



**China Council for International Cooperation on Environment and  
Development (CCICED)**

**Progress in Environment and Development  
Policies in China (2012-2013) and  
CCICED Policy Recommendations Impact**

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## **1. ENVIRONMENT AND DEVELOPMENT OVERVIEW<sup>1</sup>**

In 2012, the Communist Party of China (CPC) held the 18th National Congress and smoothly completed its leadership transition. In the report to the 18th National Congress, for the first time, ecological civilization was elevated to the same level as economic, political, cultural, and social progress and integrated into the "five-in-one" framework for socialism with Chinese characteristics. The vision of "hard work to build a beautiful country, and achieve lasting and sustainable development of the Chinese nation" was also put forward. Government departments at all levels, guided by the concept of ecological civilization, have since then made the utmost effort to achieve new progress in environmental protection.

### **1.1 New Progress in Environment and Development in 2012**

#### ***1.1.1. Remarkable results in economic and social development***

Faced with a difficult and uncertain international economic situation, China has made new progress in various social undertakings, while maintaining smooth economic development. This has established a solid foundation for building a moderately prosperous society by 2020. In 2012, the gross domestic product (GDP) increased by 7.8% over the previous year to RMB 51.9322 trillion. To break it down, the output value registered RMB 5.2377 trillion in primary industry, RMB 23.5319 trillion in secondary industry, and RMB 23.1626 trillion in tertiary industry, up by 4.5%, 8.1%, and 8.1% respectively, and the added output value accounted for 10.1%, 45.3%, and 44.6% of the GDP growth. At the end of the year, foreign exchange reserves totaled USD 3.3116 trillion with an increase of USD 130.4 billion, and the exchange rate was RMB 6.2855 to one U.S. dollar, making an appreciation of 0.25% over the previous year. In addition, national public revenue rose by 12.8% or RMB 1.3335 trillion to RMB 11.721 trillion, in which the tax revenue expanded by 12.1% or RMB 1.0862 trillion to RMB 10.0601 trillion. Imports and exports added up to USD 3.8668 trillion, an increase of 6.2% year on year.<sup>2</sup>

#### ***1.1.2. Full completion of the targets in energy conservation and emission reduction***

In 2012, the targets for emission reduction relative to the level in 2011 were set as follows: both chemical oxygen demand (COD) and SO<sub>2</sub> emissions decreased by 2%, ammonia nitrogen emissions decreased by 1.5%, and NO<sub>x</sub> emissions had zero growth. In practice, the reductions of chemical oxygen demand (COD), SO<sub>2</sub>, ammonia

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<sup>1</sup> This paper is prepared annually by the Chinese members of the Chief Advisors support group.

<sup>2</sup> NBS, Statistical Communiqué of the People's Republic of China on the 2012 National Economic and Social Development, website of the Central People's Government, [http://www.gov.cn/gzdt/2013-02/22/content\\_2338098.htm](http://www.gov.cn/gzdt/2013-02/22/content_2338098.htm), last visit on September 8, 2013.

nitrogen and NO<sub>x</sub> are 3.05%, 4.52%, 2.62%, and 2.77% respectively.<sup>3</sup> According to the *Statistical Communiqué on the 2012 Economic and Social Development* of the National Bureau of Statistics (NBS), the energy consumption per unit of GDP fell by 3.6% in 2012.<sup>4</sup> The carbon intensity per unit of GDP fell 3.5%.<sup>5</sup>

From 2008 to 2012, the energy consumption per unit of GDP fell by 17.2%, and COD and SO<sub>2</sub> emissions decreased by 15.7% and 17.5% respectively.<sup>6</sup>

