China's Policies and Actions for Addressing Climate Change

(2012)

The National Development and Reform Commission

The People's Republic of China

Contents

Foreword

China is one of the countries most vulnerable to the adverse impact of climate change. Starting in 2011, the country has been hit by a string of extreme weather and climate events, including the low-temperature freezing rain and snow in south China, spring and summer droughts in the middle and lower reaches of the Yangtze River, rainstorms and floods in the south, typhoons in coastal areas, autumn rains in western China and serious waterlogging in Beijing. These weather and climate disasters have impacted China's economic and social development as well as people's lives and property in a large degree. In 2011 alone, natural disasters affected 430 million people and caused direct economic losses of 309.6 billion yuan.

The Chinese government attaches great importance to the issue of climate change. In 2011, the Fourth Session of the Eleventh National People's Congress approved the Outline of the 12th Five-Year Plan for National Economic and Social Development, which defines the objectives, tasks and general framework for China's economic and social development during the 12th Five-Year Plan period. The Outline underlines the importance of climate change and integrates measures for addressing it into the country's mid-term and long-term plans for economic and social development. It sets binding targets to reduce energy consumption per unit of GDP by 16 percent, cut CO2 emissions per unit of GDP by 17 percent, and raise the proportion of non-fossil fuels in the overall primary energy mix to 11.4 percent. It defines the objectives, tasks and policy orientation of China's response to climate change over the next five years and identifies key tasks, including controlling greenhouse gas emissions, adapting to climate change, and strengthening international cooperation.

To fulfill the country's objectives and tasks in addressing climate change during the 12th Five-Year Plan period and promote green and low-carbon development, the State Council has issued a number of important policy documents, including the Work Plan for Controlling Greenhouse Gas Emissions During the 12th Five-Year Plan Period and the Comprehensive Work Plan for Energy Conservation and Emission Reduction During the 12th Five-Year Plan Period, to strengthen planning and guidance in addressing climate change. Relevant departments and local governments have actively addressed climate change and made remarkable progress in this regard. China continues to play a positive and constructive role in international climate change negotiations and pushed for positive outcomes at the Durban Climate Change Conference, thereby making a significant contribution to addressing global climate change.

This annual report has been issued to enable all parties to fully understand China's actions and policies on climate change, and to set out the positive results achieved since 2011.

I. Mitigating Climate Change

Controlling greenhouse gas emissions is not only a key task in China's efforts to address global climate change, but also an essential part of the country's drive to accelerate the shift in its economic development mode and promote industrial transformation and upgrading. In 2011, the Chinese Government issued the Work Plan for Controlling Greenhouse Gas Emissions During the 12th Five-Year Plan Period, which assigns specific carbon intensity reduction targets to all provinces, autonomous regions and municipalities directly under the central government. China has achieved positive results in low-carbon development by optimizing industry and energy structures, vigorously conserving energy and reducing energy consumption, and increasing carbon sinks.

(I) Adjusting Industrial Structure

Transformation and upgrading of traditional industries. The National Development and Reform Commission has released the 2011 edition of the Guideline Catalogue for Industrial Restructuring, further underlining the country's strategic direction towards conserving energy and cutting emissions by optimizing and upgrading its industrial structure. The government has stepped up evaluation and examination of energy conservation, environmental impact assessments, and preliminary examination of land used for construction projects. It has raised the entry threshold for certain industries and strictly limited new projects in industries with high energy consumption, high pollutant emissions or excess capacity. It has also rigorously controlled the export of products with high energy consumption and high pollutant emissions. The State Council has disseminated the Plan for Industrial Transformation and Upgrading (2011-2015) drawn up by the Ministry of Industry and Information Technology to promote green and low-carbon industrial development. The Ministry of Industry and Information Technology has released specific development plans for the 12th Five-Year Plan period to boost industrial transformation and upgrading in a number of key industries, including iron and steel, non-ferrous metals, building materials, petrochemicals and chemicals, energy-saving and new-energy vehicles, industrial energy conservation, bulk solid waste and clean production. Meanwhile, in order to promote technological upgrading, the ministry has improved management mechanisms and increased support with a number of priorities identified. In 2011, the government earmarked 13.5 billion yuan in technological upgrading funds, which in turn generated investments amounting to 279.1 billion yuan. Efforts to stimulate technological upgrading have become more targeted and effective and have yielded very positive results.

Supporting the development of strategic and newly emerging industries. The State Council has issued the Development Plan for National Strategic Emerging Industries During the 12th Five-Year Plan Period. It charts the road map for seven

strategic emerging industries - energy conservation and environmental protection, new-generation information technology, biology, high-end equipment manufacturing, new energy, new materials and new-energy vehicles. The National Development and Reform Commission has issued a plan assigning specific tasks to each State Council department, accelerated the development of a statistical system for measuring the performance of strategic emerging industries and carried out trial evaluations, and drafted the Catalogue of Key Products and Services in Strategic Emerging Industries. Meanwhile, it has given greater support to the development of key projects, carrying out a number of major industrial projects and special programs. It has initiated a special fund to boost the development of strategic emerging industries, and expanded its venture capital program for emerging industries. So far 102 venture capital funds have been set up under the program, managing a total of 29 billion yuan. Among these funds, 24, with a total value of 7 billion yuan, are designed to stimulate the development of the energy-saving, environmental protection and new energy sectors.

Vigorously developing the service industry. Apart from continuously implementing the State Council Opinions on Accelerating the Development of the Service Industry, the Opinions of the State Council General Office on Implementing the Policy Measures for Accelerating the Development of the Service Industry and other relevant documents, the government in 2011 published the Guidance of the State Council General Office for Accelerating the Development of Hi-tech Service Industry, in a bid to further improve the environment for the development and upgrading of the service sector. In the Guideline Catalogue for Industrial Restructuring (2011 version), the government redefined service industry sub-sectors and included more sectors under the “Encourage” category. A basic classification system has been drawn up to encourage the development of the service sector. The government has also stepped up and improved its work on market entry, human resources, brand building, standardization, certification and statistics on the service sector. It has carried out nationwide trials of comprehensive reforms in the service sector and set up inter-departmental coordination mechanisms in key areas. Most provinces and cities have released policy documents to encourage the development of the service sector, actively promoted the creation of producer service industry development zones, and accelerated the development of key service sector projects.

Speeding up the elimination of backward production capacity. Continuing to implement the Opinions on Curbing Overcapacity and Redundant Construction in Some Industries and Guiding the Sound Development of Industries, as well as the Notice of Further Strengthening Elimination of Obsolete Production Capacity, China has been making efforts to improve the exit mechanism for obsolete production capacity. In 2011, relevant departments, including the Ministry of Industry and Information Technology and the National Development and Reform Commission, jointly issued the Notice of Issuing the Implementation Plan to Assess the Work of Eliminating Obsolete Production Capacity, the Opinions on Resettling Workers Laid off due to Elimination of Obsolete Production Capacity and Corporate Merger and

Restructuring, and the Catalogue (2nd Batch) of Obsolete Mechanical and Electrical Equipments (Products) Eliminated due to High Energy Consumption. Following the guidelines set out in these documents, the government has improved its examination and evaluation of efforts to eliminate obsolete production capacity, and issued directions to local governments on the redeployment of displaced employees. In 2011, China shut down small thermal power generating units with a total generating capacity of 8 million kw and eliminated obsolete production capacity in the following industries: iron smelting, 31.92 million tons; steel production, 28.46 million tons; cement (clinker and mill), 155 million tons; coke, 20.06 million tons; plate glass, 30.41 million cases; paper, 8.3 million tons; electrolytic aluminum, 639,000 tons; copper smelting, 425,000 tons; lead smelting, 661,000 tons, and coal production, 48.7 million tons.

