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The climate change is the most present and imminent environmental issue for human community today. It is also closely connected with energy issue, and is therefore one of the core issues of global governance in today's world.

The policy of Chinese government on climate change attracts most attention of the world. So it is essential to know what are China's national and natural conditions in terms of climate change, what are the basic principles China advocates to addressing climate change and what are policies and measures China has taken and is taking to cope with climate change.

I. National conditions of China and climate change

1. China's climate conditions are very complicated and its eco-environment is fragile.

The seasonal change amplitude of air temperature of China is drastic and the distribution of precipitation is uneven in terms of seasons and regions, the soil erosion and desertification are serious, the forest coverage is 18% which represents only 62% of the mean level in the world. China's continental coast line is as long as 18,000km and is vulnerable to impact of rising of sea level. The climate change has serious impact to China's agriculture, animal husbandry, forest, eco-environment and water resources, etc. That's means that addressing climate change is an imperative for Chinese government.

2. China has a large population and a relatively low economy.

China's population accounts for 20% of the world's total. Although total economic output of China has leaped into the front ranks of the world, its per capita GDP ranks after 100th of the world. At present, the rural poverty population of the whole country is about 40 million. Improving people's lives is the imperative task currently facing China. That means that development still remains another imperative of Chinese government.

3. China is in the development stage of industrialization, and the energy structure is mainly based on coal.

As a developing country, China still has a long way to go in its industrialization, urbanization and modernization. To advance further toward its development objectives, China will strive for rational growth of energy demand, which is the basic precondition for the progress of all developing countries. However, its coal-dominated energy mix cannot be substantially changed in the near future, thus making the control of greenhouse gas emissions rather difficult. That means that the Chinese government has to find a win-win solution for both objectives of climate change control and economic and social development.

II. The basic principles Chinese Government advocates to address the climate change

To address climate change, China sticks to the following principles:

1. To address climate change within the framework of sustainable development. Climate change arises out of development, and should thus be solved along with development. It is necessary to promote sustainable development amidst efforts to address climate change, and strive to achieve the goal of win-win in both.

2. To uphold the principle of "common but differentiated responsibilities," which is a core principle of the UNFCCC. Both developed and developing countries are obligated to adopt measures to decelerate and adapt to climate change. But the level of their historical responsibilities, level and stage of development, and capabilities and ways of contribution vary. Developed countries should be responsible for their accumulative emissions and current high per-capita emissions, and take the lead in reducing emissions, in addition to providing financial support and transferring technologies to developing countries. The developing countries, while developing their economies and fighting poverty, should actively adopt adaptation measures, reduce their emissions to the lowest degree and fulfill their duties in addressing climate change.

3. To place equal emphasis on both deceleration and adaptation. Deceleration and adaptation are integral components of the strategy for coping with climate change. Deceleration is a long and arduous challenge, while adaptation is a more present and imminent task. The latter is more important for developing countries. The two must be well coordinated, and with equal stress placed on them.

4. To consider the UNFCCC and the Tokyo Protocol as the kernel mechanism dealing with climate change. The two documents are the main programs for addressing climate change. These documents lay the legal foundation for international cooperation in dealing with climate change, and reflect the common understanding of the international community. They are the most authoritative, universal and comprehensive international framework for coping with climate change. Their status as the kernel mechanism and leading programs should be unswervingly upheld, and other types of bilateral and multilateral cooperation should be supplementary.

5. To rely on the advancement and innovation of science and technology. Technological advancement and innovation are the basis and support for tackling climate change. While promoting their own technological development and application, developed countries are obligated to promote international technological cooperation and transfer, and concretely meet their promises to provide financial and technological support to developing countries, so that the latter can get the funds needed, apply climate-friendly technologies, and build up their capacity to decelerate and adapt to climate change.

6. To rely on mass participation and extensive international cooperation. Dealing with climate change requires changes in the traditional ways of production and consumption, and the participation of the whole of society. China is working to build a resources-conserving and environmental-friendly society, foster a social atmosphere in which the enterprises and the public participate on a voluntary basis under the guidance of the government, and raise enterprises' awareness of corporate social responsibility and the public's awareness of the necessity of care for the global environment.

III. Policies and Actions of China to Decelerate Climate Change

China has adopted proactive policies and taken active actions to slow the process of climate change. It has adopted a number of policies and measures to adjust the economic structure, change the development patterns, save energy and raise the efficiency of energy use, and optimize energy mix and promote afforestation.

1. Adjusting the Economic Structure to Promote the Optimizing and Upgrading of the Industrial Structure

The Chinese government attaches great importance to the adjustment of the economic structure and the transformation of the economic development patterns, and has formulated and implemented a series of industrial



policies and special programs to make the reduction of resources and energy consumption an important part of its industrial policies. The concrete measures taken are as follows: Accelerating the development of the service sector; Making high-tech industry larger and stronger; Accelerating the pace of eliminating backward production capacity; Limiting the excessively rapid expansion of industries that consume a large amount of energy and discharge heavy emissions.

2. Making Great Efforts to Save Energy and Raise Energy Efficiency

The Chinese government attaches great importance to energy conservation, and has made it a fundamental state policy. For a long time it has pursued a policy of putting equal emphasis on both development and energy conservation with priority being given to conservation. Efforts have been made in following fields:

Placing energy conservation and emission reduction in a more prominent position; Accelerating the construction of major energy conservation projects; Promoting energy conservation and emission reduction in key fields; Raising the efficiency of energy development and conversion; Implementing economic policies conducive to energy conservation; Strengthening the construction of the legal system.

