

# **Progress on Environment and Development Policies in China (2009-2010) and CCICED Policy Recommendations Impact**

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## **Introduction**

China Council for International Co-operation on Environment and Development (CCICED), a top policy advisory body approved by the Chinese government, is entrusted with the task of proposing policy recommendations in the area of environment and development for the reference of decision makers. At its annual general meeting, members home and abroad proceed from CCICED basic research findings, discuss policy-related issues and formulate its policy recommendations which are subsequently submitted relevant government agencies. CCICED members and partners are very interested in the impact of the recommendations on policy practice in the area of environment and development. Therefore, since 2008, CCICED secretariat entrusted the chief advisory panel to track down major developments and policy formulation and readjustment in China's environment and development area, in an attempt to assess the direct or indirect impact of CCICED policy recommendations on policy formulation, and finalize a written report.

This report aims to describe achievements China made in the area of environment and development, and provide a real policy context so that members could make their own judgments as to the practical impact of policy recommendations. By relating policy practice to policy recommendations, members could see clearly what policy recommendations were adopted by the Government, what recommendations would lose ground in current policy context, and what suggestions will facilitate the overall development of environment and development in China in the long run without showing any immediate impact. In this



manner, members could readjust policy recommendations for effectiveness and consistency.

As is known to us, formulation and readjustment of major policies by all governments across the world is a comprehensive decision making process in light of national reality. It's hard to attribute the formulation of a particular policy to the recommendation or suggestion of a single agency or organization. Complexity of policy development process makes it difficult to assess the relevance of a particular policy adopted to CCICED recommendations last year. This Report does not seek to assess CCICED recommendations' impact. Rather, it leave the decision to the readers to make about the impact of the recommendations by comparing the policy practices happened in China with the recommendations.

This report is the third of a series of consecutive reports from 2008. This report is divided into two parts. The first part summarizes the adjustments in some of the important policies in the area of environment and development in China during the one year period of time after the annual meeting of China Council for International Cooperation on Environment and Development (CCICED) held in the November of 2009. The areas covered are mainly those that are highly related to the policy recommendations from CCICED. The second part is the major policy recommendations from CCICED in 2009. The information contained in this report represents the expert recommendations and is used for reference for the domestic and foreign committee members and various parties.

## **Part I: Current Status of Major Policies of Environments and Development of China**

### **1 General Situations of Environment and Development**

2010 was among China's most difficult years of the decade in economic terms. China fared relatively well while the world suffered from economic depression. GDP of China reached 335 billion Yuan and a 8.7 percent increase from 2008. In the first two quarters of 2010, China accelerated a conversion of economic development modes and an adjustment of its economic structure. Gross domestic product (GDP) grew 11.1 percent from the same period a year ago.

(1) Energy-saving and emission reduction has made significant progress. In 2009, the energy consumption per unit GDP of our country is 1.077 tons of coal equivalent/ten thousand Yuan and 3.61% decrease from 2008. The last year of "11th Five-Year Plan" (2010) also is critical to whether the index of energy-saving and emission reduction can be

accomplished. The emission is accumulatively reduced by 14.38% in the first 4 years of the “11th Five-Year Plan” compared to 1.25% in 2010, from which we can see that it is hard to accomplish the objectives of energy-saving and emission reductions.

In 2009, newly-added urban sewage treatment capacity per day reached up to 13 300 000 tons in our country, which overfulfilled the objective (10 000 000 tons) determined at the beginning of the year. The daily treatment capacity for urban sewage treatment factories reached up to 86 640 000 m<sup>3</sup> at the end of the year and urban sewage treatment efficiency reached up to 72.3%, which rises by 2.1 percent. The installed capacities of newly-added fuel coal sulphur removal sets were 0.102 billion kw. in the whole year in our country, which overfulfilled the target (50 000 000 kW.) determined at the beginning of the year.

In 2009, total emissions of chemical oxygen demand (COD) were 12 775 000 tons and total emissions of sulfur dioxides were 22 144 000 tons, separately reduced by 9.66% and 13.14% compared with 2005. The progress of emission reduction of sulfur dioxide has outrun the objective of emission reduction determined for the “11th Five-Year Plan”. Up to now, the objective of COD also has been achieved.

(2) Clean energies significantly increase. In August of 2010, it was pointed out in *Global Trends in Sustainable Energy Investment 2010* issued by United Nations Environment Programme (UNEP) and *Renewable Global Status Report in 2010* issued by Renewable Energy Policy Network that China has overtaken America in investments on clean energies in 2009. In 2009, the investments of public and private sectors on key clean energies in China have been increased by 53%, the power generation capacities of renewable energies have been increased by 37 billion Watts and the newly-added capacities are higher than any other countries in the world. Thus, China has become the largest market for the installed capacity of wind-driven power with newly-added installed capacity of 13 750 000 kw occupying one third of the newly-added installed capacity of wind-driven power in the world.

(3) The elimination of backward production capacity was enhanced. In 2009, with policies of structural emission reduction, such as “keep and promote the large and hold or close down the small”, etc., the installed capacities of small thermal power stations closed down in China were 26 170 000 kw and backward production capacities of ironmaking, steel-making, coking coals and cements having been eliminated separately were 21 130 000 tons, 16 910 000 tons, 18 090 000 tons and 74 160 000 tons and totally 1 200 enterprises dealing in paper-making, chemicals, alcohol and monosodium glutamate have been closed down. In 2010, small thermal power generation units of 10 600 000 kw have been closed



down. During the period of “the 11th Five-Year Plan”, the installed capacities of the small thermal power generation units to be closed down shall be over 70 000 000 kw in China. If the same quantity of electric charge to be generated by large power generation units, it shall save raw coals of 81 000 000 tons and separately reduce emission of sulfur dioxide and carbon dioxide by 1 400 000 tons and 0.164 billion tons each year.

(4) Solid achievements on protection of biological diversity. It is the international biological diversity year determined by UN in 2010. According to the data issued by the Ministry of Environmental Protection of China, total 85% of terrestrial ecosystems, 47% of natural wetlands, 20% of natural forests, most of natural areas, 65% of higher aquatic plants and most of rare and endangered wild animals and plant species resources protected by our country are effectively protected.

(5) Environmental quality has been improved more or less. In the last half year of 2010, the general water quality of surface water was remarkably improved in our country. Class I-III water quality of state-controlled sections is 49.3% and 1.3 percentage higher than the same period in last year; the average concentration of indexes of permanganate is 5.1mg/L and 0.2mg/L lower than the same period in last year. Compared with the same period in 2005, the ratio of Class I-III water quality of state-controlled sections increase by 17.2 percentages, Class V bad water quality decreased by 11.2 percentages and the average concentration of permanganate indexes decreased from 8.0mg/L to 5.1mg/L. The water quality of the seven water systems has been improving. Ratio of Class I-III water quality is 56.8% and 1.0% higher than the same period in last year while Class V bad water quality is 19.2% and 2.9% lower than the same period in last year, where the main stream of Changjiang and Yellow River, tributary of Zhujiang and Sanxia water reservoir is of good quality and the water bodies of main stream of Zhujiang, tributary of Changjiang and main water lines of the east water line of South-to-North Water Diversion Project are kept well.

The air quality of 113 key environmental protection cities are generally kept well, the ratio of average days of good air quality is 91.0% and the ratio of average days of good air quality for 105 cities is higher than 80%.

In 2009, under the influences of international financial crisis and economic depression of the world, the growth rate of the economics of China abruptly declined and thus the economic policies of our government were concentrating on “Maintaining Growth”. With entry into 2010, the influence of financial crisis gradually becomes weak, the economic of the world gradually picks up, and thus Chinese government timely adjusted the economic policies from “Maintaining Growth” in 2009 to “Promoting Transformation” in 2010, greatly promotes adjustment of industrial structures and updates and develops green

industries. Accordingly, the strength of energy-saving and environment protection is further enhanced.

In the *Report on the Work of the Government* issued in March of 2010, Premier Wen Jiabao pointed out that we should energetically promote economics into the development track of “Innovation-driven, Endogenous Growth” and the transformation of economic development modes. Cultivate strategic industries with growth potential including new energies and energy-saving and environment protection so as to realize a new technological revolution and industry revolution, race to control the economic and technological points, make arrangements for energy-saving and emission reduction works in 2010 and be ready to accomplish the hard and long time task of energy-saving and emission reduction task of “11th Five-Year Plan”. He also pointed out: 1. Focusing on industry, transportation and building, vigorously promote energy-saving and improve efficiency of energies. 2. Strengthen environment protection, actively promote treatment of key drainage basins and areas, treatment of urban sewage waste, treatment of agricultural diffused pollution and overall comprehensive regulation on heavy metal pollution, etc., and quicken construction of all coal-fired units and put Flue gas desulphurization (FGD) facilities into operation. 3. Actively develop cycling economy and energy-saving and environment protection industry. 4. Actively respond to climate changes. Strengthen the construction of adaptation to and mitigation of climate changes. Vigorously develop low-carbon technologies, promote high-efficient and energy-saving technologies, actively develop new energies and renewable energies and strengthen the construction of smart grids. Quicken the progress of greening motherland and increase carbon sequestration in forestry. Take efforts to establish the industry system and consumption mode characterized in low-carbon emission, actively participate in international cooperation in responding to the climate changes and thus the world can make achievements in dealing with climatic changes.

## 2 Progression of Important Environment and Development Policies Related with Policies and Suggestions Since Last Year

### 2.1 Develop Green Economics and Promote Green Transformation of Economics Development Mode

At the annual General Meeting of China Council for International Cooperation on Environment and Development in 2009, as a key concept put forward in the policies and suggestions for Chinese policies by the General Meeting, Green Economy was gradually accepted by leaders of China Government. They stressed the necessity to develop green



economics at different sites and also to consciously drive the transformation of Chinese economic development modes driven by this concept. At the end of 2009, Premier Wen said during a special interview of Xinhua News Agency that economic crisis each time shall brew a technological revolution; however, the key to the economic crisis is human's wisdom and the power of sciences and technologies. In order to face the economic crisis, Chinese government has been ready for culturing new economic growth areas for the next round of technological revolution. The key for this round of technological revolution is to promote innovation of environment protection technologies and develop green economics and low-carbon economics.

At the Third Session of the 11th National People's Congress and the third session of the 11th National Committee of the CPPCC called in March of this year, the hottest key words include "low-carbon economy" and "green economy" and members of the two committees put forward large quantities of proposals accordingly. The Chairman of the Standing Committee of the National People's Congress proposed that the government "shall strengthen legislation of green economy and low-carbon economy in response to climate change." Qinglin Jia, the chairman of the Chinese People's Political Consultative Conference, also pointed out that we should "promote energy-saving and emission reduction, develop the circular economy and low-carbon economy so as to face climate change."