(II) Conserving Energy and Improving Energy Efficiency

Enhancing the assessment and management of energy conservation. The State Council has issued the Comprehensive Work Plan on Energy Conservation and Emission Reduction During the 12th Five-Year Plan Period (2011-2015), which includes a breakdown of energy-saving objectives during the period of the plan. Combining assessment of regional targets with evaluation of industry goals, implementation of five-year targets with fulfillment of annual targets, assessment of annual targets with progress tracking, China releases quarterly reports on the completion of energy conservation targets in each region. The Ministry of Industry and Information Technology has released the Blueprint of Conserving Energy in the Industrial Sector During the 12th Five-Year Plan Period; the Ministry of Housing and Urban-Rural Development has released the Implementation Plan for Carrying out the Notice of the State Council to Issue the Comprehensive Work Plan on Energy Conservation and Emission Reduction During the 12th Five-Year Plan Period, the Special Blueprint of Conserving Energy in the Construction Sector During the 12th Five-Year Plan Period, and the Implementation Opinions Concerning Accelerating the Development of China's Green Buildings; the Ministry of Transport has released the Opinions on the Implementation of the State Council's Comprehensive Work Plan on Energy Conservation and Emission Reduction During the 12th Five-Year Plan Period in the Transport Industry Including Highway and Waterway, a plan to distribute tasks among its various departments, and the Work Plan for Controlling Greenhouse Gas Emissions During the 12th Five-Year Plan Period in the Transport Industry; the Government Offices Administration of the State Council has released the Blueprint of Conserving Energy in Public Institutions During the 12th Five-Year Plan Period.

Improving standards of energy efficiency. By the end of 2011, the General Administration of Quality Supervision, Inspection and Quarantine and the National Development and Reform Commission had set a total of 28 mandatory national standards on energy consumption quotas for high-energy-consuming products. Relevant departments, including the Ministry of Industry and Information Technology

and the Ministry of Transport, have formulated and revised mandatory standards on energy consumption quotas for key industries and products, as well as the energy efficiency standards for general industrial equipment such as internal combustion engines; they have also initiated 22 projects on industry standards and reviewed 209 energy efficiency standards, carried out spot checks on the implementation of standards on energy consumption per unit product in key industries and the elimination of obsolete mechanical and electrical equipment with high energy consumption, and abolished a list of substandard, high fuel consumption vehicle models that had been permitted to continue operating for a transitional period. By the end of June 2012, 19 batches of vehicle models that meet current standards had been published, covering more than 20,000 models. Newly-purchased operational vehicles have to fully implement the fuel consumption standards. Additionally, five industry standards, including the Energy-Saving Operation Specifications for Driving Vehicles, have been approved and released.

Promoting energy conservative technologies and products. China has actively promoted the adoption of energy-saving technologies. The National Development and Reform Commission oversaw the publication of the fourth edition of State Key Energy-Efficient Technology Promotion Catalogues, covering 22 energy-efficient technologies in 13 industries including coal, electric power, and iron and steel. The Ministry of Industry and Information Technology has published the Notice of Carrying out Energy Efficiency Benchmarking and Target-Hitting Activities in Key Industries, directing all local governments to press ahead with these activities, implement energy-saving technologies in key enterprises, and actively promote advanced energy-saving production processes. Catalogues, applications and technical guidelines for advanced energy conservation and emissions reduction technologies have been compiled for 11 key industries including iron and steel, petrochemicals, nonferrous metals and building materials, covering more than 600 energy-saving technologies; the ministry has continued to promote the creation of energy management centers in industrial enterprises, and launched pilot programs for the online monitoring of industrial energy consumption. It also formulated plans to improve energy efficiency in industry and the efficiency of electrical equipment, including roadmaps for the improvement of energy efficiency in industry and the elimination of energy-inefficient equipment, and in 2011 distributed energy-efficient equipment with a total generating capacity of more than 2 million kw. The government continues to promote energy-saving products under a project to subsidize the use of these products. In 2011, the country distributed more than 18.26 million high-efficiency air conditioners, 150 million energy-saving lamps and more than 4 million energy-efficient motor vehicles.

Carrying out key energy-saving projects. The National Development and Reform Commission continues to undertake key energy-saving projects, including improving the efficiency of boilers, furnaces and electrical equipment, economizing on the use of oil and using oil substitutes, energy system optimization, re-use of surplus heat and

pressure, construction of energy-saving buildings, and a green lighting project. It has published the Roadmap for IL (Incandescent Lamps) Phase-out, and banned the import or sale of 100-watt-or-greater incandescent bulbs from October 1, 2012. In 2011, the country constructed 1.39 billion square meters of energy-efficient floor space and completed heat metering and energy efficiency renovations on 140 million square meters of existing residential buildings in 15 provinces, autonomous regions and cities in northern China. Following on from a pilot program to construct low-carbon transport systems in ten cities including Tianjin, a second program has been launched in 16 cities, including Beijing. These key projects and others saved energy equivalent to more than 17 million tons of standard coal in 2011.

Developing a circular economy. The National Development and Reform Commission has formulated the Development Plan for a Circular Economy During the 12th Five-Year Plan Period; issued and implemented the Methods for Management of Recycling of Waste Electrical and Electronic Products; catalogued 60 model circular economy projects across the country; carried out pilot recycling projects in 22 industrial parks; oversaw the implementation of the third group of national demonstration bases for recovering mineral resources from city waste in seven industrial parks; carried out a second phase of pilot programs for the treatment and re-use of kitchen waste in 16 cities; begun the construction of bases for comprehensive re-use of industrial solid waste in 12 regions; stepped up efforts to promote key generic circular economy technologies, and identified 18 national education demonstration bases for developing a circular economy.

Promoting of energy performance contracting. The National Development and Reform Commission has published the second and third batches of 1,273 registered energy service companies. Specific policies to support energy performance contracting have been enacted in provinces, autonomous regions and cities across the country. Initially focused on industry, energy performance contracting has been extended to other fields including construction, transport and public institutions. In 2011, the output value of the energy conservation service industry amounted to 125 billion yuan, an increase of 49.5 percent year on year. Energy service companies carried out more than 4,000 energy performance contracting projects with a total investment of 41.2 billion yuan, up 43.5 percent year-on-year, saving energy equivalent to more than 16 million tons of standard coal.

Implementing fisical and tax incentives. The Ministry of Industry and Information Technology, together with other relevant departments, have issued two editions of the Catalogue of Energy-saving and New-energy Vehicle Models Eligible for Vehicle and Vessel Tax Reduction or Exemption. Users of eligible cars and vessels will enjoy a tax reduction or exemption according to the new policy. The Ministry of Finance and the Ministry of Transport have earmarked special funds for energy conservation and emission reduction to subsidize 402 projects in 2011 and 2012 that achieved a reduction of 1.837 million tons of CO2 emissions. The State Oceanic Administration

has earmarked special funds for island protection, allocating about 200 million yuan to 15 local protection projects. The Ministry of Agriculture has invested 4.3 billion yuan, directing local governments to increase subsidies to encourage the use of methane gas. In 2011, a total of 41 million households were using methane, cutting CO2 emissions by 60 million tons. The ministry also allocated 13.6 billion yuan to launch a subsidy and bonus mechanism for grassland ecological protection in nine provinces and autonomous regions including Inner Mongolia, Tibet, Xinjiang and Gansu. The State Forestry Administration has increased subsidies for afforestation and forest management and invested more than five billion yuan in pilot projects to subsidize forest management.

In 2011, the energy consumed for every 10,000 yuan of GDP (at 2010 prices) was equivalent to 0.793 tons of standard coal, 2.1 percent lower than in 2010. Overall energy consumption for major industrial products is decreasing, albeit at different rates. Energy consumption per ton of steel produced in large and medium enterprises was 0.8 percent lower in 2011 compared to 2010. For aluminum oxide, energy consumption fell by 3.3 percent over the same period, and for lead smelting by 4 percent. In 2011, the implementation rate of mandatory energy efficiency standards for new urban buildings, which require a 50-percent energy-saving, reached almost 100 percent in the design stage and 95.5 percent in the construction stage. A total of 1.39 billion sq m of energy-efficient floor space was constructed. In 2011 energy consumption in public institutions fell 2.93 percent year on year per person, and 2.24 percent per unit of construction area.