### ***1.1.3. New results in the remediation of outstanding environmental problems***

With respect to air pollution prevention and control, *Ambient Air Quality Standards and Technical Requirements on Ambient Air Quality Index (AQI) (Trial)* were revised in 2012. Pursuant to this, the Ministry of Environmental Protection (MEP) issued the *Implementation Program for the First-Phase Monitoring under Ambient Air Quality Standards and Opinions on Building up the Capacity of Environmental Air Quality Monitoring*, specifying the scope, content and requirements for monitoring in the first phase. It also sought to obtain special funds through the active coordination of ministries concerned, including the Ministry of Finance (MOF). In 2012, the central appropriation for financing of the monitoring effort was RMB 519 million, while local investment totaled RMB 430 million. Moreover, the newly amended standards have been applied in 496 monitoring sites in 74 cities, including the Beijing-Tianjin-Hebei region, the Yangtze River Delta, the Pearl River Delta, and provincial capitals and municipalities; monitoring statistics were officially released on January 1, 2013. In addition, the *12th Five-Year Plan for the Prevention and Control of Air Pollution in Major Areas* was approved by the State Council and called for, *inter alia*, comprehensive management, cooperative control, and joint prevention and control. More than 550,000 old vehicles have been phased out in Beijing, which means that the target of 400,000 vehicles was completed three years ahead of time. In Shanxi Province, due to a special focus on improving air quality, the consumption of raw coal in 11 city-level districts was reduced by 6.74 million tons.<sup>7</sup>

With regard to water pollution prevention and control, the *12th Five-Year Plan for Drinking Water Safety Projects in Rural Areas* was approved by the State Council. An overall picture of 833 water source sites in 321 cities was obtained through the MEP-led nationwide environmental assessment of centralized drinking water sources

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<sup>3</sup> MEP, 2012 China Environmental Bulletin: Emission Reduction of Major Pollutants, website of MEP, [http://jcs.mep.gov.cn/hjzl/zkgb/2012zkgb/201306/t20130606\\_253420.htm](http://jcs.mep.gov.cn/hjzl/zkgb/2012zkgb/201306/t20130606_253420.htm), last visit on September 8, 2013.

<sup>4</sup> NBS: Statistical Communiqué of the People's Republic of China on the 2012 National Economic and Social Development, website of the Central People's Government, [http://www.gov.cn/gzdt/2013-02/22/content\\_2338098.htm](http://www.gov.cn/gzdt/2013-02/22/content_2338098.htm), last visit on September 8, 2013.

<sup>5</sup> <http://blogs.reuters.com/fulldisclosure/2010/09/27/toward-a-more-thoughtful-conversation-on-stories/>

<sup>6</sup> Wen Jiabao, 2013 Government Work Report of the State Council, website of the Central People's Government, [http://www.gov.cn/test/2013-03/19/content\\_2357136.htm](http://www.gov.cn/test/2013-03/19/content_2357136.htm), last visit on September 8, 2013.

<sup>7</sup> Gu Ruizhen, Ecological civilization Shaping the New Landscape of "Beautiful Country, Xinhua net, [http://news.xinhuanet.com/politics/2013-01/25/c\\_114504988.htm](http://news.xinhuanet.com/politics/2013-01/25/c_114504988.htm), last visit on September 8, 2013.

of prefecture-level cities. Pursuant to the *National Groundwater Pollution Prevention and Control Plan*, MEP worked out the *Implementation Program for the Groundwater Pollution Prevention and Control in the North China Plain*. In addition, the *Water Pollution Prevention and Control Plan for Key Basins (2011-2015)*, approved by the State Council, perfected the indicator system for assessing the completion of the special plan, and an assessment of the plan's implementation was carried out in the middle and lower reaches of the Yangtze River Basin. After years of efforts, the water quality in the basins of key rivers and lakes, such as the Taihu Lake Basin, exhibited initial improvements.<sup>8</sup>

With respect to the prevention and control of heavy metal and hazardous waste pollution, a central allocation of RMB 5.4 billion was used to control heavy metal pollution in 2012, and an assessment was carried out with respect to the implementation of the *12th Five-Year Plan for the Prevention and Control of Heavy Metal Pollution*. During the five years, 2.3 million tons of chromium residue historically left over was treated, at a rate of three times the annual average six years ago, and up to 6.7 million tons of chromium slag stockpiled for decades and up to half a century was disposed of.<sup>9</sup>

#### ***1.1.4. Strengthened ecological protection and environmental protection in rural areas***

In 2012, biodiversity conservation was elevated to the status of a national strategy. The *China Action Plan for UN Decade on Biodiversity* was reviewed and adopted at the First Meeting of the China National Committee on Biodiversity Conservation chaired by Vice Premier Li Keqiang. An ecological compensation mechanism was established for key ecological function zones and achieved satisfactory results. In 2008, the transfer payments were approved by the Central Government to counties (cities, districts) within the scope of national key ecological function zones across more than 20 provinces (autonomous regions and municipalities), and support funds totaled RMB 110 billion in the last five years. Moreover, annual payments increased from RMB 6.05 billion to RMB 37.1 billion and were extended from 221 to 466 counties (cities, districts). A comprehensive monitoring and evaluation shows that the ecological environmental quality in 58 of the 452 counties or 12.8% of the counties improved during 2009-2011, and remained stable in 380 counties or 84.1% of the counties.