In May of this year, Vice-Premier Li Keqiang restated suggestions on development of "green economy" and execution of "green and new policies" in terms of the policies and suggestions determined at the 2009 Annual General Meeting of CCICED and systematically described ideas on the development of green economics in China when he spoke at the Green economy and international cooperation on climate change meeting. He considered that the development of green economy presently has become a key trend in the world. At the time when the conflicts between economic development and resources and environments are appearing seriously, it does not only achieve energy-saving and emission reduction, but also can fully take advantages of resources, enlarge market demands, provide new employment opportunities and is a key combination between environment protection and development of economics. It is an objective requirement and inevitable choice for China with 1.3 billion people to break through bottleneck of energies and resources and achieve peaceful development and modernization.

Vice-Premier Li Keqiang put forward three suggestions on development of green economy and adaptation to climatic changes: 1, China shall quicken its efforts to transform the economic development mode and actively promote the development of green economy. Pay more attention to cultivate new growth points, such as new energies and energy-saving

and environment protection industry, etc., further address promotion of energy-saving and efficiency-increasing efforts in all areas, such as production, communication, distribution, consumption and construction, etc., and pay more attention to protect ecological environments. With further reform, to establish and improve the system of green development, construct green industry system and thus form a green development mode. 2, firmly set up ecological civilization concepts and promote positively green consumption patterns. Pay attention to “Can People Live in Harmony with Nature”, include saving culture and ethics of environment into public order and good custom for the society and take the resources carrying capacity and ecological environment capacity as important conditions of economic activities. Guide the public to consciously select consumption modes for saving, environment protection and low-carbon emission, and to make efforts to establish a resource-saving and environment-friendly society. 3, Improve the mechanism of economic globalization and form an environment beneficial to the development of green economy. The international communities should establish and execute trade policies encouraging green development and oppose all kinds of trade protectionism. The developed countries should help the developing countries to culture green economy and support the sustainable development of newly emerging economies.

Clearly, suggestions on policies put forward by CCICED, such as “develop green economy to promote transformation of economic development modes”, “develop energy-saving and environment protection green industries”, “make green industries as key parts of new growth points and strategically newly-emerging industries of China economy”, “advocate sustainable consumption”, “strengthen cooperation and jointly promote the development of green economy” and “oppose trade protectionism, enlarge and promote the transformation of resource and energies-saving and environment and climate-friendly technologies”, etc., have been considered by the decision-making circles and also have influences on the direction of decision-making.

Starting in 2010, the Government of China issued a series of policies to promote transformation of economic development and these measures provide a way forward for the development of green economy of China. The *report on the implementation of the 2009 plan for national economic and social development and on the 2010 draft plan for national economic and social development* points out that efforts should be made to drive the transformation of economic development modes and adjustment of the economic structure, the improvement of economic development quality and benefits, the strengthening of sustainable development, and the achievement of sound and fast development of economy. Eliminate backward production capacities and strengthen energy-saving and emission

reduction as well as environment protection. In May of 2010, in order to further fulfill the general arrangement for adjustment of economic structure and transformation of development mode, the State Council approved *Measures to deepen and restructure economic reform* issued by The National Development and Reform Commission. These measures define the key points of economic reform of 2010, make a series of arrangements of systems and departmental responsibilities for the transformation of economical development modes, and put forward requirements for deepening resource product prices and reform of environment protection charges.

In view of their respective functions, all ministries and commissions successively issued a series of new measures to promote the green transformation of industry structures. For example, in March of 2010, the State Administration of Industry and Commerce issued Opinions on “thoroughly applying scientific concept of development and actively promoting quickened transformation of economical development modes”. This Opinion puts forward some measures for promoting the transformation of economic development modes and development of green economy, including: entry into strategic newly-emerging industries by encouraging technologies with self-owned intellectual property rights evaluated for investments and actively guiding all kinds of social capitals with investment by shareholders’ equity; actively guide consumers to consciously reject high energy consumption and high pollution items with expensive packaging, and advocate green living and consumption mode characterized by low-carbon emissions.

In order to promote the transformation of consumption mode of residents, *Opinion on Multistep Household Electricity Pricing System (Draft)* issued in October of 2010 set out the preliminary plans of multistep electricity pricing. The draft mentioned two proposals: the price shall be increased if monthly household electricity consumption separately exceed 110 and 140KWh. The electricity pricing shall be increased by 3 levels. The residential tariff for households shall not be less than RMB0.2 per KWh for the highest level. The Ministry of Environmental Protection has started to study and establish an ecological civilization construction evaluation index system and policies, and is promoting the transformation of economic development and economic structural adjustment by strict environmental measures.

On January 1, 2009, the Circular Economy Promotion Law was formally put into force, which indicates that the development of circular economy has been formally included as part of the rule of law. In opinions and suggestions of the 2009 CCICED AGM, the development of circular economy is one of the key points of promotion of green economy. In May of 2010, the National Development and Reform Commission issued the *Notice on Model Pilot*



for Distribution to the Objective of Energy-saving and Emission Reduction of “The 11th Five-Year Plan”, which requires taking the development of circular economy as a key measure to promote energy-saving and emission reduction. With regard to the system of development of circular economy, the Chinese Government successively made a series of arrangements, and started planning of circular economy and construction of pilot models. In May of 2010, the Ministry of Commerce issued *Guiding Opinions of the Ministry of Commerce of the People’s Republic of China on Further Pushing Forward the Industry Development of Renewable Resource Recovery*, which promotes the principle of “Government-oriented, Market Operation and Social Participation” to establish a renewable resource recovery system, try to establish a perfect renewable resource recovery network covering urban and rural areas and many kinds of items, standardize approximately 50 regional terminal markets so that the recovery rate of major types of renewable resources could reach over 80% and thus the resource recovery could be industrialized. In order to further promote comprehensive utilization of resources, improve utilization rate of resources and develop the circular economy. In July of 2010, China issued *The Outline of Technical Policy of Comprehensive Utilization of Resources of the People's Republic of China*, which lists 3 kinds of comprehensive utilization of resources technologies: 1, technologies for comprehensive utilization and proper utilization of interlinked and associated minerals during exploitation of mineral resources; 2, technologies for recovering and proper utilizing waste residues, waste water (liquids), waste gases, remaining heat and remaining pressures generated during the production; 3, technologies for recovering and reusing all kinds of wastes generated from social production and consumption process. Also, this Outline specifies value-added and corporate income tax preferences for these technologies. On December 24, 2009, State Council formally approved and applied *Overall Planning of Circular Economy in Gansu Province*, which requires trying to establish Gansu Province as a National Demonstration Area of Circular Economy. This is the first regional circular economy development approved by our country, achieves significant breakthrough from theory to the practice and is a landmark event during the course that the circular economy is increased up to national development strategy. Before or after it, the National Development and Reform Commission successively approved overall planning of circular economy development and model pilot fulfillment proposals of Shanxi Province, Henan Province and Tianjin, etc.

It is a key point of the proposal on development of green economy issued by General Meeting of China Council for International Cooperation on Environment and Development through development of ecological and low-carbon agriculture and ecological system



services management to promote the development of green economy in rural areas. It definitely specifies in *Opinions on Strengthening Urban & Rural Development to Further Consolidate Agricultural and Rural Development Foundation* (No.1, Zhongfa (2010)) that “consolidate ecological safety barrier”, “prepare planning of protection and utilization of forestry lands, start up forestry operation engineering, strengthen ecological service function of forestry, improve overall production capacities of forestry lands and vigorously increase Carbon Sequestration in Forestry” and strengthen treatment of widespread pollution and develop circular agricultural and ecological agriculture”.

Over the last year, the National Forestry Department and Agricultural Department have undertaken a number of actions. The National Bureau of Forestry issued *Notice on Model Pilot of Carbon Sequestration for Forestation* and thus formally started up “Carbon Sequestration for Forestation”. “Carbon Sequestration for Forestation” mainly aims at exploring measurement and monitoring methods of carbon sequestration, taking into account Chinese characteristics, while complying with international rules, providing technical support and a scientific basis for carbon sequestration of different kinds of trees under different situations, and giving a solid foundation to the measurement, reports and verification of carbon sequestration of national forestry. They also guide enterprises to voluntarily contribute money to plant trees for carbon sequestration, to participate in actions against climate change. As well they promote social responsibilities to enterprises and explore reform of investment and financing systems where social capitals flow to forest planting for public benefits. During the model pilot period, “Forestation for Carbon Sequestration” shall adopt combination between social contributions and national allowances for key projects of forestry.

Agricultural departments also have been driving studies and model pilots of high-efficiency and ecological energy, and low-carbon agriculture. Department of Agriculture and Shandong Province jointly established a high-efficiency ecological agriculture model pilot at Delta of Yellow River to promote construction of high-efficiency ecological plant production, high-efficient ecological animal husbandry, high-efficiency ecological fishing, export-oriented agriculture and scientific and technological support capacities with regard to intensive utilization of resources, circular and high-efficiency development of industries, environment protection and ecological civilization construction. In 2010, the concept of “Low Carbon Agriculture” was increasingly included in agenda of decision-making circles. Department of Agriculture has been exploring effective measures guaranteeing security of foods and against climatic changes, successively wrote *Low-carbon---Agricultural Action against Climatic Changes*, organized a series of national

level forums, discussed all kinds of adverse influences on our agricultural production caused by global climatic changes and seek to support the planning of “National Twelfth Five-Year Plan”.

With regards to advocacy of sustainable consumption and low-carbon living, China shall continuously carry out government procurement of environmental labeling products. At present, total purchase lists for 6 stages have been issued. The World Exposition, Shanghai China 2010, inherits and carries forward the inheritance of the Beijing Green Olympics by creating a green and low-carbon World Exposition. Under the three big subjects of “low-carbon, harmony and sustainable city”, Shanghai outlines an embryonic form for a new generation of cities. Shanghai issued *Environmental Report EXPO 2010 Shanghai China*, which describes the process of establishment of environment-friendly city and practice of green EXPO separately from 3 levels, such as improvement of environment quality, green practice of EXPO and participation of the public. In order to improve public participation, EXPO 2010 Shanghai China also issued low-carbon public transportation cards to encourage the public to take public transportation modes and to offset carbon emission caused by visits to EXPO.

## 2.2 Vigorously Develop Low-Carbon Economy to Meet the Challenge of Climate Change

China expects to continuously take an active stance towards participation in international negotiations on climatic changes. In October of 2010, China successfully hosted the October 2010 Climate Change Conference in Tianjin, which is the first international climate change conference undertaken within China under the UN framework convention. Before the Copenhagen conference in December of 2009, the objective of emission reductions in China until 2020 was set, with an intensity ratio of carbon dioxide per GDP in China that shall be reduced by 40-50% by comparison to 2005. This ratio is to be included in medium and long term planning of the national economy and social development as a mandatory index and accordingly prepare domestic statistical base, monitoring and criteria for evaluation. This is a solid promise made by the Chinese government in fully considering the Chinese situation and represents good faith on the part of China towards climate change action, and an active attitude intended to stimulate international climate change negotiations. On December 18, 2009, Premier Wen Jiabao restated once again the promise of the Chinese Government for reduction of carbon emissions. The policy recommendations at the 2009 AGM of CCICED, suggested that the Chinese government “should establish a quantitative index for definite low-carbon economy development according to the general requirements that carbon emission shall be significantly reduced

until 2020 by comparison to 2005, try to guarantee the carbon emission per GDP is reduced by 4-5% per year and break down the objective according to different regions and industry features.” This recommendation generally is in line with the final promise of Chinese government.