(III) Optimizing Energy Structure

Accelerating the development of non-fossil fuel. The National Energy Administration has drawn up the Development Plan for Renewable Energy During the 12th Five-Year Plan Period as well as four specific plans for hydropower, wind power, solar power and biomass energy, which together map out the overall goals and policies for China’s renewable energy development to 2015. It has also launched the green energy demonstration projects in 108 counties and the pilot projects of a large-scale utility of renewable energy in buildings in 35 cities and 97 counties. It has formulated plans for wind power, solar power, biomass energy, shale gas, and the development of recharging stations for electric vehicles in five cities, including Shanghai. In 2011, it published 372 industrial standards covering the energy industry, announced plans to issue 633 other formulations and amendments covering major energy fields including nuclear power, new energy and renewable energy. It also plans to establish a standardized management system for the bio-fuel industry and accelerate the construction of bio-fuel production capacity. In 2011, consumption of non-fossil fuel energy reached 283 million tons, accounting for 8.1 percent of total energy consumption. Taking installed power generating capacity, as a whole, 27.7 percent uses non-fossil energy resources, up 3.4 percentage points from 2005. In 2011, installed hydropower capacity reached 230 million kw, up 14 million kw. Including

12.6 million kw of new construction, a total of 55 million kw was under construction in 2011. Hydropower stations generated 662.6 billion kw/h of electricity. Installed nuclear power capacity increased by 1.73 million kw, generating 86.9 billion kw/h. China led the world in constructing on-grid wind power capacity with an increase of 16 million kw, generating 80 billion kw/h. Installed photovoltaic power capacity reached 3 million kw, an increase of 2.1 million kw. Installed biomass power capacity reached 6 million kw, generating 30 billion kw/h of electricity. Installed geothermal capacity reached 24,200 kw and ocean energy 6,000 kw, generating a combined total of 146 million kw/h of electricity. Solar powered heating covered an area of 2.15 billion sq m in urban buildings, and shallow geothermal energy 240 million sq m. The installed photovoltaic power capacity used in urban buildings reached 1.27 million kw, including projects under construction.

Promoting the clean utilization of fossil fuel. The government continues to promote the clean and efficient development of conventional fossil energy production and utilization. The Natural Gas Development Plan During the 12th Five-Year Plan Period, and the Guidelines for Developing Distributed Energy Systems (DES) for Natural Gas set out key development objectives and tasks. The Development Plan for Coal Industry During the 12th Five-Year Plan Period, which has been issued and implemented, calls for the vigorous development of clean coal technology and the efficient and clean utilization of coal. The government is accelerating the construction of highly efficient large scale coal-fired power generators and power plants. China leads the world with 40 one-million-kw ultra-supercritical power generating units in operation. Thermal power units with a capacity of 300,000 kw and above account for 74.4 percent of total thermal generating capacity. The government has promoted the exploration of unconventional energy sources and formulated the Development Plan for Shale Gas (2011-2015), which defines the goal of completing a survey and evaluation of national shale gas resources by 2015 and sets a production target of 6.5 billion cu m. of shale gas. The Plan for Coal-bed Gas Exploration and Utilization During the 12th Five-Year Period sets a target for coal-bed gas production to reach 30 billion cu m. by 2015; other projected development targets are that installed coal bed methane (CBM) power capacity will reach 2.85 million kw, 3.2 million households will be using CBM, and proven reserves of CBM will increase by one trillion cu m.

(IV) Increasing Carbon Sinks

Enhancing forest carbon sinks. The State Forestry Administration has formulated the Action Points for China's Forestry Departments in Response to Climate Change During the12th Five Year Plan (2011-2015) Period, initiating five actions to mitigate climate change, namely accelerating afforestation, improving forest management, strengthening forest resources administration, enhancing forest disaster prevention and control, and fostering emerging forestry industries. It has published the Outline of the National Afforestation Plan (2011-2020) and Forestry Development Plan During the 12th Five-Year Plan Period, clarifying the goals of ecological forest development.

The government continues to carry out its program of returning farmland to forest and the key shelterbelt construction projects in northwest, northeast and northern China and along the Yangtze River. It continues to promote the program to control sandstorms in the Beijing and Tianjin area and the comprehensive management of stony desertification. It has launched shelterbelt construction along the Pearl River and Taihang Mountain and afforestation in plains regions, as well as the second stage of the natural forests protection program. The government has increased subsidies for forest management and implemented pilot and demonstration forest management projects. It has issued relevant technical plans including the Regulations on Forest Management Work and Design, Supervision Measures on Policy of Central Financial Subsidies for Forest Management, and the Code of Formulating and Implementing Forest Management Schemes. In 2011, China completed afforestation of 5.9966 million hectares and management of young forests of 7.3345 million hectares, and upgraded 0.7888 million hectares of forests with low yield capacity and low protection efficiency. A total of 2.514 billion trees were planted in volunteer tree-planting drives. Urban green areas reached 2.2429 million hectares. The urban per-capita green park space reached 11.80 sq m, with the green area rate and green coverage rate of built-up areas reaching 35.27 percent and 39.22 percent respectively.

Enhancing grassland carbon sinks. In 2011, the State Council disbursed 13.6 billion yuan to develop a subsidy and award mechanism for grassland conservation in nine provinces and autonomous regions, including Inner Mongolia, Tibet, Xinjiang and Gansu. A total of 10.567 million farmers and herdsmen households benefited from the subsidy and award policy. In 2012, the policy was extended to cover all herding and semi-herding areas in five more provinces, including Hebei and Shanxi. In 2011, the total area of grassland fenced off for conservation reached 4.504 million hectares, while 1.459 million hectares suffering from severe degradation were re-sowed. In addition, a total of 47,000 hectares of man-made forage meadows were constructed, and 91,000 hectares of pasture were treated to help control the sources of sandstorms that affect the Beijing and Tianjin area. In 2012 so far, as part of the project of returning grazing land to grassland in nine provincial-level regions, including Inner Mongolia, Tibet, Sichuan and Gansu, a total of 4.404 million hectares of grassland have been fenced off for conservation and 1.401 million hectares suffering from severe degradation have been re-sowed. In addition, a total of 55,000 hectares of man-made forage meadows have been constructed and 34,000 hectares of pasture treated to control sources of sandstorms that affect Beijing and Tianjin.

Enhancing carbon sinks in other fields. To strengthen agricultural carbon sinks, the central government has assigned 30 million yuan in special funds to promote conservation farming technology, and invested a total of 300 million yuan in conservation farming projects. In 2011, the area cultivated using conservation farming techniques increased by more than 19 million mu, bringing the national total to 85 million mu. Conservation farming helps improve carbon storage. The carbon storage capacity of farmland soil can be increased by 20 percent by the application of

conservation farming technology, helping cut farmland emissions of CO2 and other greenhouse gases by 0.61-1.27 tons per hectare annually, which, applied nationally, amounts to an annual reduction of more than 3 million tons of CO2. Regarding wetland carbon sinks, China brought 330,000 hectares of new wetland under protection and restored a total of 23,000 hectares of wetland during 2011, substantially increasing the carbon storage capacity of the country's wetlands.

II. Adapting to Climate Change

In 2011 and 2012, the Chinese government took effective measures to enhance the capability of key sectors to adapt to climate change and reduced the negative impact of climate change on economic and social development, production and the people's welfare.

(I) Agriculture

The Ministry of Agriculture has energetically pursued the consolidation of farmland and water conservation infrastructure and the overall improvement of agricultural productivity. It encouraged the large-scale construction of farmland capable of producing stable yields despite drought or flood conditions. It developed new large-scale irrigation areas and renovated existing facilities, including irrigation and drainage pump stations, to expand the area under irrigation and improve irrigation efficiency. It continued to promote the cultivation of high quality seed varieties with high yield potential and resistance to drought, flooding, high temperature, diseases and pests. It increased subsidies to accelerate the cultivation, reproduction and dissemination of superior crop strains. Currently, more than 95 percent of the farmland used for planting major crops nationwide is sown with superior strains, contributing about 40 percent of the increase in grain output.

The ministry has proactively advanced innovation in water-saving agricultural technology, focusing on the integration of engineering, infrastructure, biology, agronomy and management techniques, and the promotion of regionally-applicable core technology. Nine water-saving technologies were demonstrated and promoted, including full plastic film mulching on double ridges and planting in catchment furrows, under-mulch drip irrigation and soil moisture-based on-demand irrigation. Water-saving agricultural demonstration bases were constructed around the country, and water productivity increased by 10-30 percent over the period prior to the implementation of the 11th Five-Year Plan (2006-2010). These efforts have helped ensure a steady increase of grain output in drought-stricken areas and continuous income growth for farmers.