3. Developing Renewable Energy and Optimizing Energy Mix

The Law on Renewable Energy and related policies were enacted in 2005 to give priority to renewable energy, to purchase renewable energy at full price, to give users of renewable energy price discounts and to share the utilization of renewable energy among the whole society. A dedicated fund was created for developing renewable energy to support the evaluation and investigation of renewable energy resources, related technological research and development, construction of pilot and demonstration projects, and the development and utilization of renewable energy in the countryside.

Thanks to these measures, the hydropower, wind power and solar power had a rapid development. Today, the hydropower installed capacity and generating capacity both ranked first in the world. The wind power scale ranks second place in the world in 2010. The heat collection area of solar water heater ranked first in the world. With regard to the consumption proportion of non-fossil energy resource, by 2020, it would account for nearly 15% of one-off energy resource consumption.

4. Developing a Recycling Economy to Reduce Greenhouse Gas Emissions

Attaching great importance to developing a recycling economy, the Chinese government is doing its best to reduce the amount of resources consumed, so as to reduce greenhouse gas emissions from their sources and in the course of production. In recent years, a recycling economy is turning from an idea to action, and developing rapidly across the country. The state has enacted laws and regulations such as the Clean Production Promotion Law, Law on the Prevention of Environmental Pollution by Solid Wastes, Law on a Recycling Economy and Methods on Management of Urban Garbage, etc.

5. Promoting Afforestation and Strengthening the Capacity of Carbon Sinks

In the past 20-odd years, some four million ha of trees have been planted every year with the investment from the central government. Meanwhile, the state also encourages citizens to take part in tree planting. In recent years, through the reform of the collective forest right system, farmers' enthusiasm for tree planting and forest protection has been aroused. It is estimated that tree-planting activities in China between 1980 and 2005 effectively absorbed 3.06 billion tons of carbon dioxide, that forest management absorbed 1.62 billion tons of carbon dioxide, and that carbon dioxide emission was reduced by 430 million tons because of improved forest protection. All this has further enhanced the capacity of forest as the sinks of greenhouse gas.

6. Intensifying R&D Efforts to Deal with Climate Change Scientifically

The Chinese government has included response to climate change in the plan for scientific development. The Outline of China's Mid- and Long-term Development Plan for Science and Technology made energy and environment priority fields in the development of science and technology. It listed the observation and monitoring of global climate change and countermeasures as priority issues in the field of environmental protection. China's Special Sci-Tech Campaign to Cope with Climate Change enacted in 2007 set forth phased goals for scientific work as a response to climate change during the 11th Five-year Plan period (2006-2010) and long-term goals up to the year 2020. It mainly discusses the following topics and makes relevant countermeasures: the scientific explanation of climate change, research and development of technologies that can be used to control greenhouse gas emissions, technologies and measures that help adapt to climate change, and major strategies and policies to cope with climate change.

IV. China in international cooperation for coping with climate change

China always participates in and supports the activities in the framework of climate convention and Kyoto protocol, and strived to promote the effective implementation of the convention and the protocol. China seriously performed its obligations stated in climate convention and protocol, in 2004, The People's Republic of China Initial National Communication on Climate was submitted, in 2007, China's National Climate Change Program, and China's Scientific and Technological Action on Climate Change, were released.

As the member of G77 + China, China, together with other developing countries, made constructive effort for successfully holding the UN Climate Change Conference in Copenhagen. This year, China held the Tianjin meeting of UN for climate negotiations, and this was the last work group meeting prior to Cancun Summit in Mexico, and this meeting made comprehensive preparation to the Cancun negotiations.

As to multilateral cooperation, China is the formal member of carbon collection leadership forum, Methane to Market Partnership, The Asia-Pacific Partnership on Clean Development and Climate, and participates in the climate change dialog between G8+5, and in the energy security and climate change meeting of main economies.

As to bilateral cooperation, China established climate change dialog and cooperation mechanism with EU, India, Brazil, South Africa, Japan, USA., Canada, UK, Australia, etc., it helped the developing countries of Africa and small islands countries to improve the capacity for coping with climate change, it positively cooperated with foreign governments, international organizations, overseas research institutions to research on climate change.

China positively boosted and participated in the technological transfer in the framework of climate convention, and strived to build up the domestic environment in favor of international technological transfer, and submitted the technological demands list. It paid high attention to the positive role of cleaner development for promoting the sustainable development of the country, through participating in product cooperation of cleaner development mechanism, it made contribution to reduce international greenhouse gas emission, till Jul. 20, 2008, China had successfully registered 244 cooperation projects of cleaner development mechanism, it is predicted that the annual emission reduction of these projects shall be 113million tons CO₂ equivalent.

Conclusion

China made huge efforts for addressing climate change and obtained concrete achievements. As the biggest developing country, the situation of China also shows that, in coping with challenge of climate change, the developing countries, on the one hand, are withstanding the economic impact caused by historical emissions of developed countries, and had to adopt the limited resources to fight environment disaster caused by climate change, on the other hand, are facing the pressure of green house gas emission reduction in the initial stage of industrialization and urbanization, and its economic growth margin shall be seriously narrowed.

The developing countries should learn from the experiences and lessons of developed countries, and combine the strategy of decelerating emissions and developing economy, nevertheless, the precondition is that, it should be supported by technology and capital from developed countries. Under the precondition of common but differentiated responsibilities, the key for effectively fighting climate change is to realize the cooperation between developed and developing countries.