Model pilots of low-carbon economy and cities have spread like wildfire. Except for some model pilots jointly carried out some local government and foreign institutes or governments at an earlier time, the Chinese government has started deployment of model pilots of low-carbon cities and economy at a national level and is trying to give a foundation for global warming emission statistics and management system during the “12<sup>th</sup> Five Year Plan” through the model pilots.

In December of 2009, the Ministry of Environmental Protection issued a *Notice on the Development of a Low Carbon Economy in National Pilot Ecoindustrial Parks*, and the development of low-carbon economy has to be included in the construction of parks during the construction and development of national pilot ecoindustrial parks since the start of 2010. It requires that the principles of circular economy, low carbon economic concept and ecological industry should be followed during the declaration, construction and acceptance of national pilot ecoindustrial parks, with continuously improved utilization rate of energy and energy structures through industry optimization, technical innovation and management updates on the basis of low energy consumption, low emission and low pollution. Taking into account the characteristics of each park and starting from low-carbon production, products and living, should actively explore effective approaches of carbon emission reduction of the parks and industrial zones through model pilots of national pilot ecoindustrial parks.

In August of 2010, National Development and Reform Commission issued *the notice of the development of low carbon and low carbon city pilot*, giving intent to carry out pilots in five provinces of Guangdong, Liaoning, Hubei, Shaanxi and Yunnan, and eight cities of Tianjin, Chongqing, Shenzhen, Xiamen, Hangzhou, Nanchang, Guiyang and Baoding. The model pilot includes: preparation of a development plan of low-carbon model pilot, preparation of policies supporting low-carbon and green development, acceleration of the effort to establish industrial systems characterized by low-carbon emissions, with greenhouse gases emission data and management system and an active advocacy of low-carbon and green living mode and consumption mode.

It is an important channel for development of low-carbon economy in China to save energy and to increase energy efficiency and this also is a significant contribution of China to mitigation of global climate change. Policy recommendations of CCICED fully confirms

the significance of energy-saving and improvement of energy efficiency to development of low-carbon economy and suggests that “starting from promotion of energy-saving and improvement of energy efficiency continuously optimize energy structures and develop low-carbon energies and significantly improve production capacities of carbon”. “The 11<sup>th</sup> Five Year Plan” specified a constraint index that the energy consumption shall be reduced by approximate 20%, if such an objective can be achieved by the end of the year, it means that approximate 0.6 billion tons of coal equivalent are saved and a total of 1.5 billion tons of carbon dioxide are reduced during the past five years. In order to drive energy-saving and improve energy efficiency and to achieve the objective of energy consumption determined during “the 11<sup>th</sup> Five Year Plan”, The Chinese government issued a series of measures last year and some of them are mandatory.

The key to the optimization of industry structure and achievement of energy-saving and reduction of emission is to quicken to elimination of backward production capacities. In 2010, State Department successively issued some documents, including *Notice of the State Council on Further Strengthening the Elimination of Backward Production Capacities* issued in February and *Circular of the State Council of the People's Republic of China on Further Strengthening the Efforts to Meet the Purpose of "11th Five Year Planning" Energy Saving and Emission Reduction* issued in May. The State Council requires the closing down of a total of 10 000 000 kw small thermal power generating units, plus the elimination of 25 000 000 tons of backward iron-making production capacities, 6 000 000 tons of steel-making production capacities, 50 000 000 tons of cements, 330 000 tons of electrolytic aluminium, 6 000 000 loaded containers of sheet glass and 530 000 tons of paper. All provincial governments should delegate the task to cities, counties and related enterprises and declare a list of enterprises eliminating backward production capacities. Thus, our country also should strengthen verification on backward production capacities and strictly control investment projects arranged by our country, and execute the “Regional Restricted Approval System”. As to those not accomplishing elimination of backward production capacities within a limited period, it will be necessary to legally withdraw pollutant discharge permits, production permits and safety production permits. The investment management department shall not approve and verify new projects; while Land Resources Management Branches shall not approve newly-added lands and relevant departments shall legally close down power and water supplies to those with backward production capacities.

As to specific industries, the State Council issued *Opinions on Further Strengthening Energy-saving and Emission Reduction & Quicken Adjustment of Iron and Steel Industry Structure Adjustment* in June of 2010, indicating that the iron and steel industry has the most



potential for energy-saving and emission reduction and plays a key role in the energy-saving and emission reduction area. Except those projects approved by our country for carrying out preliminary works, no iron and steel projects that will increase production capacities will be approved and kept in files prior to the end of 2011.

Additionally, in order to further strengthen energy-saving and emission reduction of all industries, all departments and commissions also issued a series of regulations within their respective functions. SASAC issued *Interim Supervision and Management Measures for the Energy-saving and Emission Reduction of Central Enterprises* to urge central enterprises to assume their social responsibilities; the Ministry of Industry and Information Technology issued *Guiding Proposals on Strengthening Energy Saving and Emission Reduction in Medium and Small-sized Enterprises*, which requires medium and small scale enterprises to eliminate backward processing equipments. Also, the Ministry of Industry and Information Technology issued a *Notice on Special Supervision on Fulfillment of Energy Consumption Standard Per Unit Product and Elimination of High Energy Consumption and Backward Electromechanical Equipments (Products)*. Nine supervision teams consisting of Ministry of Industry and Information Technology and Standardization Administration of The People's Republic of China, related industry associations and local energy-saving supervisors to supervise fulfillment of energy consumption standard per unit, and elimination of backward electromechanical equipments of all provinces, autonomous regions and municipalities directly under the Central Government. In May of 2010, the General Office of State Electricity Regulatory Commission issued a *Notice of the State Council on Further Strengthening the Energy-saving and Emission Reduction Supervision of Electricity Industry*, which requires actively taking measures to resolve outstanding issues arising from the energy-saving and emission reduction of electricity industry; the General Office of Ministry of Agriculture issued the *Notice on Notice on Further Energy-saving and Emission Reduction of Mechanization of agriculture*, which requires strengthening energy-saving and emission reduction of mechanization of agriculture and making significant contributions to the energy-saving and emission reduction objectives determined during “the 11<sup>th</sup> Five Year Plan”.

In order to promote generalization and application of energy-saving technologies and products and drive the industry development, Chinese government issued a series of economical, technological and management measures, such as financial allowance, management innovation, encouraging and guiding civil investments, etc. In May of 2010, the State Council issued *Several Opinions of the State Council on Encouraging and Guiding the Healthy Development of Private Investment*, which encourages and guides non-state

owned enterprises to develop circular economy, green economy and invest in constructions of potential newly-emerging industries, such as energy-saving and emission reduction projects, water-saving and consumption reduction, new resources, environment protection and overall utilization of resources, etc.. Thus, it requires eliminating and modifying legal policies not beneficial to the development of civil investments, practically protecting legal benefits of civil investments and culture and maintaining investment environments of equal competition; innovating and flexibly using many kinds of financial tools and strengthening financial supports to civil investments. In April of 2010, the General Office of the State Council transmitted *Advice on Speeding up the Implementation of Energy Management Contract to Promote Energy Saving Service Industry Development* issued by National Development and Reform Commission and put forward policies and measures improving and promoting the development of energy-saving service industry.

One of the opinions of CCICED submitted to Chinese government for establishing practical low-carbon economical policies and systems is to “explore and establish voluntary carbon emission trade system, promote carbon financing and introduction of technologies and drive the development of low-carbon economy through the market systems”. According to what officials of the National Development and Reform Commission said at the United Nations Climate Change Conference in Tianjin, China shall soon issue Management Measures of China Greenhouse Gases for Voluntary Emission Reduction Trade Activities (provisional) to encourage and support some capable regions and industries within China to explore carbon emission trade, standardize voluntary emission reduction of carbon trade market, and provide practical market experiences for fulfillment of forceful emission reduction market of China in future. This shall vigorously promotes the execution of domestic carbon emission trade in China and also provide support to China for achieving the objective of carbon emission in 2020.

In order to develop low-carbon economy and optimize energy structure, presently Chinese government is preparing *Planning of Newly Emerging Industry Development* and it is expected that the final draft shall be issued by the end of 2010. As reported, in order to guarantee that the ratio of non-petrochemical energy in primary energy consumption can reach up to 15% in 2020, it is scheduled in *Planning of Newly-emerging Energies Industry* that the accumulated added investments of our country is expected to be up to 5 000 billion Yuan during the planning period (2011-2020). It is reported such investment includes national investments and the commercial social investments that will be stimulated. However, according to the specific segments, the investments on renewable resources except nuclear power and hydroelectricity, shall reach up to 2 000 billion Yuan to 3 000 billion





Yuan, where wind power approximately occupies 1 500 billion Yuan and investment on solar energy can reach up to 200 billion to 300 billion Yuan. Medium and Long Term Development Planning of National Nuclear Power is also adjusted and the middle and long term objective is 800 billion kW. While the nuclear power is developed, China is increasingly strengthening nuclear safety and regulation. As President Hu Jintao pointed out at the Nuclear Security Summit in April of 2010, nuclear safety is an issue concerning nuclear energy and economic sustainable development, social stability and public safety as well as international peace. It complies with common benefits requirements of all countries to strengthen safety of nuclear power and thus we should work hard together with each other. Perfect nuclear safety laws and supervision systems have been established in China, effective measures are taken to guarantee safety of nuclear power facilities and better records of nuclear safety have been kept.

In order to guide the energy industries and guarantee achievement of energy-saving and emission reduction, the government also has strengthened institutional capacities, structures, and examination, evaluation and accountability. On January 22, 2010, the State Council decided to establish the State Energy Resources Commission and Premier Wen heads the Commission. The State Energy Resources Commission is responsible for studying and preparing national resource development strategies, reviewing major issues arising from energy security and development and accomplishes overall coordination of domestic energy development and international cooperation on energy. With establishment of this Commission, it effectively improves capacities of our country in development and utilization of new energies and reduction of carbon emission. In order to achieve the objective of energy-saving and emission reduction, The Central Government strengthens examination and accountability system and declared the examination result of provinces and some enterprises. On June 21, 2010, National Development and Reform Commission declared the evaluation and examination results of responsibilities for energy-saving objective of all provinces, autonomous regions and municipalities directly under the Central Government in 2009, where Guizhou Province and Xinjiang did not accomplish the objective. On June 25, 2010, the National Development and Reform Commission declared the assessment and evaluation results of energy saving target responsibilities of 901 enterprises, where total 28 enterprises cannot accomplish the annual energy-saving objective. As for those enterprises not accomplishing the objective, they are required: 1, to put forward measures for rectification and improvement within one month after the results are declared, report such measures to local provincial level energy-saving authority and accomplish rectification and improvement within the specified period; 2, not to apply for measures supporting superiors



of “annual awards, award honorary titles and national inspection exempted are not granted”; and 3, to suspend authorizing and examining/approving newly-established high energy consumption investment projects within the same year and the newly-added lands for industries.