(II) Forestry and the Ecosystem

The State Forestry Administration published the Action Points for China's Forestry Departments in Response to Climate Change During the 12th Five Year Plan (2011-2015) Period, in which it sets out four major actions to be taken by forestry supervision authorities nationwide to adapt to climate change, inclduing intensified efforts in forest management, prevention of forest fires and control of harmful pests, forest structure optimization, and improvement of forest health. Governments at all levels have fully implemented the Circular of the General Office of the State Council on Strengthening Management of Nature Reserves. Stringent measures have been taken to control development of nature reserves across the country. Supervision and management have been strengthened to better protect major ecological zones and key areas of biological diversity around the country. The government has improved its efforts to protect wild life and ensure the sound construction of nature reserves. By the end of 2011, the country had had 23 new state-level nature reserves. Forestry authorities nationwide had a total of 2,126 nature reserves under management, covering an area of 123 million hectares and accounting for 12.78 percent of the nation’s total land area. The government completed a survey of wetland resources in different provincial-level regions accounting for more than 80 percent of the country’s land area, implemented 39 wetland protection programs nationwide, constructed more than 100 stations for wetland protection and management, brought 330,000 hectares of new wetland under protection, restored 23,000 hectares of existing wetland, established four new wetlands of international importance and developed 68 pilot national wetland parks. The government published the Communiqué on the Biological Status of Chinese Wetlands of International Importance, which includes an index for evaluating the biological health of China’s wetlands that is of great help in strengthening the restoration and protection of the country's wetlands.

(III) Water Resources

The State Council released the Opinions on Implementing the Strictest Water Resources Management System, which has become a major document guiding the country’s water resource management. The document states the necessity of implementing a strict water resources control system, and explicitly specifies the main measures to be taken in three Red Lines – control of the development and use of water resources, control of water use efficiency, and restriction of pollutants in water functional areas. Measures to be taken to boost the construction of a water-saving society in an all-round way include: strictly implementing the permit system for water withdrawal; strictly practicing reimbursable usage system on water resources; strictly implementing planning and enhancement of water resource assessments. The State Council has officially approved the National Water Function Zoning in Major Rivers and Lakes, the National Rural Drinking Water Safety Project for the 12th Five-year Plan Period (2011-2015) and the National Water Resources Development Plan (2011-2015). The Ministry of Water Resources has formulated a number of water

resource development plans, including the National Utilization and Protection of Underground Water. The Ministry of Industry and Information Technology has promoted the development of water-saving industrial systems and worked together with the Ministry of Water Resources and the National Water Conservation Office to issue the Notice on Further Promoting the Construction of Water-saving Enterprises.

A number of key engineering projects have been accelerated, including key water conservancy projects, major water resource projects, and the harnessing of large rivers. Urgent measure have been taken to reinforce dangerously defective large and medium-sized reservoirs and sluices, harness the main sections of key small and medium-sized rivers, support major irrigation areas, build supporting facilities, make water-saving renovations and upgrade drainage pump stations. The government has also begun construction of small-scale irrigation and water conservancy facilities in key counties, pushed forward comprehensive control of soil erosion and conversion of farmland slopes into terraces, accelerated the harnessing of ecologically vulnerable rivers, implemented programs to promote conservation and rational use of water resources, and carried out rural electrification projects and the small hydropower station for fuel project.

By carrying out the above policies and actions, China effectively addressed a number of large-scale severe droughts that continued to hit the winter wheat producing areas in north China, as well as areas in the middle and lower reaches of the Yangtze River and southwestern China. The country also guaranteed safe supplies of drinking water to 70 million rural residents through the rural drinking water safety project. In addition, it overcame the severe autumn floods on the Yangtze River, Lancang River and the Yellow River, and successfully dealt with the impact of seven typhoons and tropical storms in 2011. The major disaster loss index was far lower than the average level of past years, and the death toll from flooding was the lowest since the foundation of the People’s Republic of China in 1949.

(IV) Marine Resources

The State Oceanic Administration has begun compiling several plans, including China’s Marine Medium and Long-term Plan in Response to Climate Change (2011-2020), the National Scientific and Technological Actions on Climate Change During the 12th Five-Year Plan Period (Marine Area), the Outline of China’s Marine Science and Technology Development During the 12th Five-Year Plan Period and the Overall Plan for National Ocean Observing Network (2011-2020). It has carried out research, evaluation and predictions of the effects of weather events like El Niño and La Niña on the oceans and climate change, and has compiled and released the Marine and Major Weather Events Bulletin and the Newsletter on Adaptation to Climate Change in Marine Area. It has also compiled the Research Report on Monitoring and Evaluation of the Effect of Climate Change on the Marine Life and the Special Report on Sea Level Rise Impact Assessments. The State Oceanic Administration has

strengthened conservation in key marine ecosystems and improved climate change response monitoring. It has built a network to monitor air-sea CO2 exchange in waters under Chinese jurisdiction, and has carried out monitoring and evaluation of the marine carbon cycle. It has upgraded the coastal marine climate observation network and strengthened disaster prevention and emergency rescue system in the islands and coastal regions. It has also initiated marine disaster risk assessment and zoning work, vigorously supported local costal governments in carrying out island engineering and restoration projects and completed the revision of marine functional zoning. Since a special fund for island protection was established in 2012, the central government has invested a total of 200 million yuan to support 15 local island protection projects.

(V) Public Health

In order to comprehensively strengthen and improve the supervision and monitoring of drinking water quality, and to ensure the supply of safe drinking water to urban and rural areas, the Ministry of Health issued Guidance on Strengthening the Supervision and Monitoring on Drinking Water Quality, the National Urban Drinking Water Safety Protection Plan (2011-2020), the Notice on Further Strengthening the Supervision and Monitoring of Drinking Water Quality and the 2012 National Drinking Water Supervision and Monitoring Work Plan.

Supervision and monitoring of drinking water quality have been stepped up. In order to regulate the procedure for licensing water supply units, a new national health standard for drinking water was implemented on July 1, 2012. A nationwide drinking water quality monitoring system has been established in all provincial jurisdictions. In 2012, a total of 220 million yuan was invested to support local government monitoring of drinking water quality. The reporting system for infectious diseases has been improved. The system for surveillance, reporting, prevention and control of communicable diseases has been strengthened. Particular attention has been paid to the prevention and control of vector-borne diseases like dengue fever and fever with thrombocytopenia syndrome that are closely related to climate change, as well as hand, foot and mouth disease and other intestinal infectious diseases. By the end of 2011, all state-level disease prevention and control institutions, over 98 percent of county level medical institutions, and 94 percent of township hospitals had joined the direct network reporting system. The number of reporting units reached 68,000.

(VI) Meteorology

The China Meteorological Administration has begun drafting the National Actions on Climate Change During the 12th Five-Year Plan Period and has clarified the priorities and tasks of the meteorological department in addressing climate change during the 12th Five-Year Plan period. It has released the Climate Change Green Paper: Tackling Climate Change Report (2011), China’s Climate Change Monitoring Bulletin 2010 and the Technical Guidance Manual for Meteorological Department to Address

Climate Change: version 3.0. It has also begun drafting technical guidelines for meteorological disaster risk assessment. It has published the Second Assessment Report on China's Climate Change jointly with the Ministry of Science and Technology and the Chinese Academy of Sciences, and has completed climate change assessment reports for eight river basins including the Three Gorges reservoir area of the Yangtze River and the Poyang Lake Basin. It has also completed assessments of food production in northeast and central China, and on industries with local advantages in Xinjiang and Shaanxi.

The steady development of the modernization of observation systems means China's climate monitoring capability is constantly improving. One result is that climate resources can be used more efficiently aided by facilities such as a recently established wind and solar power forecasting platform. Efforts to adapt to climate change at the provincial level are aided by a careful analysis of the geographical distribution of agricultural and climate resources.

