

MOST

Developing Low-Carbon Economy in China -- Goals and Measures

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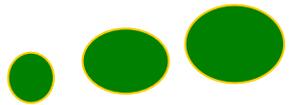
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I. Developing low-carbon economy is China's necessary choice

1. Climate change and low-carbon economy under Chinese context

Statistics of China's average annual temperature, average annual precipitation, major extreme weather and climate events, average pace of sea-level rise in China's offshore and the trend of receding glaciers over the past century are a clear evidence of changing climate conditions in China. Experts even predict that climate will warm up at an even faster pace in China. Therefore, climate change and low-carbon economy must be viewed in a unique Chinese context.

1) China is a victim of climate change

According to China's National Programme on Climate Change, climate change has already affected China in many ways, posing grave challenges to agriculture, animal husbandry, forestry, water resources, coastal belt, disease prevention and control, tourism and power industries. On the other hand, China's ability to adapt to climate change is still rather weak, which makes it a victim of this global challenge. Because of large population, weak economic foundation, poor climate conditions, fragile environment and fast-growing economy, China is one of those countries most vulnerable to climate change.

2) Developing low-carbon economy is an integral part of the sustainable development strategy

Sustainable development means meeting the needs of the current generation without compromising the ability of future generations to meet their own needs. It requires the mankind to live in harmony with nature, and recognize its responsibility for the nature, for the society and for the future generations. **To pursue development in a sustainable way is a major development strategy introduced by China in the 1990s.** In the past, people failed to understand that global warming is also a major environmental challenge with the same negative impact as light pollution, noise pollution, water pollution and solid waste pollution, but now they understand that the problem must be addressed in the course of sustainable development. The low-carbon development, which features low energy consumption, low pollution and low emission, can address environmental damages caused by the use of energy, and therefore fits well into the strategy of sustainable development.

3) Developing low-carbon economy is China's voluntary choice

Developed countries now regard low-carbon economy as a major area for gaining an edge over their competitors in the next round of world economic competition. Low-carbon economy, which involves a wide range of areas, is expected to become a new engine for economic growth, offering both enormous economic value and political and environmental benefits. China is now a big emitter of greenhouse gases, facing serious pressure in terms of energy use, environment and economic growth. Therefore, the question for China now is not whether we need international climate cooperation, but how we can participate in such cooperation in order to tackle climate change and achieve the transition to a low-carbon economy. Though environmental protection used to be marginalized on China's political agenda, the situation is changing in recent years. **The Eleventh Five-Year Plan and the Report of the 17th CPC National Congress have established energy conservation, emission reduction and greenhouse gas control as one of China's strategic policies, which shows that low-carbon economy is a voluntary choice of the Chinese government.**

4) Choosing the right approach to low-carbon economy with distinctive Chinese features

China's approach to building low-carbon economy must take into full account factors such as its social and economic development, and carry distinctive Chinese characteristics. The Twelfth Five-Year plan has, for the first time, set out the binding targets of notably reducing CO₂ intensity. However, considering China's growing resource and environment constraints, we cannot simply copy the model of western countries for the development of low-carbon economy during the Twelfth Five-Year Plan period. Therefore, in addition to achieving the binding targets, **we also need to adopt macroeconomic control policies aimed at building a "resource-saving and environment-friendly society", so as to speed up the transformation of economic growth model. We must order the local authorities to pursue a low-carbon and sustainable path of development.**

2. Enhancing policy support for low-carbon economy

China's emission space is seriously constrained and the energy-intensive approach to development is no longer a viable option. Against such a backdrop, to pursue a low-carbon way of development has become a must for China. The policies introduced by the Chinese government, i.e. the scientific outlook on development, shifting economic growth model and pursuing sustainable development, share many similarities with the concepts of “knowledge economy” and “low-carbon economy”. In this sense, the development of low-carbon economy offers China an opportunity to change its economic structure and shift the model of economic growth, and represents a voluntary choice made by China in the course of development.