### 2.3 Reforming and Perfecting the Economic Policies, and Improving the Energy Efficiency and the Environmental Management Level

The leaders of the Chinese Government have expressed on many occasions the need to promote environmental protection by means combining law, administration and economic mechanisms. Along with the perfection of rule of law and market economy, more and more attention has been paid to the economic means. In the policy proposals of CCICED in 2009, there is a special policy proposal for “reforming and perfecting the economic policies, and improving the energy efficiency and the environmental management level”, and the relevant suggestions are raised respectively for reform on price of energy resources, implementation of environmental tax, enhancement of green credit policy and perfection of liability insurance for environmental pollution. In 2010, the comprehensive economic administration authority, and the financial policy and regulatory authority of China have successively promulgated intensively a series of policies to actively promote the implementation of green economic policy, and some measures in the policy proposal have been implemented to different degrees. Many measures still remain at the level of policy directives; however, many policies and measures have already been fulfilled and implemented, such as the system of stepped prices of water and electricity and the support through green credit to projects of energy conservation and emission reduction, and the limitations placed on projects of “high pollution, high consumption, and high emission and resource dependence”. Excessive production capacity elimination efforts have already been initiated; the pilot program is being considered for environmental tax; and the pilot program of system of environmental liability insurance is being introduced smoothly.

*The Opinions on Key Work of Deepening Reform of Economic System in 2010* requires deepening the reform of prices of resource products, of electric charge, water tariffs, and oil products, and reform of the charge system for environmental protection. They specifically include: adjusting the classification and structure of electric sale prices, simplify the classification and structure of electric charges, promote the system of stepped prices of electric consumption of residents, and perfect the mechanism of pricing of power generation by renewable resources and cost sharing. Gradually smoothen out the price relationship between natural gas and renewable resources. Continue to consummate the pricing



mechanism of oil products. Steadily promote the reform on water tariffs, implement the system of raising the price for water consumption of residents where it is feasible to do so, and promote comprehensive reform of agricultural water saving and agricultural water prices. Comprehensively promote the system of charges on urban sewage, garbage and medical wastes, make research on establishing the system of deposit for treatment of dangerous wastes, formulate and issue the guidelines for pilot efforts concerning waste discharge transactions and expand the scope of pilots, and bring to full fruition the system of use and management of imposition of waste discharge charges.

The *Opinions on Key Work of Deepening Reform of Economic System in 2010* also raises requirements in regard to the reform of environment and resource taxes, and requires issuing a plan for reform of resource taxes, gradually promote the reform on house property taxes, perfect the system of excise tax, and make further studies on the scheme of imposing environmental taxes. Currently, under the joint efforts of the Ministry of Environmental Protection, the Ministry of Finance and the State Administration of Taxation, the scheme of collection of environmental tax is already completed and reported to the State Council, and the provinces of Hubei, Hunan, Jiangxi and Gansu have applied to the State Council to be the pilot spots for collecting environmental tax. Actually, a substantive stride has been made in resource tax reform with a pilot project launched in Xinjiang since July 1<sup>st</sup>, 2010, covering the two major resources, oil and natural gas, on which *ad valorem* duties are levied with a rate of 5%.

The preferential policies of electric charge and taxation are cancelled for the enterprise with high consumption of energy. In May 2010, the National Development & Reform Commission, the State Electricity Regulatory Commission and the State Energy Bureau jointly issued the “*Notice in Regard to Issues of Sorting out Preferential Electric Charge on Enterprises of High Energy Consumption, etc.*”, and decided to cancel the measure of preferential electric charge for the enterprises of high energy consumption. Hereby, the state completely cancels the measure of preferential electric charge implemented locally in 22 provinces and municipalities where the preferential electric charge was implemented for the enterprises with high energy consumption, and all enterprises with high energy consumption started to implement the new policy of differential electric charge. According to the statistics, the preferential price cancelled this time amounts in total to more than 1.5 billion Yuan. For partial products of high pollution and high energy consumption, the Ministry of Finance and the State Administration of Taxation issued the “*Notice on Canceling Export Rebates for Partial Commodities*” that regulates that, from July 15, 2010, China will cancel the export rebates to partial commodities of 406 tariff numbers of steel and non-ferrous metal

processing.

The green credit policy is further enhanced, and the role of financial institutions in energy conservation and environmental protection is further highlighted. The green credit guides the behavior of investors and enterprises by limiting the flow of funds towards the industries of high pollution and high energy consumption and the industries with excessive production capacity, and enhancing the money support to the emerging industries and key industries. On December 22, 2009, the People's Bank of China, the Bank Regulatory Commission, the Securities Regulatory Commission, and the Insurance Regulatory Commission issued the *"Guideline for Further Fulfilling Financial Service and Support to Adjustment and Revitalization of Key Industries and Restraining Excess of Production Capacity of Partial Industries"* that requires the financial regulatory organs to strengthen the communication, coordination and linked action, enhance the pre-warning and monitoring of credit structure and credit risks in the governing areas, and for the projects without approval or ratification according to the procedure, the financial institutions in banking industry should not provide the credit support of any form. At the same time, the approval procedure for bond issuance and financing from capital market should be tightened. The guideline also expressly holds that it should implement the "green credit", actively support the technical renovation and the elimination of backward production capacity by enterprises, further increase the financial support to the projects of energy conservation and ecological and environmental protection, and support the development of low-carbon economy. Encourage the financial institutions in banking industry to develop diversified low-carbon financial innovation products, and enhance the support to the enterprises and projects that comply with the state requirements on energy conservation and emission reduction and environmental protection/ Explore the establishment and consummation of identification system of environmental protection classification of clients, support the development of cyclic economy, and set tighter limitation on the financial support to enterprises and projects of high energy consumption, high pollution and resource dependence. In April and May of 2010, the *"Notice on Opinion in Regard to Supporting Development of Circular Economy and Policies and Measures for Investment and Financing"* and the *"Opinion on Further Fulfilling Financing Service in Supporting Energy Conservation and Emission Reduction and Elimination of Backward Production Capacity"* are issued by the relative authorities, and they respectively require the financial institutions to enhance the support of investment and financing policies to the development of cyclic economy, promote the formation of larger scale of circular economy, further enhance and improve the credit management, and set tighter control on the credit for supporting energy conservation and emission reduction



and elimination of backward production capacity.

The environmental liability insurance is further steadily promoted. The Ministry of Environmental Protection and the China Insurance Regulatory Commission have strengthened the building of capacity of environmental liability insurance by the form of holding the training classes of liability insurance for environmental pollution. On June 5, 2010, 66 enterprises with high risks in Suzhou in the industries of chemistry and dyeing signed the contract of liability insurance of environmental pollution with Pacific Property Insurance, PICC Property & Casualty, Samsung Property & Casualty and China Continent Property & Casualty, the insured amount is 132 million Yuan, and it is the largest project of liability insurance of environmental protection currently in the country.

#### 2.4 Solving Problems of Energy and Environment Prominent in Urban Development

For the problems of energy and environment in the development of urbanization, the CCICED makes multiple suggestions from the angles of exploring the new urbanization route, modes of urban life and consumption, energy conservation of urban buildings, and planning of traffic development. In the past year, some problems in the course of urbanization of China became more prominent. The problems of excessively quick rise of house prices, great increase of quantity of urban automobiles and traffic jams, and the elevation of energy consumption caused because of these factors afflict many big cities. The central and local governments have successively adopted a series of measures in response, and these measures, to a large extent, are consistent with the 2009 policy proposals of CCICED.

In February 2010, the All-China Women's Federation, the Civilization Building Office of Central Government and the National Development & Reform Commission jointly initiated the "Deepening Residential Community Action of Energy Conservation and Emission Reduction, and Carrying out Theme Activity of 'Low-carbon Household – Fashionable Life'" to carry out a series of low-carbon activities among massive women and households, propagate and popularize the low-carbon knowledge, promote the broad households to adopt the low-carbon living style featuring in low energy, low consumption, low expenditure and low cost, and forming the life concept and consumption mode of saving energy resources and protecting ecology and environment.

In the construction field, the Ministry of Housing and Urban-Rural Development actively promotes the energy conservation and emission reduction of public buildings, establishes the target of cutting down 5% of energy consumption indicators of public institutions in 2010 on the basis of 2009, and requires that in towns throughout the whole

country, the proportion of new buildings that implement the compulsory standard of energy conservation is over 95%; fulfill 50 million square meters in renovation of heating metering and energy saving for the existing residential buildings in the northern region with heating provision in 2010, and fulfill the renovation work of 150 million square meters in the period of “Eleventh Five-year Plan”. For promoting energy conservation, the Ministry of Housing and Urban-Rural Development also requires that it should actively promote and use the contracted energy management mode to implement the operation and renovation of energy conservation.

Chongqing, Inner Mongolia and Jiangsu should fulfill the pilot work of building of provincial dynamic energy consumption monitoring platform, and the regions with condition should make research on establishing the standard of limits of energy consumption of public buildings. In February 2010, the “Opinion on Further Promoting Renovation of Heating Metering” required to enhance the urban heating management, improve the mechanism of heating metering monitoring of the new buildings, further expand the energy-saving management of heating system, support the energy-saving renovation of heating pipelines and heat sources to reduce the energy consumption, and implement the metering management of heating system. In August 2010, the “Standard of Efficiency of Residential Heating Boilers (Exposure Draft)” was published, and it sets the different requirements on efficiency of coal boilers, and gas or oil boilers.

In face of the increasing rise of housing price, the central government and the local policies have adopted a series of measures, but the trend of rise still cannot be checked. Therefore, in September 2010, the state issued a series of most rigorous policies since the regulation and control of real estate in order to check the irrational housing demand and opportunistic practice, including: Set limits on the number of houses purchased by a residential family; strictly implement the system of accountability, and require an interview with those who fail to implement the policy fully or are ineffectual in work, investigate the responsibility; consummate a policy of differential housing credit, and require the commercial banks suspend the loan to residential families for purchasing the third set or above of houses; adjust the preferential policy related to contract tax and personal income tax, strengthen the supervision and examination of collection of land VAT, and emphatically make calculations and check on land VAT of real estate development projects with price obviously higher than the price level of surrounding houses; accelerate the pilot work of reform on housing property tax, and expand it gradually to the whole country; increase the effective supply of houses, particularly the construction of common commercial houses of medium and small dwelling sizes and low-income houses; and investigate and punish the



acts of speculation and drive up of price.