(VII) Disaster Prevention and Mitigation Systems

The Ministry of Civil Affairs has revised the National Emergency Plan on Natural Disaster Relief and submitted it to the State Council for approval. The revised version contains notable improvements regarding early warning and response systems, drought relief, transitional relief and the departments emergency response system. The Ministry of Civil Affairs has organized research into national disaster prevention and mitigation strategies, promulgated and implemented the National Disaster Prevention and Mitigation Plan (2011-2015), issued Interim Regulations on the Management of the Natural Disaster Relief Funds, Regulations on Storage and Management of Government Relief Goods, Guidelines on Strengthening Natural Disaster Relief Assessment and Interim Regulations on Formation and Management of the Disaster Reduction Model Communities. The Ministry of Civil Affairs also issued the Interim Regulations on the Management of the Natural Disaster Relief Funds jointly with the Ministry of Finance, and issued Guidelines on Strengthening Natural Disaster Social-psycho Assistance on behalf of the National Disaster Reduction Committee. The Ministry of Water Resources has issued regulations including Opinions on Further Strengthening the Typhoon Disaster Prevention Work and Inspection Procedures for Hidden Dykes Danger. In order to accelerate the creation of a geological disaster prevention system throughout the country, the Ministry of Land and Resources oversaw the drafting of the Decision of the State Council on Strengthening the Prevention and Control of Geological Disasters. It also began compiling the National Actions on Geological Disaster Prevention During the 12th Five-Year Plan Period, which clarified the objectives and key tasks of geological disaster prevention during the 12th Five-Year Plan period. In order to better implement urban flood control, the Ministry of Housing and Urban-Rural Development issued the Circular on Strengthening Prevention Measures of Urban Waterlogging and on Carrying out Urban Flood Control in 2012.

Member units of the National Disaster Reduction Committee have improved monitoring and early warning mechanisms for natural disasters, with more emphasis placed on early warning capabilities for extreme weather and climate events. The construction of the second phase of the State Flood Control and Drought Relief Command System has been accelerated. Greater importance is being attached to improving cities' ability to cope with torrential rain and other extreme weather disasters, and a rainstorm, flood and drought risk assessment system has been established.

III. Promoting Low-carbon Pilot Projects

The government continues to promote low-carbon pilot projects in selected provinces and cities, launch carbon emission trading pilot programs, and explore the experience of different regions and industries in implementing low-carbon development through projects that encourage low-carbon products, transport systems and towns.

(I) Continuing to Promote Low-carbon Pilot Projects in Provinces and Cities

The National Development and Reform Commission has approved low-carbon development plans for all provinces and cities that are designated as pilot areas. It has strengthened its guidance of pilot projects, improved its operational capabilities, and promoted the construction of a low carbon industrial system. Steady progress has been made in low-carbon pilot projects. All designated pilot provinces and cities have set up low-carbon leading groups and established mechanisms for decision-making consultation, basic research, pilot demonstration, and international exchange and cooperation. Every effort has been made to encourage innovative institutional mechanisms that are conducive to low-carbon development. A carbon intensity reduction index has been included in the comprehensive evaluation of regional economic and social development and the cadre performance appraisal system. Currently, the pilot provinces and cities have completed the objectives of the start-up phase, and have begun carrying out comprehensive pilot work.

(II) Initiating Pilot Programs for Carbon Emissions Trading

Establishing a voluntary emission trading system. In June, 2012, the National Development and Reform Commission issued the Interim Regulation of Voluntary Greenhouse Gas Emission Trading. The document sets out the basic management framework, trading procedures and supervisory measures of the voluntary trading, establishes a registration and recording system and an information disclosure system, and encourages project-based voluntary greenhouse gas emissions trading, so as to ensure trading takes place in an orderly fashion.

Conducting carbon emission trading pilot programs. In 2011, the National Development and Reform Commission initiated pilot programs for carbon emissions trading in Beijing, Tianjin, Shanghai, Chongqing, Hubei, Guangdong and Shenzhen. The designated areas strengthened organization and leadership, established professional teams and earmarked funds for the pilot programs. They organized the compiling of an implementation plan for the carbon emission trading pilot program, defining the overall concept, objectives, key tasks, safeguards and project schedules. They studied and formulated regulations for the carbon emission trading pilot program and worked out the basic rules for the program. They have calculated and defined overall caps for greenhouse gas emissions in their regions, and formulated plans for distributing specific emissions targets. To develop a support system for the pilot programs, regulatory as well as registration and recording systems have been established and trading platforms have been developed in each pilot area. Beijing, Shanghai and Guangdong launched their pilot programs on March 28, August 16, and September 11, 2012, respectively.

(III) Carrying out Low-carbon Pilot Programs in Relevant Areas

Studying and starting trials of low-carbon industry park, communities and commerce. The National Development and Reform Commission organized studies to establish an evaluation index and support policies for low-carbon industrial experimental zones, communities and commerce, in order to define low-carbon development modes and policies suited to China's actual conditions.

Beginning trials of low-carbon products. The National Development and Reform Commission has organized research into methods of calculating product carbon emissions, established standards and identification and certification systems for low-carbon products. It has also published the Interim Procedures for the Low-carbon Product Certification Management as a guide to creating low-carbon consumption patterns.

Selecting cities to pilot low-carbon transport systems. In 2011, the Ministry of Transport initiated pilot projects for the construction of low-carbon transport systems, with an emphasis on road and river transport and urban passenger transport. Ten cities - Tianjin, Chongqing, Shenzhen, Xiamen, Hangzhou, Nanchang, Guiyang, Baoding, Wuxi and Wuhan - were selected to carry out the initial trials. A further 16 cities - Beijing, Kunming, Xi’an, Ningbo, Guangzhou, Shenyang, Harbin, Huai’an, Yantai, Haikou, Chengdu, Qingdao, Zhuzhou, Bengbu, Shiyan and Jiyuan - were named the second batch of pilot cities in February, 2012. The trial cities have accelerated the construction of low-carbon transport systems by constructing low-carbon transport infrastructure, employing low-carbon vehicles, optimizing transport planning and operating methods, creating intelligent traffic projects, improving public transport information services, and establishing and improving carbon emissions management

systems.

Carrying out green and low-carbon pilot and demonstration projects in key small towns. In 2011, the Ministry of Finance, the Ministry of Housing and Urban-Rural Development and the National Development and Reform Commission jointly launched the green and low-carbon pilot and demonstration project for key small towns. Seven small towns were selected to take part in the project - Gubeikou Town in Miyun County, Beijing; Daqiuzhuang Town in Jinghai County, Tianjin; Haiyu Town in Changshu, Suzhou City, Jiangsu Province; Sanhe Town, in Feixi County, Hefei City, Anhui Province; Guankou Town in Jimei District, Xiamen City, Fujian Province; Xiqiao Town, in Nanhai District, Foshan City, Guangdong Province; and Mudong Town in Banan District, Chongqing. Taking into account their level of social and economic development, geographical features, as well as resources and environment, the participating towns are systematically exploring suitable development models. General and specific plans have been formulated and improved to address issues such as effectively utilizing land and other resources, rationally allocating construction land, strengthening eco-environment development, improving the living environment, strengthening infrastructure, boosting public services, and guiding the orderly creation of population and industrial districts.

IV. Strengthening Capacity Building

(I) Strengthening Top-level Planning of Low-carbon Development

Formulating and implementing the Work Plan for Greenhouse Gases Emission control During the 12th Five-Year Plan Period. In 2011, the State Council published the Work Plan for Controlling Greenhouse Gas Emissions During the 12th Five-Year Plan Period, a document compiled under the direction of the National Development and Reform Commission. The plan sets out the overall requirements and main objectives for the control of greenhouse gas emissions to 2015 and defines key tasks and policy measures for promoting low-carbon development. In 2012, the General Office of the State Council published the Work Division Scheme for the Work Plan for Controlling Greenhouse Gas Emissions During the 12th Five-Year Plan Period, which defines an overall framework for the implementation of the plan.

Improving the legal system for addressing climate change. The National Development and Reform Commission and relevant departments have drafted a legal framework for addressing climate change. A project entitled Studies into Provincial Legislation on Climate Change: a Case Study of Jiangsu Province was initiated to improve provincial legislation on addressing climate change and gain experience for accelerating the passing of national legislation.