- ◆ In November 2007, the Ministry of Science and Technology and the National Development and Reform Commission jointly issued the *International Science and Technology Cooperation Programme on Renewable and New Energies*, which pointed out that developing low-carbon economy, ensuring energy security and pursuing sustainable economic and social development is China's choice.
- ◆ The *Outline of the Twelfth Five-Year Plan* contains special arrangements for the building of resource-saving and environment-friendly society, and highlights the need to develop a stronger crisis awareness, embrace a green and low-carbon approach to development, place emphasis on energy conservation and emission reduction, improve incentive and control mechanisms, and accelerate the building of resource-saving and environment-friendly production and consumption models. The ultimate aim is to enhance its capacity of sustainable development and improve eco-environment.

3.Low-carbon economy: one of the top 10 subjects in economic studies

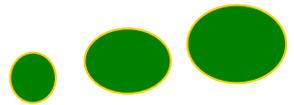
The ten hottest issues in China's economic studies in 2010 include: economic growth and development, capital market, "agriculture, rural areas and farmers", industrial structure and industrial policies, income distribution and income gap, monetary policy, foreign trade and trade policies, innovation, low-carbon economy and regional economic development.

It shows that low-carbon economy is attracting growing interest in China's academic community, and becoming a popular subject in academic and theoretical studies. China's academic studies on low-carbon economy mainly include the following aspects:

- first, studies are aimed at locating the key factors affecting carbon emission from the perspectives of industries, production and consumption, urbanization, energy efficiency, low-carbon technologies and carbon trading market and seeking the appropriate means and mechanisms for reducing carbon emission;
- second, studies on carbon tax, environment tax and carbon tariff are being deepened for the purpose of improving environmental regulation and promoting energy conservation and emission reduction;
- third, studies on low-carbon economy are being conducted in the context of China's economic development, which is adding new substances to the theories of economic development.

4.Low-carbon economy: public acceptance and participation

Leading a simple and frugal life is the traditional way of thinking of the Chinese nation, while industrialization and globalization have significantly changed our cultural traditions and living habits. Increasingly aware of the danger posed by global warming and ecological fragility to the survival of the mankind, people are now returning to their old way of living. Under these circumstances, the low-carbon concept has been embraced by the general public. “Low-carbon economy” is therefore becoming an important subject for the public and media. **According to media statistics, “low-carbon economy” has been the buzz word in the public domain and the most popular subject in the annual NPC&CPPCC sessions over the past few years. For example, in 2020, almost 10% of the proposals submitted by NPC deputies and CPPCC members were about low-carbon economy. Nowadays, many people in China are learning more about low-carbon economy and low-carbon life and following a healthy way of life. The public embrace of the low-carbon concept has given us stronger confidence in pushing for low-carbon economic development.**



II. New measures adopted by China to promote low-carbon economy

1. Practicing energy conservation and emission reduction

Shifting economic growth model and adjusting industrial structure is a major task for China's economic and social development at the current stage. In order to achieve sound and rapid economic growth, we need to take effective measures to reduce energy use and pollutant discharge.

National Twelfth Five-Year Plan for Environmental Protection

On 20 December 2011, the State Council issued the *National Twelfth Five-Year Plan for Environmental Protection* (hereinafter referred to as the Plan). According to the Plan, efforts will be made during the Twelfth Five-Year Plan period to resolve major environmental problems that are impeding development and endangering public health, strengthen institutional innovation and capacity building, further reduce the discharge of major pollutants, improve environment quality and prevent environmental risks, and promote a historic shift in environmental protection. We need to explore a new path of environmental protection featuring reduced costs, sound results, lower emissions and sustainable development, and speed up the building of a resource-saving and environment-friendly society. The Plan also set out the targets of notably reducing major pollutant emissions, cutting total COD and SO₂ emission by 8% and ammonia nitrogen and nitrogen oxide emission by 10% over the 2010 level by 2015.

Program for Greenhouse Gas Emission Control in the Twelfth Five-Year Plan Period

On 13 January 2012, the State Council issued the *Program for Greenhouse Gas Emission Control in the Twelfth Five-Year Plan Period* (hereinafter referred to as the Program), with clearly defined emission reduction targets for the Twelfth Five-Year Plan period.