It can be seen that these real estate policies in the policy proposal are related to the urban construction and resources and environment, and are highly in accord with the policy proposals of CCICED such as “Set limit on per capita building occupancy in the city”, and “Implement the property tax as quickly as possible to reduce the irrational market demand for buildings through market mechanism”, etc.

In the traffic field, for promoting the generalization of energy-saving and new-energy automobiles, the relative governmental departments also issued a series of policies. In May 2010, the Ministry of Finance, the National Development and Reform Commission, and the Ministry of Industry and Information Technology issued the “Implementing Regulations of Generalization of Energy-saving Automobiles (Passenger Cars of 1.6L or Below) of ‘Project of Benefiting People by Energy-saving Products’” to provide a one-time fixed subsidy to purchase of energy-saving automobiles by consumers, the subsidization standard is 3 000 Yuan/vehicle, and it is cashed to buyers by the producers in sale. On May 31, 2010, the Ministry of Finance, the Ministry of Science and technology, the Ministry of Industry and Information Technology, and the National Development and Reform Commission issued the “Notice on Carrying out Pilot Program of Subsidization to Personal Purchase of New-energy Automobiles” to provide subsidy as per 3 000 Yuan/kWh to new-energy automobiles that meet the supporting conditions, the highest subsidy to plug-in hybrid passenger cars is 50 000 Yuan/vehicle, and the highest subsidy to pure electric passenger vehicles is 60 000 Yuan/ vehicle.

In addition, the State has further expanded energy conservation in the field of public service and the demonstration and generalization of new-energy automobiles, and on the basis of existing 13 pilot cities, increased the number of such cities by 7, with Tianjin, Haikou, Zhengzhou, Xiamen, Suzhou Tangshan and Guangzhou as the pilot cities. In accordance with the “Science and Technology of Clean Energy in Development of China in 2010” issued by the Ministry of Science and Technology in October, by the end of 2010, China will generalize the use of 20 000 new-energy vehicles in the field of public traffic. By 2015, the quantity of new-energy automobiles in China will be over one million vehicles, and by 2020, the market scale of new-energy automobiles will be up to the level of ten million vehicles.

## 2.5 Preparation of Green “Twelfth Five-year” Plan

Currently, China is formulating the “Twelfth Five-year” Development Plan, and will formally approve and implement it in March 2011. In a timely way, the “Policy Proposals”

of CCICED of 2009 proactively point out that: “The formulation of ‘Twelfth Five-year’ Plan should give prominence to the enhancement of China’s capacity in sustainable development, and take the green economy including low-carbon economy as the important element of the plan. Vigorously promote the conversion of economy towards “green” approaches, and put environmental protection and elevation of energy efficiency on a more prominent strategic position so as to lay a solid foundation for China to accelerate the change of development mode, take the route of a new type of industrialization and urbanization, adapt the rural areas to climate change and protect the ecological system to be adapted to the new cycle of adjustment of economic structure in the world featuring in the green economy.”

The intermediate evaluation of fulfillment of “Eleventh Five-year” Plan has been basically completed. The result demonstrates that the implementation of “Eleventh Five-year” Plan for environmental protection meets the schedule for the first time, some indicators have been realized above the quota, the main plan target is expected to be fulfilled according to the schedule, and it is the five-year plan for environmental protection implemented best in the history of our country. China will formulate the “Twelfth Five-year” Plan on the basis of comprehensively summarizing the “Eleventh Five-year” experience. According to the report, on the basis of emission reduction experience in the “Eleventh Five-year” period, the ‘Twelfth Five-year’ Plan may increase the pollutant factors that implement the total volume control, and expand main pollutants from two items to four items, i.e., chemical oxygen demand, ammonia nitrogen, sulfur dioxide and nitric oxide. In decomposition of the task of emission reduction, the target of emission reduction will still be decomposed to various local governments and enterprises, and will continue to follow the stricter target examination. And in the future, it will not only examine the fulfillment of figures, but also will examine the improvement of environmental quality.

Although the “Twelfth Five-year” Plan has not officially come out, According to the disclosure of Hu Angang, Professor of School of Public Administration of Tsinghua University and Director of Center for China Study of Tsinghua University, who has participated in preparation of this plan draft: “The “Twelfth Five-year” Plan will be officially implemented in next March, the green plan indicators take up 51% of 47 major indicators of this plan, this plan will become the first green development plan in China, become the historical starting point of green modernization of China, and China will turn from the largest ‘black cat’ in the world into the largest ‘green cat’ in the world”.



## 2.6 Enhancing Rural Energy and Environment Management, and Promoting Rural Environmental Protection

The No. 1 Document of Central CPC Committee in 2010 “Some Opinions of Central CPC Committee and the State Council in Regard to Enhancing Combined Planning of Urban and Rural Areas to Further Solidify Foundation of Agricultural and Rural Development” sets focus once again on the issue of rural areas and agriculture, reflecting the attention of the Central Committee to this issue. The document points out some new requirements and work direction for rural energy and environmental protection, including “Support the rural areas to develop and utilize the new energies, and promote the recycling and clean utilization of agricultural and forest wastes”, “Construct safe, energy-saving and environmental-friendly housing”, “Implement the policy of promoting management by awards to steadily promote the comprehensive management of rural environment”, and “Carry out the pilot program of rural drainage and river dredging, realize treatment of garbage and wastewater, and improve the living environment in rural areas”, etc. In these ways the environmental protection authority and the agricultural authority have formulated corresponding policies of environmental protection and energy for rural areas.

According to the requirement of the Ministry of Environmental Protection, 2010 will further materialize the policy and measure of “promoting management by awards”, and enhance the investment in environmental protection in rural areas. For the regions with concentrated environmental problems, implement the comprehensive management of linked areas, and construct the facilities of concentrated pollution control; for the villages with dispersed dwelling, poor economic condition, or in the remote regions, generalize the wastewater treatment mode of distributed type, low cost and easy management; encourage the service of rural sewage and garbage treatment facilities to extend to cover the surrounding villages and towns in order to realize the sharing and joint use of infrastructure by urban and rural areas. Carry out the pilot program of reduction on discharge of sewage of rural market towns and pollutants of livestock and poultry husbandry up to scale. Establish and consummate the accountability system for comprehensive management target of rural environment.

The Ministry of Agriculture requires to “truly strengthen the ecological and environmental protection in rural areas, and promote the sustainable development of agriculture”, and this includes:

First, accelerate the development of clean energies in rural areas: Increase the construction of marsh gas (methane) projects in rural areas, and speed up and promote the



construction of marsh gas projects in breeding zones and up-to-scale breeding farms. Increase the construction of marsh gas service system, enhance the technical innovation of marsh gas, maintenance management and supporting service, organize training related to marsh gas, and elevate the service level of marsh gas management and protection and the rate of marsh gas utilization. Accelerate the promotion of comprehensive utilization of crop straws, and accelerate the transformation of fertilizer, feedstock and new energy of crop straws. Moderately develop the non-crop energy plants, and take the route of development of agricultural biomass energy industry with Chinese features. Increase the development and utilization of renewable energies, such as solar energy, in rural areas.

Second, promote the agricultural and rural energy conservation and emission reduction: Take the conservation of fertilizer, pesticide, water and energy as the breakthrough, accelerate the popularization of technologies of agricultural and rural energy conservation and emission reduction, and improve the utilization efficiency of resources. Mightily popularize the technologies that save cost and increase efficiency such as scientific fertilization and scientific use of pesticides, etc., improve the utilization ratio of products used, and reduce the agricultural production cost. Vigorously develop the technology and equipment of agricultural machines and fishing machines that save fuel, electricity and coal, upgrade and eliminate the agricultural machines and fishing boats of high energy consumption, and accelerate the technical renovation for energy conservation and emission reduction of township enterprises. Continue to implement the projects of rural cleanness and the management of village environment. Carry out the demonstration of comprehensive control technology for agricultural surface pollutions in the key regions of “three rivers and three lakes”, region of Three Gorges reservoir, and along the line of south water to north. Implement the monitoring on environment of production areas of agricultural products, and strengthen the safety management at production areas of agricultural areas.

It is obvious that in the past year, some policies in regard to rural and agricultural environmental protection and energy development as well as the low-carbon agriculture (Refer to the part of “Developing green economy, and promoting green transformation of mode of economic development”) issued by the Chinese Government echo the policy proposals of CCICED in regard to developing the renewable energies in rural areas, and enhancing the rural environmental protection. CCICED particularly points out in the policy proposals, “In response to the climate change, pay attention to the protection of biological diversity, and save the information of biological diversity of domestic and foreign gene banks”, and this year is the year of biological diversity of UN, and the Chinese Government therefore published the “Chinese Strategy and Action Plan for Protection of Biological

Diversity (2011-2030)”, which lists the agricultural biological diversity and improvement of ability in response to climate change and protection of biological diversity as the fields of priority, and advances the relative action plan, such as “Establish the action plan for protection of biological diversity and response to climate change”, “Evaluate the influence of biofuel production on biological diversity”, and “Change the local production and nature-loving mode through popularizing the applied technologies of household marsh gas, ecological agriculture, ecological tourism, rotation of pastures, building of artificially sown pastures, drylot feeding, and confinement feeding, etc., and implement the demonstrating project of livelihood substitution in the northwest ecologically vulnerable regions”.

CCICED advised that “The voluntary carbon transaction mechanism of the state and the provision of subsidy for reduction of pollutants and emission of greenhouse gas by poverty farmers are effective methods for promoting the low-carbon agriculture, and will also help the realization of target of eliminating poverty”. Although the relevant policies and measures have not been issued currently at the State level, some local governments, such as Xinjiang and Sichuan, have already cooperated with the international organizations to carry out the pilot work, and have made prominent achievements.

## **2.7 Environmental Governance Progress: Legislation, Judicial Administration and Public Participation of Environment and Development in China**

CCICED always attaches importance to the improvement of environmental governance in China, and its policy proposals in the past years have included policy proposals related to enhancing the level of legislation, judicial administration and public participation. The improvement of management structure is of important significance in forming the scientific policy for environment and development to timely respond to the new problems of environment and development, and to assure the basis for comprehensive fulfillment and implementation of the policies. In the past year, the great progress either in legislation, judicial administration or public participation, and the management structure and ability of China for environment and development were further improved and elevated.

### ***2.7.1 Legislation for resources, energy and environment***

From November 2009 to September 2010, only the environmental protection authority has completed the formulation and amendment of 61 national environmental standards, and current national environmental standards are up to 1 200. The law system of China for environment and resources has been further improved.