In rural areas, the funds for "incentives to promote control" were replenished and extended to cover a wider scope. The Central Government allocated a special fund of

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<sup>8</sup> Zhou Shengxian, Implement the Spirit of the 18th CPC National Congress, Promote Ecological civilization, and Open up a New Situation -- Speech at the 2013 National Conference on Environmental Protection, website of MEP, [http://www.zhb.gov.cn/gkml/hbb/qt/201302/t20130204\\_245877.htm](http://www.zhb.gov.cn/gkml/hbb/qt/201302/t20130204_245877.htm), last visit on September 8, 2013.

<sup>9</sup> MEP, 2012 China Environmental Bulletin: Introduction, website of MEP, [http://jcs.mep.gov.cn/hjzl/zkgb/2012zkgb/201306/t20130606\\_253420.htm](http://jcs.mep.gov.cn/hjzl/zkgb/2012zkgb/201306/t20130606_253420.htm), last visit on September 8, 2013.

RMB 5.5 billion to support environmental protection in rural areas. As of the end of 2012, a total of 23 provinces (autonomous regions and municipalities) were covered for contiguous remediation and demonstration activities, and the cumulative funds invested added up to RMB 13.5 billion, which benefited 26,000 villages and more than 57 million rural people.<sup>10</sup>

#### ***1.1.5. Significant progress in clean energy***

At the end of 2012, the installed capacity for hydropower totaled 249 MW and wind power totaled 63 MW, both the highest in the world, and the annual generating capacity from wind power exceeded 100 billion kWh. PV installed capacity reached 7 MW. A total of 30 nuclear power units with a capacity of 32.73 MW were under construction, ranking first in this category in the world, while the in-service units operated in safe and stable conditions. In 2012, natural gas, hydropower, wind power, and nuclear power combined delivered 14.5% of the total power consumption, 1.5 percentage points higher than in 2011.<sup>11</sup>

#### ***1.1.6. Continuous efforts to create a low-carbon and green economy***

Green, energy-efficient and environmental friendly industries, green and circular economy are the ways to the green transformation of industrial structure, in which respect, China has made significant achievements in recent years. Different ministries are putting efforts in developing green planning and policies to stride for a green and low carbon economy.

The State Council revealed the *Circular Economy Development Strategy and the Immediate Plan of Action* and sets up the specific objectives to the end of the 12th FYP period (immediate objectives) as follows: 1) the output rate of major resources will increase by 15% from the level in 11th FYP period, and the output value of resources reuse will amount to RMB 1.8 trillion; 2) by 2015, the energy consumption and water consumption per unit of industrial added value will decrease by 21% and 30% respectively from the 2010 levels, comprehensive utilization rate of industrial solid waste will be up to 72%, and more than half of national parks and more than 30% of provincial parks will carry out the circular transformation; 3) by 2015, the effective utilization coefficient of irrigation water will reach 0.53, straw utilization rate, 80%, wastewater treatment and utilization rate in facility fishery, 80% or higher, and utilization rate of logging, afforestation and processing residues in forestry, 80% or higher; 4) by 2015, a complete and advanced renewable resource recycling system shall be built up, and significant progress will be made in waste separation, with the

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<sup>10</sup> Zhou Shengxian, Implement the Spirit of the 18th CPC National Congress, Promote Ecological civilization, and Open up a New Situation -- Speech at the 2013 National Conference on Environmental Protection, website of MEP, [http://www.zhb.gov.cn/gkml/hbb/qt/201302/t20130204\\_245877.htm](http://www.zhb.gov.cn/gkml/hbb/qt/201302/t20130204_245877.htm), last visit on September 8, 2013.

<sup>11</sup> NEA, Study and Implement the Spirit of the 18th CPC National Congress, and Better the Energy Development Reform in 2013, website of NEA, [http://www.nea.gov.cn/2013-01/08/c\\_132089068.htm](http://www.nea.gov.cn/2013-01/08/c_132089068.htm), last visit on September 8, 2013.

reuse rate of major varieties up to 70%.

