

RESEARCH ON NECESSITY AND POSSIBILITY

Johnston, Lowe, Bell (2005) and other scholars study technical feasibility of reducing carbon

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