From November 2009 to present, the Standing Committee of the National People’s



Congress has constituted the “Law on Island Protection”, the “Law on Petroleum and Natural Gas Pipelines”, the “Law on Torts” (The “Responsibilities of environmental torts” are regulated in the special chapter), and amended the “Law on Renewable Energies”. In accordance with the “Plan of Standing Committee of the National People’s Congress of Legislation Work in 2010”, the environmental laws currently under the review include the “Law on Soil and Water Conservation” (Amendment), the “Law on Natural Preservation Areas”, the “Law on Forest” (Amendment) and the “Law on Land Administration”, and the laws ready for review include the “Law on Air pollution Prevention” (Amendment) and the “Law on Energy”.

The State Council has formulated the “Statute of Safety Administration of Transport of Radioactive Products”, the “Statute of Administration on Substances Consuming Ozone Layer”, and the “Statute of Protection of Fossils”.

The authorities of environmental protection department, etc. have formulated and amended the “New Method for Environmental Administration of Chemical Substances”, the “Method for Environmental Administrative Punishments”, the “Method for Environmental Safety Administration on Import and Export of Microbial Agents for Application to Environmental Protection”, the “Method for Filing Administration of Local Environmental Quality Standards and Pollutants Discharge Standards”, the Method for Safety License Administration of Transport of Radioactive Products” and the “Provisional Method for Administration of Emergency Plan for Contingent Environmental Incidents”.

The Development and Reform Commission has formulated the “Provisional Method for Evaluation and Examination of Energy Conservation of Projects of Fixed Assets Investment” and established the “energy conservation evaluation” system similar to the “environmental impact evaluation”; the State-owned Assets Supervision and Administration Commission has formulated the “Provisional Method for Supervision and Administration of Energy Conservation and Emission Reduction of Central Enterprises”.

For enhancing the energy administration, regulating the development and utilization of traditional energies and being adapted to the development of new energies, the energy resources authority has initiated a series procedures for law amendment and new lawmaking, including the amendment on the “Law on Coal”, and the formulation of the “Statute of Administration of Nuclear Power” and the “Statute of Administration of Hydroelectric Development”.

### *2.7.2 Judicial administration promoting environmental protection*

On December 9, 2009, the Supreme People’s Court promulgated the “Notice on



Seriously Fulfilling the Spirit of Meeting of Economic Work of the Central Committee and Providing Strong Judicial Guarantee for Realizing the Economic Development Target in the Next Year” to point out that it should properly judge and enforce cases related to energy conservation, enterprise bankruptcy, and restructuring and system reform occurred in the aspects of strengthening macro-control and adjusting the economic structure, etc., and provide the good judicial service for winning the full victory in response to the impact of international financial crisis, and maintaining the smooth and quicker development of economy. At the beginning of 2010, the “Some Opinions in Regard to Fulfilling Criminal Policy of Severity Tempered with Mercy” of the Supreme People’s Court pointed out that in a period at present and in the future, it should deal according to law severely with various serious crimes against environment and resources, such as serious environmental pollution, illegal mining, and unlawful felling of trees, to maintain the economic order of the country, and protect the life, health and safety of broad masses.

On June 29, 2010, the Supreme People’s Court issued the “Some Opinions in Regard to Providing Judicial Guarantee and Service for Accelerating Change of Economic Development Mode”. It points out “It should accept the cases concerning disputes of environmental pollution, damage and compensation filed by the environmental protection administrative departments on behalf of the state, and severely crack down all acts against environment”, and this means to open a door for public interest litigation related to environment. In addition, the Supreme People’s Court also expresses that the court that has more cases of disputes of environmental protection can establish the court of environmental protection to implement the professional judgment on environmental protection cases, and can elevate the level of judicial administration for environmental protection.

### *2.7.3 Information disclosure and public participation*

Under the active efforts of different sectors, since 2010, China has made some new progress in the respect of environmental information disclosure and public participation.

The degree of information disclosure by the Chinese Government is increased: On January 20, 2010, the General Office of the State Council issued the “Opinion on Realizing Disclosure of Governmental Information through Application”. In the process of accepting the application for disclosing the governmental information, for the governmental information that need or can be widely known by the public, while giving the answer to the applicant, the administrative organ should take the initiative to make disclosure on the government website, and avoid as much as possible that the public governmental information is only disclosed to individual applicant so as to reduce the repeated application

for the same governmental information, save the administrative cost, and improve the work efficiency.

Besides the government should in a timely fashion release the relevant information as the information disclosure entity. The relevant regulation came out this year to set new requirements on the disclosure of environmental information by the enterprises causing pollutant discharges. In July 2010, there was the incident of polluting Dingjiang River of Fujian by the listed company Zijin Mining Group, and it caused serious economic loss. The Shanghang County Government of Fujian disclosed the accident information as late as 9 days after the pollution incident happened, and this caused strong criticism from the media.

For guaranteeing the right of the public to be informed, on September 14, 2010, the Ministry of Environmental Protection issued the “Guideline of Environmental Information Disclosure by Listed Companies (Exposure Draft)” to require that the listed companies in such 16 industries of heavy pollution as thermal power, steel, cement, and electrolytic aluminum, etc. should publish an annual environmental report, and regularly disclose the environmental information related to discharge of pollutants, abidance by environmental law, and environmental management, etc. The listed company having a contingent environmental incident should issue the interim environmental report within one day after the incident to disclose the time, location, and major polluting substances and quantity of environmental incident, the environmental impact and casualty (if any) of the incident, and the emergency treatment measures adopted, etc.

In addition, the Ministry of Environmental Protection issued the “Notice on Further Regulating System of Regular Publication of List of Production Enterprises Noncompliant with Environmental Protection” to promote the disclosure of information on regulatory violations by enterprises, and require the environmental protection departments of different levels to take the initiative to disclose the list of production enterprises noncompliant with environmental protection in case of discovering such environmental unlawful acts as non-compliance with standard and pollutants discharge over the total volume during the daily supervision and examination of pollutant discharging enterprises in their administrative regions. The environmental protection departments of different levels can also disclose according to the need of work the relative information by the forms that are convenient for the public to know such as newspaper, broadcast, television, and news release meeting, etc.

In the field of public interest litigation, the local legislation has made the new breakthrough. The “Ordinance of Guiyang City for Promoting Building of Ecological Civilization” adopted on January 8, 2010 regulates that for the environmental public interests, the procuratorial organs, authorities of environment and resource administration,



environmental public service organizations, and supervisors of ecological environment and planned construction can file a civil lawsuit against acts of environmental pollution and destroying resources according to laws that require the violator to assume the responsibility for stopping the infringement, removing the obstacle, eliminating the risk, restoring the original state, and eliminating the ill effect, etc. The complainant can file an administrative lawsuit according to law against the specific administrative act and administrative nonfeasance in relation to environment and resources, and require the relative administrative organ to perform the administrative duty favorable to protecting environment and preventing pollution. This ordinance symbolizes that the lawsuits of environmental public interests have a specified code to follow at least in Guiyang City. This ordinance is the first local code with stipulation of lawsuits of environmental public interests in China.

The disclosure of some important information to the public in accordance with the relative system of disclosure of governmental information is of important significance in protecting the right of the public to know the environmental information and increasing the depth of public participation. In 2010, the information important or good for participation of the public in environmental supervision disclosed by the governmental departments mainly includes:

(1) “Bulletin of First Census of National Pollution Sources”: It shows clearly for the first time the pollution state of industrial sources, agricultural sources, family sources and concentrated pollution management facilities, and provides the scientific basis for the formulation of “Twelfth Five-year” Plan in relation to environmental protection of our country.

(2) On May 14, 2010, the General Office of Ministry of Environmental Protection issued the “Notice on Fulfilling Commitment to Environmental Check and Rectification for Listing within Time Limit”, and published the list of listed companies that failed to complete rectification on time and have the new environmental problems.

(3) For further clarifying the environmental key monitoring targets and truly fulfilling the such environmental supervision and administration as online monitoring of the enterprises under the focal supervision of the state, the General Office of Ministry of Environmental Protection published the “List of Enterprises under Focal Supervision by the State in 2010”

(4) In March 2010, the Ministry of Environmental Protection issued the “Bulletin about State of Environmental Quality of Major River Basins and Key Cities of Environmental Protection in 2009” to disclose in detail the state of water environmental quality of major river basins in 2009 and the state of ambient air quality of key cities in 2009.

### 3 Closing Remarks

2009 is the most difficult year for Chinese economy and 2010, although its developmental situation is better than last year, the economy is still in a rather complicated situation. From an international view, the world economy takes on signs of recovery, but the foundation is still fragile as the financial risks have not yet eliminated. In China's domestic situation, the foundation for economic turnaround has been further consolidated and the market confidence is increasing as well. However, there are outstanding contradictions and problems existing in the economic and social development as the economic growth lacks internal promotion, self-innovation ability is still weak and there are obvious contradictions of overcapacity in some industries, which leads to increasing difficulty in the industrial restructure. Such problems impose pressure not only on the Chinese economy but also on energy conservation and environmental protection efforts in China.

The GDP per unit in the first half of 2010 rose by 0.09% compared year on year and sounded an alarm for the energy conservation and emission reduction this year. Exactly as judged by the central government, the energy conservation and emission reduction is a fort-assaulting and lasting war and therefore shall be never treated lightly at any time. Additionally, a series of unexpected environmental events and accumulative pollution events also calls on the realization of Chinese government and Chinese people that China has entered a high-incident period of environmental pollution and it's urgent for the government to take more rigorous and effective means to deal with. Chinese government is taking an iron fist to achieve the goals of energy conservation and sustainable development. Despite numerous difficulties, and based on the experience of reform and opening up, any goal, as long as the Chinese government makes decision to achieve it, almost always can be achieved. And thus it's not beyond our expectation to fully complete and even to surpass the goals of energy conservation and emission reduction as well as to achieve a green turnaround of industrial structure for sustainable development under the "11th Five-Year Plan".

Looking back on the Chinese government policy for environment and development, we shall specially pay attention to signs of development of some important policies:

(1) To promote industrial turnaround through environmental protection will be a long-term policy. Since the "11th Five Year Plan", we can clearly see that under the unified deployment of the CPC central committee and the state council, more and more sectors have applied the authority within the scope of its functions in elimination of backward productivity and guidance of green economy. The "green turnaround" is not only the matter of the environmental department but also the common view and actions that all the



governmental departments shall take. Governmental departments, whether legislative, executive or judicial organs, are make their decisions and policies toward or under “green transformation”. The Chinese government has solemnly promised the world its goal of emission reduction by 2020. It can be expected that at least for the next 10 years, the Chinese government will stick to the current policies, forcing the industrial structure into green turnaround by virtue of environmental protection indicators. And after 10 years, China may have finished the green turnaround and entered the new historical period of virtuously-circled economical and environmental development.