NDRC, Ministry of Science and Technology (MOST), MIIT, MOF, MOHURD, and Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) formulated the *Energy Saving Industrial Plan: Semiconductor Lighting*. According to the Plan, the common 60W-or-above incandescent lamp will be all eliminated in 2015, with the market share down below 10%, and the market share of energy-efficient lamps and other traditional energy efficient lighting products will stable at around 70% and of LED functional lighting, above 20%. In addition, LED LCD backlighting and landscape lighting will take up 70% and 80% or more of the market respectively. Compared with the traditional lighting, LED road lighting reduces electricity power by more than 30%, LED indoor lighting by more than 60%, backlighting by more than 50%, and landscape lighting by more than 80%. It will bring an annual saving of 60 billion kWh, equivalent to the reduction of 21 million TCE and nearly 60 million tons of CO<sub>2</sub> emissions.

In January 2013, MIIT, NDRC, and MEP together issued the *Guidance on the Development of Industrial Product Eco-Design*. In 2015, China will initially set up the eco-design promotion mechanism for industrial products to drive ahead eco-design work in an orderly manner through a combination of policy guidance and market incentives. A number of products up to the eco-design standards will be introduced then. Also the eco-design product evaluation, supervision and management mechanism will be in place. Product eco-design pilots will be carried out, and the evaluation results announced. A number of non-toxic harmless or less harmful and toxic materials (products) and cleaner production technologies will be developed, applied and extended.

MOST promulgated the *12th Five-Year Plan for the Development of Carbon Capture Utilization and Storage (CCUS)*. The Plan outlined the objectives as key breakthroughs in basic CCUS theories and techniques, substantial reduction in cost and energy consumption, formation of megaton-level CCUS system design and integration capabilities, foundation of the CCUS system R&D platform and innovation base, and demonstration of an integrated system capable of capturing, utilizing and storing 30-50 tons of CO<sub>2</sub>/year.

In March 2013, MIIT formulated the *Implementation Program for the 2013 Action Plan for Industrial Energy Efficiency and Green Development*. In view of more than ten percentage points lower in the motor system efficiency than the international advanced level and frequent lead pollution incidents in the lead-acid battery and secondary lead industries in recent years, the Program envisaged two objectives. 1) The capacity of motors and electrical systems to be extended, eliminated, and renovated will total 100 million kW and the electricity savings will amount to 1% of the national industrial total (30 billion kWh). To this end, efforts are needed to expand the market share of energy-efficient motors, urge the electrical product upgrading and industrial upgrading, and improve motor efficiency. 2) By strengthening industry threshold management, we should reverse the fragmented and chaotic trend, improve

primary lead smelting, lead-acid battery production and secondary lead industrial concentration, optimize the industrial structure, and accelerate the standard production, orderly recycling, rational reuse of lead-acid batteries. An implementation mechanism for the lead-acid battery extended producer responsibility system should be in place and a batch of demonstration projects for lead reuse introduced, to increase the lead reuse rate to 40%, and accelerate the formation of National Lead Resource Recycling and Reuse System.

In April 2013, MOHURD issued the *12th Five-Year Plan for Green Buildings and Green Eco-cities*, explicating the aim to achieve the social acceptance of the green development concept, form basically the economic incentives for green buildings and green ecological urban development, improve progressively the technical standards and the innovative R&D capabilities, shape initially the industrial scale with significant demonstration effect, and realize basically the scientific transformation of the urban and rural construction model. Green buildings with a floor area of one billion m<sup>2</sup> and a number of green eco-cities and rural farms will be built, to guide the design and construction in rural areas in accordance with the principles of green building.

In August 2013, the State Council issued the *Opinions on Accelerating the Development of Energy-saving and Environmental Protection Industries*. The short-term target is to increase the output value by more than 15% annually, up to RMB 4.5 trillion in 2015 and build the energy-saving and environmental protection industries to a new economic pillar.

## **1.2. Deepening ecological civilization construction under the new leadership**

Following the introduction of the concept of "ecological civilization" in the report to the 17th CPC National Congress in 2007, the 18th CPC National Congress report dedicated a separate chapter to "vigorously promoting the ecological civilization" and elevated it to a higher strategic level. In this way, the four-in-one framework of socialism with Chinese characteristics was extended to a five-in-one framework by adding ecological civilization to economic, political, cultural, and social progress.