Launching major strategic studies and formulating plans. The National Development and Reform Commission, the Ministry of Finance and other relevant departments organized and launched a research project on China's macro strategy for low-carbon development. The project analyzed and made judgments on the overall situation of China's low-carbon development in 2020, 2030 and 2050, and proposed phased objectives and tasks, implementation approaches, policy systems and safeguard measures for the country's low carbon macro-strategy, which lays a theoretical and policy foundation for accelerating low-carbon development. The National Development and Reform Commission has organized the compil of the National Plan for Addressing Climate Change (2011-2020), and published the Guidance on the Compiling of Local Plans for Addressing Climate Change to strengthen guidance available to local planners. It has also organized the compiling of the Overall National Strategy for Adapting to Climate Change.

(II) Gradually Establishing Statistical and Accounting Systems for Greenhouse Gas Emissions

Launching and improving a basic statistical system for measuring greenhouse gas emissions. The National Development and Reform Commission and other relevant departments organized the compiling of Opinions on Improving Response to Climate Change and Statistical Work for Greenhouse Gas Emissions. Statistical departments in Yunnan and other provinces have initiated basic statistical investigations of greenhouse gas emissions. The Government Offices Administration of the State Council has formulated the Statistical System of Energy and Resources Consumption in Public Institutions, gathered and analyzed statistics on energy and resource consumption by public institutions and worked out energy consumption statistics for state office buildings and other large public buildings for the year 2011 and the 11th Five-Year Plan period. The Ministry of Housing and Urban-Rural Development has revised the System of Statistical Report on Energy Consumption and Energy-Saving Information of Civil Buildings. The State Forestry Administration has further accelerated the development of the national forest carbon sink metering and monitoring system. Pilot projects have been extended to 17 provinces and cities. The National Bureau of Statistics released the Opinions on Strengthening and Improving the Statistical Work of Service Industry, which lays a solid foundation for establishing and improving energy statistics in the service sector. The Ministry of Transport has organized research on statistical work and monitoring of carbon emissions in the transport sector.

Vigorously advancing greenhouse gas inventory compilation and emission accounting. The National Development and Reform Commission has issued the Guidance for Compiling Provincial Greenhouse Gas Emission Lists (Trial), and organized the compilation of the 2005 greenhouse gas emission inventory and the second national report. It created a general report on greenhouse gas emission

inventory for Shaanxi, Zhejiang, Hubei, Yunnan, Liaoning, Guangdong and Tianjin and completed individual reports on five industries, namely, energy, industrial production processes, agriculture, changes in land use and forestry, and waste. It has also compiled greenhouse gas emission inventories for another 24 provinces and cities, and carried out research into carbon emission calculation methods and reporting specifications for enterprises in the chemicals, building materials, steel, non-ferrous metal, electricity and aviation sectors.

(III) Fueling Support for Science and Technology

Strengthening basic scientific research. The Ministry of Science and Technology and the National Development and Reform Commission have jointly formulated the National Scientific and Technological Actions on Climate Change During the 12th Five-Year Plan Period. The Ministry of Science and Technology has passed the Development Plan for National Program on Key Basic Research Projects (also known as the 973 Plan) to support the Climate Change Technology Special Project and also passed a Global Change and Major National Scientific Research Plan to improve the basic scientific research into climate change. The Ministry of Water Resources has undertaken research on key technologies related to the impact of climate change on water resources and begun a study of measures to support water conservancy adaptation as a response to climate change. The Ministry of Health has initiated research on adaptation mechanisms to address the impact of climate change on human health. The Ministry of Land and Resources has organized a research program entitled Addressing Global Climate Change and Geography Response Strategy. The Ministry of Environmental Protection has begun researching and developing policies to control air pollution and greenhouse gas emissions in key industries such as steel, cement and transport. The State Forestry Administration has completed initial research into countermeasures of China’s forests to respond and adapt to climate change, and into the technology of carbon sequestration and emission reduction management for typical forest ecosystems. The Ministry of Transport has organized a study on the construction of low-carbon transport systems. The China Meteorological Administration has launched a R&D program and the application in new climatic prediction techniques such as multi-mode super collection and power and statistical integration. It has also completed the Coupled Model Intercomparison Project Phase 5 (CMIP5) for the Intergovernmental Panel on Climate Change (IPCC) and contributed data to the fifth IPCC assessment report.

Enhancing R&D, application and promotion of low--carbon technology. The National Development and Reform Commission has authorized 20 demonstration projects in the steel, non-ferrous metals and petrochemical industries in the first phase of the National Low-carbon Technology Innovation and Industrialization Demonstration Project. In 2011 and 2012, the government distributed 2.74 billion yuan to fund 59 science and technology planning projects in energy sector. It has drawn up specific plans for energy technology, efficient clean coal conversion, and

wind power generation. It has also released the fourth edition of State Key Energy-Efficient Technology Promotion Catalogues. The cement industry has installed waste heat power stations in 950 production facilities nationwide, saving 11.25 million tons of standard coal annually. It has approved five groups of Promoted Vehicle Catalogues of Energy-saving and New-energy Vehicle Demonstration Project, and has piloted green auto repair techniques in selected areas and carried out utilization and demonstration projects on highway energy-saving operations. The Golden Sun Demonstration Project has supported the construction of 343 photovoltaic power projects with a total installed capacity of 1,300 MW. Researches have also been carried out into the industrialization of key technologies in the fields of wave and tidal energy. Pilot projects have been launched to monitor marine biological carbon capture and study ocean-floor carbon sequestration. The Ministry of Science and Technology has initiated the technology development and demonstration of high concentration CO2 capture and geological storage in a 300,000 ton coal-to-oil project, the development of key technologies of CO2 reduction and utilization in the blast furnace iron-making process, and the R&D and demonstration of key technologies and equipments for carbon capture in 35,000 KW oxygen-enriched blast furnace operations. It has also carried out demonstration projects in carbon capture, oil substitutes, and storage technologies for coal-fired power plant flue gases.

Establishing research and advisory institutions. In November 2011, the National Development and Reform Commission established the National Strategic Research and International Cooperation Center for Climate Change, which aims to promote policy research on climate change. The Environment Development Center of the Ministry of Environmental Protection and the Nanjing Institute of Environmental Sciences jointly founded the Environment and Climate Change Center and the Ecological Protection and Climate Change Response Research Center. The State Forestry Administration built three forest carbon sink metering and monitoring centers in east, central and northwest China in 2011, and established a website to record the locations of forest, wetland and desert ecosystems in 2012. In May 2011, The Civil Aviation Administration of China established the Energy Conservation and Emission Reduction Research and Promotion Center in China's Civil Aviation University, as an industrial research institute specializing in energy conservation.

V. Participation of the Whole Society

Diverse media platforms have been used to showcase the policies, actions and achievements by various industries and areas in addressing climate change. High importance was placed on providing NGOs with greater scope for initiative. China has popularized scientific knowledge on climate change, encouraged the whole society to participate in actions to combat climate change, and created a social atmosphere favoring green and low-carbon development.

(I) Enhancing Government Guidance

In September, 2012, the State Council designated the third day of China's Energy Saving Publicity Week as the National Low-Carbon Day, starting in 2013, in an effort to raise people's awareness of addressing climate change and promoting low-carbon development. Relevant departments and local governments have promoted low-carbon development by way of producing publicity materials, holding forums and organizing campaigns. In a widely acclaimed move, the National Development and Reform Commission has published a white paper entitled China's Policies and Actions for Addressing Climate Change (2011) to give a comprehensive overview of China's actions and achievements in addressing climate change. The Ministry of Science and Technology compiled a scientific and technological brochure on addressing climate change during the 11th Five-Year Plan period. The Ministry of Environmental Protection produced four non-commercial environmental advertisements including Combating Climate Change with a Light Switch and Addressing Climate Change: Travel Mode Matters. It has produced about 20,000 posters showing how the public can combat climate change, and held eight training sessions for teenage environment ambassadors. During the 2012 National Week of Disaster Prevention and Mitigation, more than 20 million popular science books and publicity handbooks were handed out around the country and more than 3,000 lectures were held on disaster prevention and mitigation. Together with other relevant departments, the National Development and Reform Commission has launched an energy-saving publicity week on the theme of energy-saving and green development, organized the 2012 China (Beijing) International Energy Saving Exhibition, and actively promoted energy saving through non-commercial SMS and green driving lectures. The Ministry of Housing and Urban-Rural Development promoted Car-Free Day in cities around China with the theme of "Green transport, future of cities." To promote low-carbon development in the transport sector, the Ministry of Transport organized public bicycle rental campaigns, energy conservation and environmental protection exhibitions, low-carbon-experience days, public lectures and title-awarding ceremony for the fifth batch of emission reduction demonstration projects. The State Forestry Administration has launched training programs on climate change for media professionals, held zero-carbon concerts and displayed non-commercial posters on forestry carbon sequestration in parks. The China Meteorological Administration has produced TV series and books entitled Climate Change - China in Action (2011) in multiple languages and published two popular science books: Climate Change Stories and Looking for Green and Low-Carbon Buildings. It has also promoted scientific knowledge on climate change by the chances of World Meteorological Day and the National Day of Disaster Prevention and Mitigation. The Government Offices Administration of the State Council has organized a National Public Institutions Energy-Saving Publicity Week with the theme of "New Low-carbon Lifestyle: Public Institutions as Role Models," which featured activities such as suspending lift services and air-conditioning and encouraging employees to walk to work.