(2) The voice and environmental administration ability of the environmental department is on rise. On one hand, under the pressure of current environmental situation and international community, the government and the public have attached great importance to environmental protection. And the work of environmental department has been offered with robust support from the government and the public. On the other hand, the environmental departments at all levels from the central to the local take fully initiatives to use favorable external conditions and put efforts into enhancement of law enforcement capabilities and institutional innovation, which further win widespread praise and support. It can be predicted that with improvement of planning and environmental evaluation systems, increasing roles of environmental protection in the macro control and enforcement of environmental laws, the voice and environmental administration ability of the environmental department will continue to be improved in the future.

(3) The status of market-based instruments continues to go up in China’s environmental management and administration approach. The government has realized that environmental administration through market-based instruments may be more effective and at less cost than through direct executive means using command and control management. In the past year the green credit and environmental pollution liability insurance has been further developed and the elimination of backward production capacity and guidance of green economy through taxation and price levers are being carried out, and the environmental tax is also to start pilot initiatives. The economic policies such as finance and tax leverage have directly to deal with production and operation of enterprises and, if applied properly, they can maximize the control effect. As the market economy is gradually improved, the status of economic policies will have a higher profile within environmental administration.

(4) Disclosure of information and awareness and ability of public participation is on the rise. In the long run, disclosure and public participation is the right fundamental motivation to improve the environmental management performance. With the gradual improvement of economic living standards and strengthening of law conception, and the passion of the



public participation in environmental affairs is soaring, so obvious mistakes existing in the environmental decision-making may easily lead to strong public opposition. This situation will encourage the decision-making sectors to start the public participation procedure as early as possible and so as to make the decision-making more democratic and more scientific. Since disclosure of information plays an important role in guarantee of the public right to know, supervising the government and sewage disposal enterprises as well as enhancing effectiveness of public participation. In the past few years disclosure of information and public participation in the environmental field has stepped into the forefront in China. And the environmental department has set down a series of rules to ensure disclosure of information and public participation, which will become an inexhaustible drive to promote environmental protection in China.

(5) China begins to involve more and more environmental obligations as a big country. As indicated by Prime Minister Wen Jiabao at the Copenhagen Conference, the Chinese government sets the goal to reduce greenhouse gas, which is a voluntary action according to the situation of China. It comes from the responsibility for Chinese people and the human species worldwide, without any additional conditions and not linked to any country's emission reduction goals. We'll keep the promise and act resolutely. As one of the biggest energy-consuming and carbon dioxide-emission country, China's influence on the global environment is crucial. As a responsible big country, China voluntarily undertakes the obligation to reduce emission, which is not only to perform the international obligation, but also the way for us to achieve sustainable development.

In the past year, many policies and suggestions of the China Council for International Cooperation on Environment and Development (CCICED) have been embodied in the Chinese government's policies under enforcement. It can be seen that the CCICED has more and more profound insight and understanding of China's policies on environment and development. The CCICED should not only focus on the long-term trend of China's environment and development, but also consider the latest policy progress made in China and the new problems the government faces. The Government of China has to think over the significance of China's environment and development progress from the view of the environmental protection and development as well as from the international and the domestic perspectives. Additionally, the CCICED's ideas and propositions have caused attention of the central leadership and governmental departments.

## **Part II: Policy Recommendations to the Government of China (November of 2009, Concise Version)**

The Third Annual General Meeting of the 4th Phase of the China Council for International Cooperation on Environment and Development (CCICED) is taking place from 11-13 November 2009 in Beijing with the theme of “Energy, Environment and Development”. Based on these studies and further inputs at the AGM, seven policy recommendations are presented to the State Council. More detailed information on many of the recommendations is available in the individual Task Force reports.

In the recommendations, the CCICED members warmly recognize the 60th anniversary of the People’s Republic of China and strongly encourage China to continue promoting its strategic transformation of environment and development, in order to achieve and sustain green prosperity as the basis of China’s future development. CCICED members recognize that now is the key time to design an environment and development strategy for the 12<sup>th</sup> FYP. It is a critical testing period for China’s sustained energy-saving and emission reduction efforts, and an important time to incorporate green economy including low carbon economy into the national development plan. Otherwise, China will be at risk of losing the achievements gained during the 11<sup>th</sup> FYP and of losing new growth opportunities. CCICED also warns China government of a future in which it is necessary to address multiple crises involving the economy, energy, environment and climate change, and possibly other matters.

### **1 Develop a Green Economy and Speed up Green Transformation of Economic Development.**

**From the perspectives of scientific development, ecological civilization and strategic consideration for long-term global competitiveness, China should consider green economy as important approaches to promote transformation of its economic development mode, and should develop a national strategy for green economic development as soon as possible. While striving for Low Carbon Economy that will address many energy and environment concerns, China should also take actions in the following areas to promote green economy:**

**(1) Strengthen the promotion of Circular Economy to increase resource efficiency.** Circular Economy practices support green economy development by creating new wealth and resources from waste, via the “Reduce, Reuse and Recycle” principles. China has many successful pilot demonstrations and substantial commercial experiences. Yet most sectors are

far from being eco-efficient in either use of energy or environmental resources when judged by international benchmarks. China should fully enforce its Circular Economy Promotion Law that became effective this year, establish and improve relevant policy and regulations, and strengthen the capacity for broadly promoting circular economy.

**(2) Increase R&D investment for advanced green technology, develop green industries and foster new green growth opportunities.** China should substantially increase its investment in R&D and industries for renewable energy, clean energy, energy-saving, environmental industries, urban public transport, building energy, ecosystem protection and restoration, environmental infrastructure and waste recycling, and make green growth as a key part of China's industrial and economic development strategies.

**(3) Strengthen industrial restructuring to promote eco-reform of traditional industries.** China should seize this historic time of economic recovery as an opportunity to incorporate environmental considerations into its transformation of traditional industries and industrial restructuring. This could be done through stringent environmental admission standards and permits to operate, pollution emission standards and management instruments, and by speeding up green transformation of all major industrial sectors. In particular, in its revitalization plans for key industries China should further increase requirements for environmental protection, resource and energy efficiency; accelerate the elimination of environmentally-inefficient production capacity; and strengthen the green transformation of industrial structure.

**(4) Develop rural green economy through environmental improvement of mainstream farming methods; introducing ecological and organic farming, low-carbon farming; and by improved management of ecosystem services.** In the development of green economy strategy and practice, China should pursue integrated rural and urban green development and avoid deepening rural and urban differences. Green economy development in rural areas should integrate low carbon pursuit into traditional ecological farming and organic farming, strengthen the management of land utilization, ecosystem services and biodiversity conservation, promote rural economic development and create jobs while reducing pollution discharge and greenhouse gas emissions.

**(5) Advocate sustainable consumption and low-carbon lifestyle, enhance the role of the public and NGOs in green economic development.** Recognizing the significant role of citizens and their consumption patterns in promoting green economy, it is important to raise public awareness for individual consumers and households, commercial enterprises, and industries—through resource-saving, low carbon, and environmental protection messages and action. Messages should emphasize modest levels of individual and household consumption



that take into account embedded energy, high efficiency and low carbon; and certification regarding sustainability, low carbon criteria, and environmentally-sound production for both goods and services. China should promote green procurement by government agencies at all levels, strengthen its legal basis, disclose relevant information, and encourage the role of NGOs in the communication and technical aspects of green consumption, and in green economy development. China should continue its 2008 “Green Olympics” experience. The 2010 Shanghai Expo, with its “Better City Better Life” theme and with more than 70 million visitors expected, offers an unprecedented opportunity to promote a low carbon lifestyle and build low carbon cities.

**(6) Strengthen international cooperation and promote green economic development.** The development of green economy needs to be built upon fair, equitable, orderly and free global trade practices, taking steps to avoid anti-trade protectionism, and expanding the number and value of environment and climate-friendly technology transfer arrangements. With enhanced overall capacity and increased sustainable development practical experience, China should play an increasingly important role in promoting global green development and in dealing with environmental challenges.

## 2 Develop Low Carbon Economy with Consideration of Both International and National Contexts.

**Based on both the international and national contexts, China should develop a national Low Carbon Economic Development Plan as soon as possible including strategic objectives, specific tasks and measures. Low carbon pilot demonstrations should be initiated within key industrial sectors and within selected urban and rural locations. Low Carbon Economy lifestyles and opportunities should be promoted widely to China’s citizens.**

**(1) Identify the strategic objectives of Low Carbon Economy.** LCE in China should start with promotion of energy saving and energy efficiency, optimization of energy structure, development of low carbon energy and increase of carbon productivity. According to the overall objective of significant reductions of carbon intensity by 2020 over the 2005 baseline, China should establish a clear quantified target for low carbon economic development and strive for at least an annual 4%-5% reduction of carbon emission per GDP. The national target will need to be disaggregated on the basis of regional and sectoral characteristics.

**(2) Develop and implement operational policy mechanisms.** (a) implement continued reform of energy pricing; (b) increase investment oriented towards a low carbon economy; (c) consider introduction of a carbon tax when the time is right; (d) study and

establish a voluntary carbon emission trading system to promote low carbon finance, technology transfer, and low carbon economy development through market mechanisms; (e) promote low carbon technology innovation and application within China's industrial base and pay special attention to the training of professionals; (f) incorporate low carbon development into urban and rural planning, and into planning for all major transportation systems including road, rail, air and sea shipping; (g) initiate LCE pilot efforts; and (h) improve the energy statistical system by introducing carbon emission statistics.

**(3) Optimize energy structure and develop low carbon energy sources.** China should pay close attention to development of strategic objectives for intensive, clean and high-efficient use of coal. Depending on costs of carbon capture and storage, as well as emission reduction, the proportion of coal in total energy consumption can be gradually lowered from the current 70% to 55%, 50% and less than 33% in 2020, 2030, and 2050 respectively. China also should vigorously develop low carbon energy sources, and promote the commercialization of solar photovoltaic power generation, in order to achieve a full-scale, industrialized and commercialized low carbon energy mix by 2020. Since safety is the ultimate condition of nuclear development, China should substantially enhance the capacity building of nuclear power plant safety supervision, thus ensuring safe, consistent, and healthy development of nuclear power plants.

**(4) Establish an industrial system featuring low carbon emissions.** Speed up industrial restructuring and upgrading; increase comprehensive utilization of resources and promote lower energy consumption and emissions; promote application of advanced mature technologies and develop advanced low carbon technology to increase energy efficiency; build up a support system for low carbon technology innovation, and improve the legal framework and other enabling mechanisms.

**(5) Analyze the possible impacts on China's trade and economy of a climate change "border adjustment tax"** and consider how implementation of low carbon economy initiatives might ease this threat.

### 3 Implement a National Strategy for Sustainable Use of Coal.

**While ensuring national energy security and environmental protection, China should develop and implement a strategy for safe, highly-efficient and clean national coal exploitation and utilization in order to provide a long-term, stable energy foundation for green economic development.**

**(1) Further emphasize the strategic role of coal in the national mid-to long-term energy strategy, and speed up the development of a new national coal strategy focused**



**on sustainable use of coal.**

**(2) Improve governance of the Chinese coal value chain.** The Chinese government should strengthen responsibilities and mandate of relevant agencies, improve coordination mechanisms to improve sustainability of the Chinese coal industry.

