Low Carbon: The Way of China's Economic Development to Global Environmental Changes

Environmental Governance Sub-forum 01 Session 1

8:30-10:20, May 28th

Chair:
Jiang Kejun, Senior Researcher, Energy Research Institute, National Development and Reform Commission, P.R.C.
Jiang Ping, Director Assistant, Fudan Tyndall Center
Moderator: Jiang Kejun

Zhou Dadi **Conselor/Professor, Energy Research Institute, National Development and Reform Commission**	**Study on the Carbon Emission Peak of China As Soon As Possible** 1.Although the academic community has formed a consensus on the need for China to achieve carbon emissions as soon as possible, the economic development sector and energy companies may not totally agree. 2. Our research shows that China can reach its peak carbon emissions by 2025. This requires the reduction of inefficient investment, the development of green low-carbon buildings, the control of total housing construction, the reduction of external demand to limit the high energy consumption products, etc.
Shuzo Nishioka **Professor, Institute for Global Environmental Strategies**	**The Benefits of Low Carbon Society Transformation** 1.All countries should uphold the concept of win - win, as well as efficient use of limited resources to promote the process of carbonization, so that all parties benefit. 2. In the process of dealing with climate change, more investment is needed in infrastructure, technology, human resources, etc., such as the development of electric vehicles in Japan which is an promotion of social development with technological progress. 3.In the 1950s, Japan's industrial pollution was serious, and the oil crisis occurred in the 1970s. The manufacturing industry in the 1980s took the lead in changing energy consumption, followed by the development of the information technology industry, from heavy industry to consumer industry. 4. China's current situation is similar to the previous situation of Japan. Thanks to the internal and external advantages in the transition of low-carbon energy to promote the development of low-carbon technologies, China's energy density is greatly reduced.

Qi Ye
Professor, Tsinghua University

China's Low Carbon Economy Outlook

1.Scholars generally believe that the carbon emission peak can be achieved in 2030, when the total energy consumption is about 50-60 billion.

2. At academic level, the amount of carbon emission can be predicted through GDP, unit GDP energy consumption and unit emissions. Unit GDP energy consumption is the most difficult one to estimate, which requires to take GDP structure, industrial structure, product production, and technological progress into account.

3. In2004, China's energy use rate increased rapidly; and in 2014, carbon emissions began to slow down and energy consumption reached its peak.

Tae Yong Jung
Professor, Yonsei University

Toward a Low Carbon Korea

1.With the development of technology, the cost of new energy power generation reduced and the market size expanded gradually, and this new market can further reduce costs. Renewable energy has formed a a good cycle and will have a bright prospect.

2. Studies are conducted in the different scenarios of the low-carbon energy emission portfolio in the power generation industry. Over the next 15 years, Korea's per capita electricity generation will rise by 31.4%. If Korea continues to promote renewable energy by 2029, the cost will not increase significantly, but carbon emissions will be reduced by at least half.

3. The way for Korea to achieve low-carbon energy is to change to LNG and renewable energy. The government must make a decision whether to carry out electric power reform, regardless of the direct cost, can help promote low-carbon power generation, and increase more social benefits.

Jiang Jiani
Associate Researcher, Institute for Policy Studies，Ministry of Industry

Building Global Cooperation System to Deal With Climate Change

1. In the past 10-15 years, China has has made great achievements in the efficient use of coal, advanced energy-saving technologies and equipment , and new energy technology development.

2. China's domestic technical patent quality needs improving. They are now behind in the back of international patent application.

3. Government should create a better environment for intellectual property, enhance China's independent innovation capacity; strengthen international cooperation, improve the external competitive environment and promote the development of related technologies.

DISCUSSION

1. The entire world is facing economic growth and low-carbon emissions issue. Low-carbon process requires the adjustment of energy structure, and the change of development mode.

2. China's information technology is in the leading position. Government will hopefully increase the support of the digital economy. In the future, we can keep a mutually beneficial relationship with the countries with more advanced technologies, to enhance follow-up research and development, and get technologies that are more conducive to low-carbon environmental protection and climate change mitigation, as well as to solve the conflict between new format and old rules in the application areas.

（Editor: Cai Jianan）

Low Carbon: The Way of China's Economic Development to Global Environmental Changes

Environmental Governance Sub-forum 01 Session 2

10:30-12:00, May 28th

Chair:

Jiang Kejun, Senior Researcher, Energy Research Institute, National Development and Reform Commission, P.R.C.

Jiang Ping, Director Assistant, Fudan Tyndall Center

Moderator: Jiang Ping

Philip Gilmartin **Professor,** **University of East Anglia**	**Science, Environment and Sustainability** 1. The University of East Anglia has done a lot of work in tackling climate change. We have conducted researches on climate systems, ecosystem services, natural disasters, energy conversion, global carbon budgets, impacts of climate change on human health, and climate change policies. 2. In practice, we have designed and constructed a lot of energy efficient, low-carbon housing through the use of renewable materials, efficient heating system and internal power generation. We have also established a low-carbon investment fund to support clean energy start-ups, and the amount of investment is already over 70 million pounds.
Jose Puppim de Oliveira **Professor,** **Massachusetts Institute of Technology**	**Green Growth: Is It Possible to Grow and Reduce Carbon Emissions?** 1. Over the past three years, China's per capita emissions slowed down, but the economy is still high-speed growth, which can be considered a green growth. 2. Economic development transformation requires innovation and structural change, including economic democratization, that is, better income and wealth distribution. 3. The higher the urbanization rate, the higher the intensity of emissions, so the process of urbanization should pay attention to the control of climate change, and provide more infrastructure and services.

Zhang Yifei
Director/Professor, Research Center of Global Climate Change and Green Economy

The Impact of Environmental Regulations on TFP of the Electric Power industry - Evidence from Thermal Power Companies

1. Thermal power is China's main source of energy supply and pollution emissions. Our research shows that under the environmental regulation, state-owned enterprises and small-scale enterprises have lower total factor productivity.
2. In the short run, environmental regulation has a negative impact on the total factor productivity of the thermal power industry due to the increase of cost, but its impact is positive in the long run since it has promoted the technological innovation.
3. For thermal power that are of different types or in different regions , we should adopt differentiated environmental regulation policy.

He Chenmin
Professor, College of Environmental Science and Engineering, Peking University

A Substantial Reduction Will Promote Economic Development

1. Traditional studies suggest that climate change mitigation policies can cause economic losses, by only taking into account the direct impact of the market and ignoring the benefits of reducing climate change.
2. Green low-carbon development should be regarded as a new economic growth reason, rather than as a resistance of economic development. Its driving force are the consumption of carbon dioxide and air pollutants quota deriving from the demand for low-carbon and good environment, demand of enployment, and the low-carbon technology export potential.

DISCUSSION

1. Carbon dioxide emissions will also bring positive benefits to GDP growth, environmental protection and economic development can achieve a win-win situation.
2. Global low-carbon technology market is in monopolistic competition, which can be a matter of concern for many countries.

（Editor: Cai Jianan）