China has identified carbon trading pilot as a key priority for controlling greenhouse gas emission in the Twelfth Five-Year Plan period. The National Development and Reform Commission has issued a notice for the launch of pilot programs on carbon credit trading in Beijing, Tianjin, Shanghai, Chongqing, Hubei province, Guangdong province and Shenzhen city. According to the National Development and Reform Commission, the approval for the pilot program is consistent with the overall arrangement of the CPC Central Committee and the State Council for climate change as well as the requirement of the Twelfth Five-Year Plan for gradually developing a domestic carbon trading market. It will help China meet the 2020 targets of greenhouse gas control with lower costs and quicken the pace of economic transformation and industrial upgrading through market operation.

2.Speeding up the adjustment of energy mix and developing strategic emerging industries

China is in a transition from heavy- and chemical- industry-dominated path to a new path of industrialization. Since China's economic development in the past came at the great expense of the environment, China must address these environmental problems here and now. That is why the Chinese government highlights the need to adopt a sustainable development approach, follow the new path of industrialization, accelerate reform and opening-up and rely on technological progress, and enhance innovation capacity. China also encourages the development of advanced production facilities while phasing out carbon-intensive industries and products, avoids blind investment and duplication in construction, and promotes the upgrading of industrial structure.

1) Facilitate the upgrading of traditional industries and promote clean and efficient use of energy

Given the remote likelihood of any revolutionary change in the traditional energy mix in the foreseeable future, we not only need to pay attention to the development of new energies, but also seek to combine traditional industrial adjustment and energy efficiency improvement. We need to make better use of low-carbon, green technologies to gradually reduce over-dependence on fossil fuels, boost the efficiency of the existing energy system, curb the increase in total fossil fuel consumption, limit and phase out carbon-intensive industries and products, and develop low-carbon alternatives.

2) Develop strategic emerging industries and improve energy industrial structure

In the face of increasingly fierce global competition, the governments of developed economies have made sustained endeavors to develop science, technology and innovation, strengthen research and development in key areas, and develop strategically important, emerging industries, in order to establish a competitive edge in the global competition. In 2010, the State Council issued the Decision on Speeding up the Fostering and Development of Strategic Emerging Industries, giving priority to seven industries, namely, energy conservation and environmental protection, new-generation IT, biology, high-end equipment manufacturing, new energy, new material and new energy vehicles.

3) Bring into better play the role of ICT industry

Globally, the ICT industry contributed to 16% of the world's GDP growth between 2002 and 2007, with its share in global GDP rising from 5.8% to 7.3% and expected to reach 8.7% in 2020. In particular, with the continued economic development of China and other developing countries, the ICT industry will only grow at an even faster pace. As a hi-tech industry, ICT emits less compared to traditional industries. ICT also helps improve energy efficiency in power transmission, energy-intensive buildings, factories and vehicles.

The ICT industry is expected to save 7.8Gt CO₂ equivalent in 2020, accounting for 15% of the world's total consumption under BAU conditions. Through improvement of energy efficiency, ICT industry can save some 600 billion euros in cost.



Plan for Industrial Upgrading (2011-2015)

The Twelfth Five-Year Plan period is a crucial stage for the building of a moderately prosperous society in all respects and a key period for deepening reform and opening up and speeding up the transformation of economic growth model. Against this backdrop, the Ministry of Industry and Information Technology, the National Development and Reform Commission, the Ministry of Science and Technology, the Ministry of Finance, the Ministry of Land and Resources, the Ministry of Environmental Protection, the Ministry of Commerce, the State-owned Assets Supervision and Administration Commission, the State Administration of Science, Technology and Industry for National Defense, the State Tobacco Monopoly Administration and other relevant agencies jointly drafted the *Plan for Industrial Upgrading (2011-2015)*, which states that the government will promote green and low-carbon industrial development with the following measures: **pushing energy conservation and emission reduction in industrial production; promoting clean industrial production and pollution control; developing circular economy and remanufacturing industries; disseminating low-carbon technologies; speeding up the elimination of backward capacity, etc.**

3.Introducing new fiscal policies

Fiscal policy is an important tool to spur the development of low-carbon economy, and it also plays an important role in guiding low-carbon development. In recent years, the Ministry of Finance, in collaboration with other relevant departments, has promulgated a host of fiscal policies and measures to support new energy development and facilitate energy conservation and emission reduction.