(II) Extensive Media Publicity

Major Chinese news media have carried varied and informative coverage of climate change and green and low-carbon development. Special coverage and in-depth reports on Durban Climate Change Conference and important documents were carried by the Xinhua News Agency, the People's Daily, CCTV and other mainstream media as well as specialist media. Relevant media has enhanced the quality and impact of climate change coverage by organizing various activities and offering popular publicity materials. CCTV and other media organizations produced Same Hot, Same Cool, the World Over – the Journey of Climate Civilization, the Warming Earth and other documentaries. The China News Agency held a photography exhibition on the theme of Low-carbon Development and Green Life. The China Economic Herald and other media organizations took the initiative to select the top 10 news stories on the subject of addressing climate change and promoting low-carbon development in China in 2011.

(III) NGO Initiatives

The Center for China Climate Change Communication conducted a questionnaire and produced a statistical analysis of Chinese people's awareness of climate change, its influence, and how to tackle it, as well as their support for relevant policies, participation in remedial actions and assessment of publicity effect, as reference material for Chinese policy makers. The China Renewable Energy Industry Association organized forums and expositions on low-carbon lighting, low-carbon buildings, energy-saving and environmentally-friendly building materials, low-carbon transport and new-energy vehicles to boost exchanges and cooperation among enterprises and promote the development of the renewable energy industry. The China Environmental Protection Foundation held, for the fourth time, a series of social activities for college students to encourage them to actively combat climate change, as part of its efforts to promote participation of the whole society in energy conservation and emission reduction. The China Green Carbon Foundation organized tree planting drives on the theme of Make Our Country Green and Promote Low-carbon Lifestyles. Some 40 domestic and foreign NGOs jointly launched the Climate Citizen Surpassing Action (C+) Plan to encourage enterprises, schools, communities and individuals to take action on climate change. The WWF once again organized the annual Earth Hour event. In addition, the China Association for NGO Cooperation and the Green Commuting Fund organized the Cool China-National Low-Carbon Action project and mounted low-carbon exhibitions in Liaoning, Beijing, Tianjin, Hangzhou and 11 other provinces and cities around the country.

(IV) Proactive Participation by the Public

The Chinese public is responding to climate change by making low-carbon lifestyle choices in eating habits, housing, transport and tourism, and adopting a generally

moderating and no-waste consumption style. The public is increasingly inclined to choose green and low-carbon means of transport such as the use of public transport, and a total of 143 cities around China had pledged to hold car-free days by 2011. All localities in China have conducted energy-saving and carbon reduction activities in schools, government departments, shopping malls, barracks, enterprises and communities to advocate “energy-saving, thrifty and frugal” working, living and consumption values. The public are encouraged to conscientiously avoid extravagance and waste and lead a simple life. Universities, high schools and primary schools around the country have actively publicized the low-carbon lifestyle and environmental protection through various activities, which have vigorously boosted young people's awareness of the need to conserve energy and reduce carbon emissions.

VI. Proactive Participation in International Negotiations

The Chinese government attaches great importance to the issue of global climate change. With a high sense of responsibility to the Chinese people and humanity as a whole, it has proactively and constructively participated in international negotiations to address climate change, strengthened multi-level negotiations and dialogues with other countries, and strived to promote mutual understanding and consensus among all parties, making a positive contribution to building a fair and reasonable international mechanism for addressing climate change.

(I) Proactive Participation in International Negotiations within the UN Framework

China adheres to UNFCCC and the Kyoto Protocol as the basic framework of international climate mechanism, gives active play to the main channel of international climate change negotiations within the UN framework, upholds the principles of fairness and “common but differentiated responsibility,” addresses the issue of climate change within the framework of sustainable development, abides by the principles of openness and transparency, extensive participation, signatory leadership and consensus through consultation, proactively and constructively participates in negotiations, strengthens communication and exchanges among the various parties, and promotes international negotiations on climate change to achieve positive results.

In 2011, China continued to proactively participate in international talks on climate change within the UN Framework. It took an active part in the negotiations and consultations at the Durban Climate Change Conference in South Africa and firmly adhered to the principles of maintaining openness and transparency, extensive participation and consensus through consultation. With a conscientious, responsible, open and practical posture, China made important contributions to helping the conference achieve a balanced package of results and ensuring the climate talks

proceed on track. During the Durban conference negotiations, the Chinese delegation held a nine-day Chinese Corner series of side events with 23 themed activities, the first such initiative China took during a UN Climate Change Conference. Thanks to the efforts of China and other developing countries, the Durban Conference followed the Bali Road Map, promoted the implementation of UNFCCC and the Kyoto Protocol and achieved important results, building on the achievements of the Copenhagen Climate Change Conference and Cancun Climate Change Conference. During the conference, Chinese president Hu Jintao sent a letter to South African President Jacob Zuma expressing wholehearted support for the host country. The Chinese delegation held open and in-depth negotiations and dialogues with all parties through various channels to promote understanding and consensus and boost confidence, making proactive and constructive contributions to the positive achievements of the conference.

(II) Extensive Participation in Relevant International Dialogues and Exchanges

Promoting the process of negotiations with high-level visits and major meetings. At the meeting of the leaders of BRICS nations and on other significant multi-lateral diplomatic occasions, Chinese President Hu Jintao made important speeches to encourage the international community to deepen cooperation and jointly address the global challenge of climate change. When Chinese Premier Wen Jiabao attended the United Nations Conference on Sustainable Development, he called on all parties to fight climate change in accordance with the principle of "common but differentiated responsibilities," develop the green economy and advance sustainable development.

Proactively participating in the international process of climate change talks. China took part in a series of international consultations and exchanges, including the United States Conference on Sustainable Development, the Leaders' Representatives Meetings of the Major Economies Forum on Energy and Climate, the ministerial-level dialogue meeting on climate change in St. Petersburg, the Pre-COP18 Preparatory Ministerial-Level Meeting, the Intergovernmental Panel on Climate Change, and meetings of the International Civil Aviation Organization and the International Maritime Organization. China also actively participated in climate change-related initiatives and international mechanisms outside the UNFCCC, such as the Global Alliance for Clean Cookstoves, the Global Methane Initiative, the Global Research Alliance on Agricultural Greenhouse Gas and the Global Carbon Capture and Storage Institute, while promoting negotiations on the UNFCCC as the main channel to make progress.

Strengthening consultations and dialogues with other countries. China continues to strengthen consultation mechanisms among the BASIC countries and holds dialogues and communications with other developing countries by adopting the "BASIC plus" framework, and actively safeguarding the interests of developing countries. China is actively conducting joint research with think tanks in other

developing countries, jointly organizing academic discussions to further mutual understanding and promoting international cooperation in scientific research on climate change, domestic and international dialogues on climate change polices as well as technology transfer, capacities building and information sharing. Meanwhile, China maintains dialogues and consultations with developed countries and regions including the United States, the European Union, Australia and Japan to promote understanding and expand common ground. China is also proactively conducting academic exchanges and dialogues with think tanks in developed countries.