**(3) Promote green mining.** (a) concurrent mining and reclamation, particularly in the areas rich in both coal resources and food production; (b) minimization of mined-land subsidence and improvement of management; (c) water resource conservation and aquifer protection; (d) environmentally sound mining waste utilization and treatment; (e) improved risk management and ecosystem protection; and (f) safe mine closure and site restoration. China should broadly implement a payment system for coal mining rights, and fully collect the one-time charge for this right; speed up the reform of coal mine resource tax policy; changing from a specific tax to a compound tax, or move to a totally ad valorem tax levy, and increase the levy limit; establish an ecological compensation system for coal mining, and implement a damage restoration deposit system for environmental management. The “one ballot veto” rule should be strictly applied. The implementation of strategic environmental assessment needs to be strengthened in all coal mining areas.

**(4) Develop a sound strategy for coal-fired power generation, with intensive, highly-efficient and clean use of coal.** China should control growth rates of coal use to stay within environmentally sound and safe limits, and gradually reduce the proportion of coal in total energy consumption. Efforts should be accelerated for the development and adoption of advanced coal-fired power generation technology (e.g., ultra-supercritical and IGCC) to reduce coal consumption in power generation and to increase conversion efficiency to the highest international standards; promote technology and management for combined power, heat and cooling systems to increase the comprehensive utilization of coal resources in urban areas; optimize generator capacity structure to minimize efficiency loss during operation; promote price linkage of coal and electricity to regulate future power and coal supply/demand at the national level.

**(5) Improve and enforce standards associated with processing and use of coal.**

**(6) In heavily polluting situations, and based on the requirement of total emission control, establish pilot efforts for regional controls on total coal consumption, and strengthen pollution supervision for coal-fired power plants.**

**(7) Encourage technical innovation and promote technologies related to the sustainable use of coal.** Actively promote technologies related to green mining and clean coal technologies. Develop CO<sub>2</sub> capture, utilization and storage (CCUS) technology suitable to China’s situation and needs. Strengthen international cooperation for joint development of

technologies and for transfer of technologies; and develop demonstration technology suitable to China's situation of widespread coal availability and use.

#### 4 Take More Innovative Approaches to Address the Key Energy and Environment Issues in Urban Development.

**China should thoroughly assess its urbanization policies of the past 30 years, and identify an overall strategy for a new road of urbanization based on lower energy growth and carbon emissions, and on overall higher environmental and social quality of life. The new urbanization road should focus on improvements to the key areas of rapid energy consumption increase such as urban buildings and construction, transport and livelihood energy demands, urban consumer behavior and lifestyle, urban climate change awareness, and strengthened policies to facilitate sustainable urban development throughout China.**

**(1) Revise the current urban energy statistics system and establish a dedicated urban energy consumption statistics system with emphasis on energy consumption, especially the potential of energy saving from daily life activities as the key focus of urban energy saving.**

**(2) Reduce the scale and rate of urban construction and improve building qualities.** In the future, per capita floor space (home, public building and commercial building combined) should not exceed 40 m<sup>2</sup>. It is recommended that the governments at various levels should tighten up the approval of new projects and establish strict control of total allowable construction volumes. In addition, it is also recommended that a property tax system should be implemented soon to manage irrational demand within the housing market. It also is important to establish sound demolition and management decrees for existing buildings.

**(3) Explore a new road for urbanization by designating low carbon cities.** Cities need a more compact mode for urban development. This should be incorporated into urban planning throughout the country. China should properly increase density of population within its cities, develop city groups, city belt or city functional groups on the basis on mega-cities or central cities, and optimize distribution of specialized functions; identify urbanization strategy focusing on large cities; speed up development and implementation of national city/township system plans and land use plans; conduct pilot projects on low carbon and low pollution cities with lower energy consumption.

**(4) Develop energy efficiency policy for urban construction, promote energy-saving technology and standards, and construct "low energy and carbon**



**buildings**". China should gradually establish building energy efficiency standards for different regions and different types of buildings and, on this basis evaluate the energy consumption of buildings, decide on subsidies, support for individual technologies, and renovation for existing high energy consumption buildings; encourage developers and consumers to develop and purchase "low energy" and "low carbon buildings" through fiscal policy incentives; initiate low energy and carbon building pilot efforts; strengthen urban energy consumption supervision and audits; adopt certification for energy-saving products; improve efficiency of urban heat supply; and encourage utilization of new energy sources.

**(5) Deepen reform of district heating networks in northern China and significantly reduce heating energy consumption.**

**(6) Make mass transportation and non-motorized transportation (NMT) a national strategic priority.** A number of steps are recommended: intensify development of urban public transport, and increase share of public transport and control of unlimited growth of private cars; speed up rail transport and inter-city high-speed railway (cities with more than 2 million population should be encouraged to develop urban rail transport); promote vehicle fuel efficiency through mandatory fuel efficiency standards, and develop low carbon vehicles such as hybrid vehicle, electric vehicles; plan, construct and improve bicycle and walking pathways; develop enabling legislation and improve funding mechanisms, including a dedicated public transportation fund, to guarantee public transportation as a matter of the highest priority.

## 5 Strengthen Policies for Energy and Environment in Rural Development Including Greater Attention to Climate Change Adaptation.

**The Chinese government should integrate rural energy and environmental issues into the strategic task of Building the New Countryside, strengthen management and adopt comprehensive strategies, develop clean and renewable energy sources in the rural areas and establish a comprehensive rural renewable energy service system and develop low-carbon and highly efficient agriculture; and pay attention to the policy measures on climate change adaptation for rural areas.**

**(1) Increase the role of rural energy development in the national energy strategy and national climate strategy.** China should speed up the upgrading of rural electrical grids and increase efficiency of rural energy use; strengthen the development of energy-saving technology and new energy technology/products suitable for various rural regions; determine how to establish national rural energy financing mechanisms to promote sustainable energy construction in rural areas; improve rural renewable energy development plans and relevant



regulations; develop rural biomass energy subject to local conditions; incorporate rural biomass facility, especially large or medium-scale methane facility, into national rural infrastructure plans; and meanwhile, strengthen rural environmental improvement to reduce health risks such as those associated with burning of coal for cooking and heating in homes.

**(2) Adopt integrated measures to stimulate the development of clean and renewable energy sources.**

**(3) Optimize land use to increase carbon sequestration potential and support the development of high quality low carbon, low pollution agriculture; introduce a new rural carbon sequestration compensation mechanism, with provision for fiscal transfers and possibly for international financial transfer mechanisms.** National voluntary carbon trading mechanisms, and payments to impoverished farmers for reducing pollutants and GHG emissions are a cost-effective way to promote low pollution and low carbon practices while also contributing to the goal of alleviating poverty.

**(4) Improve the capacity of farmers and rural regions to adapt to climate change.**

**(5) Enhance the statistical analysis of rural energy use.** Authorities need to strengthen their statistical analysis of rural energy end-use by both households and producers.

## **6 Reform and Improve Economic Instrument Policies for Increasing the Capacity of Energy Efficiency and for Environmental Management.**

**China should consider setting a substantial increase in energy productivity as a national target; reform and improve policies of pricing, energy and environment-related taxation and Green Credit; and establish an insurance system for environmental damage and pollution liability.**

**(1) Increase energy price as a long-term incentive to improve energy productivity.** Energy pricing needs to be linked carefully with environmental tax reform in order to maximize its potential for energy and environment benefits, for example in the case of a carbon tax.

**(2) Implement environmental tax system reform with a focus on improving existing environmental taxes and establishing new ones.** China should speed up the implementation of environmental tax system reform. Wastewater, air pollutants, solid waste and CO<sub>2</sub> should be among the first items addressed by environmental taxes.

**(3) Improve and strengthen Green Credit policy and fully utilize the role of financial institutions in environmental protection and energy-saving.** China should strengthen the use of Green Credit to regulate investment and industrial behaviors, speed up



the promulgation of robust policy for Green Credit to limit high energy consumption and high pollution projects; carry out market reform for energy-saving and emission reduction fund management and use; establish a national guarantee mechanism for energy-saving and emission reduction credits, and provide interest subsidies for key projects; direct and standardize Chinese enterprises' overseas investment through Green Credit policies; develop Green Credit policies to support medium and small-scale enterprises in their efforts for environmentally-sound business development and practices; and establish an open and transparent mechanism for Green Credit implementation supervision and information disclosure.

**(4) Establish and improve environmental pollution responsibility insurance regulations and policy system.**

## **7 Develop a Green 12<sup>th</sup> Five-Year National Economy and Social Development Plan.**

**Preparations for the 12<sup>th</sup> FYP should give attention to strengthening China's capacity for sustainable development including incorporation of green economy including Low Carbon Economy as a key element of the Plan; promotion of green growth and future prosperity based on transformative environmental protection, energy efficiency and innovation as strategic priorities.**

**(1) Continue the mandatory targets for environmental protection and energy efficiency.** Based on the 11<sup>th</sup> FYP experience, China should continue to adopt mandatory targets for energy-saving and emission reduction as important tools to protect environment and increase energy efficiency; expand emission reduction to other pollutants, such as NO<sub>x</sub> and heavy metals with major impact on environment and human health, and further raise the fuel economy standards of vehicles; develop carbon intensity indicators per unit of GDP as mandatory targets to control GHG emission.

**(2) Incorporate the green economy concept in the 12<sup>th</sup> FYP as a means to achieve sustainable development objectives.**

**(3) Strengthen and improve energy and environmental technical innovation and supporting system, increase national investment in R&D, enhance safety supervision of nuclear power plants.** A national new energy research institution should be established with the intention of making it open to universities, business and other research organizations in order to create common platforms of energy technology, energy conservation and environmental protection.

**(4) Place major energy, environment and green economy policies into overall fiscal**



**and economic reform.** China should improve the overall design and pilot implementation of key environmental taxes as a sound base of a fiscal system that can benefit resource and energy conservation and environmental protection in the 12<sup>th</sup> FYP period. China should initiate the research and pilot activities that will provide the funding channel for forest, grassland, and agricultural land improvements for rural carbon sequestration. China should speed up the implementation of property taxes to regulate the rapid increase of urban buildings and to encourage an urban sustainable consumption mode.

**(5) Improve information statistics on energy and environment performance.** Development of an improved basis for calculating carbon footprints is needed within various industrial sectors, communities, and for individuals and households..

**(6) Improve management mechanisms of 12<sup>th</sup> FYP and implement EIA for plans at various levels.** After the promulgation of the “Planning EIA Decree”, in order to ensure green development, China needs to conduct EIA on major development plans, sector development plan, regional and local development plans that potentially pose a major impact on the environment.