1) Supporting energy conservation and environmental protection

- ◆ **In 2009, the Ministry of Finance and the National Development and Reform Commission launched a project of energy-saving products for the public, which used fiscal subsidy as a way to facilitate the use of energy-efficient products. The project not only boosted consumer demand, but also raised the energy efficiency of end products.**
- ◆ **In 2011, to improve the management of China-Europe cooperation fund for research on SME energy conservation and emission reduction, and increase the efficiency of fund utilization, the Ministry of Finance and the Ministry of Science and Technology formulated relevant rules.**

2) Supporting renewable energy development

- ◆ **In 2009, the central government allocated part of the special fund for energy conservation and emission reduction programs to support the demonstration and promotion of new energy vehicles.**

3) Supporting the elimination of backward capacity

The system of local government accountability has been established for the elimination of backward capacity. The Ministry of Finance and other relevant departments will determine the amount of reward for the local government based on the size of eliminated backward capacity. The local government will decide how to use the reward according to its own conditions, and focus on addressing employee benefits.



During the Eleventh Five-Year Plan period, the central government provided a total of 21.914 RMB in reward, which, together with over 10 billion RMB of matched investment from the local government, supported the elimination of 39.34 million KW of small coal-fired power generation capacity as well as backward production capacity of 79.73 million tons of iron, 105.85 million tons of coke, 355.1 million tons of cement, 11.63 million tons of paper and 56.78 million weight cases of glass, exceeding the targets set out for the Eleventh Five-Year Plan period.

4) Accelerating the development of energy-saving service sectors

In 2010, the General Affairs Office of the State Council circulated the *Opinions on Accelerating the Development of Energy Management Contract (EMC) and Facilitating the Development of Energy-saving Service Sectors* drafted by the National Development and Reform Commission and other relevant agencies. The Opinions, which pledges greater support for EMC projects and energy-saving service providers, has significantly reduced the policy and institutional barrier to EMC development. In the past five years, the central government has earmarked over 60 billion RMB for energy conservation and emission reduction, including 41.243 billion RMB yuan for EMC projects.

5) Developing appropriate fiscal policies for building low-carbon cities

In 2011, the Ministry of Finance and the National Development and Reform Commission launched fiscal incentives for energy conservation and emission reduction initially in 8 pilot cities, namely **Beijing, Shenzhen, Chongqing, Hangzhou (Zhejiang), Changsha (Hunan), Guiyang (Guizhou), Jilin (Jilin) and Xinyu (Jiangxi)**. The local governments will be responsible for the implementation of the pilot programs. They will speed up institutional innovation, promote the adjustment of economic structure and the shift of economic growth model and endeavor to achieve the emission reduction targets for the Twelfth Five-Year Plan period.

4. Advancing international science and technology cooperation

China increasingly values international science and technology cooperation and makes efficient use of the advanced technologies and capital provided by developed countries, so as to develop its own renewable energy and energy-efficient technologies, and facilitate the technology transfer and commercialization. China is committed to working with the international community to save energy and cut emissions.



In 2007, the Ministry of Science and Technology and the National Development and Reform Commission jointly published the *International Science and Technology Cooperation Program on Renewable and New Energies* in an effort to deepen international cooperation in the fields, address the pressing issues in China's energy utilization, enhance the innovation capability of China's renewable and new energy industries, build the capability for developing their own energy technologies. In this process, China encourages international participation in renewable and new energy development, so as to share the renewable energy technologies.



Let me cite another example of international cooperation. Last year, Chinese and German governments issued a joint statement on the establishment of China-Germany strategic partnership on electric vehicles. On 3 February 2012, Chinese Premier Wen Jiabao and German Chancellor Angela Merkel announced, during a meeting with Chinese and German business leaders in Guangzhou, that energy conservation and environmental protection will be priority areas for future China-Germany cooperation.

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Thanks