(III) China's Basic Positions and Stand on Participation in the Doha 2012 UN Climate Change Conference

At the end of this year, the 18th session of the Conference of the Parties to the UNFCCC and the 8th session of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol will be held in Doha, the capital city of Qatar. The Doha Climate Change Conference is of great significance for maintaining the basic legal framework of the UNFCCC and the Kyoto Protocol, strengthening the enforcement of the UNFCCC and the Kyoto Protocol and safeguarding the legitimate development rights of developing countries. At the UN Conference on Sustainable Development convened in Rio de Janeiro, Brazil, in June 2011, government leaders reiterated that addressing climate change is based on the principle of fairness and the principle of "common but differentiated responsibilities and own capacities" stipulated in the UNFCCC. The Doha Climate Change Conference should actively implement this important political consensus reached among government leaders, continue to insist on the principles and rules of the UNFCCC, and make sure that multilateral talks within the UN framework keep moving in the right direction.

China maintains that the Doha Climate Change Conference should give priority to the implementation of the consensus reached among all parties; in the first place, the key to the successful accomplishment of the negotiations on the Bali Road Map is the establishment of a legally-binding second commitment period of the Kyoto Protocol and its guaranteed timely implementation. Developed countries should take genuine actions to fulfill their promises to take the lead in reducing emission and provide funding and technology to developing countries. To be specific, the Doha Climate Change Conference should yield results in the following four areas: First, make definite arrangements for the implementation and enforcement of the second commitment period of the Kyoto Protocol, and ensure that the second commitment period is implemented in a timely fashion on January 1, 2013. This will be the most important outcome of Doha Climate Change Conference. Second, make further substantial progress on the issues of concern to all developing countries, such as mitigation, adaptation, funding, technology transfer and capacity building. Developed countries, in particular, should fulfill their promises to reduce emissions and provide support in terms of funding, technology transfer and capacity building, and ensure that the already-established mechanisms and institutions start substantive work, and play a

substantial role in offering support to developing countries in coping with climate change. Third, make proper follow-up arrangements issues left unsettled in the Bali Action Plan, such as fairness, trade and intellectual property rights, in order to successfully complete talks on the Bali Action Plan. Fourth, fully exchange views on issues relating to the continued enforcement of the UNFCCC after 2020 and align the process of the Durban Platform negotiations with the Bali Road Map negotiations in order to lay a solid foundation for further negotiations.

China supports Qatar, the host nation for the Doha Climate Change Conference, in abiding by the principles of maintaining openness and transparency, extensive participation, reaching consensus through consultations and signatory leadership, and pushes for the conference to yield a positive outcome. China will play a positive and constructive role in the process and join hands with all parties to ensure a successful conference.

VII. Enhancing International Exchanges and Cooperation

Based on the principles of "mutual benefit and win-win cooperation, being practical and effective," China has continuously and proactively participated in and promoted practical cooperation with other governments, international organizations and institutions, and is playing a positive and constructive role in advancing global cooperation on climate change.

(I) Furthering Cooperation with International Organizations

China’s National Development and Reform Commission has joined the United Nations Environment Programme in the Enhancing Capacity, Knowledge and Technology Support to Build Climate Resilience of Vulnerable Developing Countries, a project funded by the Global Environment Facility (GEF). Under the guidance of the Ministry of Health, the Chinese Center for Disease Control and Prevention has collaborated with the World Health Organization on Piloting Climate Change Adaptation to Protect Human Health, another GEF-funded project that is being implemented smoothly in China. The Ministry of Science and Technology and the National Development and Reform Commission have jointly held the Fourth Carbon Sequestration Leadership Forum (CSLF) Ministerial Conference. The State Forestry Administration has hosted the First APEC Meeting of Ministers Responsible for Forestry, the 24th Session of the UN Food and Agriculture Organization Asia-Pacific Forestry Commission, the Second Asia Pacific Forestry Week, and the Forum on Ecology for Northeast Asia. Supported by the Asia-Pacific Network for Sustainable Forest Management (APFNet), China has begun research on improving the abilities of Asia-Pacific forestry departments to address climate change, and has launched international cooperation programs. China’s Ministry of Civil Affairs has proactively boosted dialogues and exchanges within the frameworks of the Shanghai Cooperation

Organization (SCO), China-Japan-South Korea, China-Russia-India, and the ASEAN Regional Forum (ARF), and promoted multilateral cooperation mechanisms for disaster mitigation and relief.

(II) Strengthening Cooperation with Developed Countries

China's National Development and Reform Commission has held bilateral consultations on climate change with the EU, Germany, Britain, and Denmark and pushed for the adoption of relevant framework agreements and the launch of cooperation projects. Within the framework of the China-US Clean Energy Research Center (CERC), China's Ministry of Science and Technology has conducted fruitful joint research with its US counterpart in the areas of clean coal technology, energy-efficient building technology, and electric automobiles. To enhance cooperation in energy-efficient building technology research, China's Ministry of Housing and Urban-Rural Development has signed cooperation memorandums with its counterparts in the United States, Germany, Britain, Canada, and Denmark. China's Ministry of Transport and the German Federal Ministry of Transport, Building and Urban Development co-hosted the First China-German Conference on Green Logistics, which deepened international exchanges and cooperation on low-carbon transport. The Civil Aviation Administration of China, the US Trade and Development Agency, and the Federal Aviation Administration jointly organized the High Level Training on Energy Conservation and Emissions Reduction in Aviation, which provided an opportunity for the Chinese delegates to learn about the US aviation industry's management systems, operating mechanisms, relevant technologies and research projects for energy conservation and emissions reduction. The training has also provided the Chinese delegates with practices and experience of the US civil aviation sector in addressing climate change.

(III) Deepening Cooperation with Developing Countries

China's National Development and Reform Commission has vigorously promoted South-South cooperation on climate change, and has signed the Memorandum of Understanding on Providing Foreign Aid to Address Climate Change with Ethiopia, Grenada, Nigeria, Madagascar, and Benin, promising to donate energy-saving and low-carbon products to these countries. It has also successfully arranged eight seminars on addressing climate change in developing countries, which offered training to more than 300 officials and professionals from 81 countries. China's Ministry of Science and Technology supported 13 international seminars focusing on developing countries' efforts to address climate change, covering the fields of biomass, solar energy, methane, desertification prevention and control, water-saving high-efficiency agriculture, grassland ecological construction, tropical biodiversity, treatment of flue gases from coal-fired power plants, and exploration of non-timber forest products. To help developing countries improve their climate change adaptation capabilities, the ministry supported a series of foreign aid programs in areas such as

renewable energy, building marine disaster early warning capability in the South Pacific island countries, development and general application of LED products, comprehensive utilization of straw, hybrid solar-wind power generation systems, and fertilizer-drip irrigation technology. During a ministerial training course on water resources and small hydropower stations hosted by the Ministry of Water Resources, China shared its experience with senior officials from other developing countries on enhancing water resource management and the use of small hydropower stations in the context of climate change. China's State Oceanic Administration has issued an International Cooperation Framework Plan on the South China Sea and its Adjacent Oceans (2011-2015), giving funding priority to the ocean and climate change and marine disaster prevention and mitigation. Collaborating with neighboring countries, China initiated China-Indonesia Observation on the Air-sea Inter-action and Observation and Research Projects on Monsoon Jets in the Indian Ocean. China's State Forestry Administration has successfully held the Seminar on Monitoring Deforestation and Land Degradation and Evaluating South-South Cooperation within the Climate Change Framework", to discuss forestry cooperation with other developing countries in addressing climate change.

(IV) Promoting Cooperation on Clean Development Mechanism Projects

As of the end of August 2012, China had approved 4,540 clean development mechanism (CDM) projects, focusing on new energy and renewable energy, energy conservation and the enhancement of energy efficiency, methane recycling and relevant areas. Their estimated annual certified emissions reduction (CER) has reached 730 million tons of CO2 equivalent. A total of 2,364 of the projects have been registered with the United Nations Clean Development Mechanism Executive Board, accounting for 50.41 percent of the world's total registered programs. Their estimated certified emission reduction (CER) has reached 420 million tons of CO2 equivalent annually, accounting for 54.54 percent of the global total. China tops the list in both numbers of registered projects and annual certified emissions reduction (CER). So far, 880 of the registered Chinese projects have been approved, and the total issuance volume has reached 590 million tons of CO2 equivalent, which is a major contribution to the implementation of the Kyoto Protocol.