To implement the spirit of the 18th CPC National Congress, the new central leadership from a strategic and overall perspective proposed a series of new ideas and requirements, directing and paving the way for realization of the concept of Chinese ecological civilization and progress in ecological environmental protection. In the sixth collective study of the CPC Central Committee Politburo on May 24, 2013, President Xi Jinping talked about the great significance of ecological civilization and other major initiatives. General Secretary Xi's speech and the instructions of other central leaders on different occasions conveyed the following information about the will, orientation, and measures regarding ecological matters:

1) **Firm will and strong determination to implement ecological civilization. A**

vision of a new era of ecological civilization and a beautiful country leading to the rejuvenation of China and the Chinese Dream was articulated. Eco-environmental protection will benefit both the current and future generations. With a highly responsible attitude the masses and future generations should be determined to control environmental pollution and create a favorable ecological environment.

2) **Important manifestation of the CPC's governing capability.** Ecological civilization is a strategic task for strengthening governing capability and consolidating the governance, and therefore we should strive to achieve tangible results.

3) **Proper response to the relationship between economic development and environmental protection.** Xi's idea that, "to protect the environment is to protect productivity and to improve the ecological environment is to develop the productive forces," explicitly prioritizes protecting the environment, so as to "seek economic development based on environmental protection and protect the environment in the process of economic development."<sup>12</sup>

4) **Awareness of the ecological red line.** Xi stressed that we should be fully aware of, delineate and adhere to the ecological red line, build scientific and rational patterns for urbanization, agricultural development, and ecological security to safeguard national and regional ecological security, and also improve ecosystem services. With respect to ecological and environmental issues, we should keep in mind to never cross the ecological red line.

5) **Road to resource conservation-based ecological and environmental protection.** We should conserve resources and resolutely adopt a fundamental change in the way we use resources, and strengthen conservation management, so as to dramatically reduce the intensity of energy, water, and land consumption. Also we should vigorously develop the circular economy and promote reduction, reuse, and recycling in the production, circulation and consumption process.

6) **Focus on serious environmental problems posing hazards to public health.** A beneficial ecological environment is fundamental to human and social sustainability. People have attached high attention to environmental issues. In the process of environmental protection and governance, we should take a holistic approach to intensifying prevention and control of water, air and soil pollution, putting prevention first and placing emphasis on serious environmental problems that pose health hazards to the people. In particular, vigorous efforts should be made to prevent and control water pollution in major river basins and air pollution in major industrial areas and regions.

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<sup>12</sup> Zhou Shengxian's speech at the 2013 National Director Conference on Environmental Protection [http://www.mep.gov.cn/zhxx/hjyw/201308/t20130819\\_257633.htm](http://www.mep.gov.cn/zhxx/hjyw/201308/t20130819_257633.htm)

7) **Perfect institutional system for ecological civilization.** Only the strictest system with the most stringent rule of law can offer reliable protection of ecological civilization. In this respect, the most important endeavour is to improve the economic and social development evaluation system by integrating indicators reflecting ecological civilization, such as resource consumption, environmental damage, and eco-efficiency, to direct and manage efforts in the ecological sphere. A system of accountability shall be in place, so that those making decisions, disregarding the ecological environment and causing serious consequences, can be held fully accountable. There is also a need to strengthen public awareness of resource conservation, environmental protection, and the conservation of the ecological environment, so as to create an optimal atmosphere for environmental stewardship.

### **Box 1**

#### **Discourse on ecological civilization in the report to the 18th CPC National Congress**

##### **I. Our Work in the Past Five Years and the Basic Experience We Have Gained in the Past Ten Years**

...fully implement the overall plan for promoting economic, political, cultural, social, and ecological civilization, ensure coordinated progress in all areas of endeavors in the modernization drive, balance the relations of production with the productive forces as well as the superstructure with the economic base, and continue to expand the path of development that leads to increased production, prosperity and a good ecosystem....

##### **II. Achieving New Victory for Socialism with Chinese Characteristics**

...continue to release and develop the productive forces. This is the fundamental task of socialism with Chinese characteristics. We should take economic development as the central task and pursuing development in a scientific way as the underlying guideline, advance in an all-around way through economic, political, cultural, social, and ecological civilization and achieve development in a scientific way that puts people first and is comprehensive, balanced and sustainable....

##### **III. The Goal of Completing the Building of a Moderately Prosperous Society in All Respects and Deepening Reform and Opening Up in an All-Around Way**

...move faster to set up a system for ecological civilization, improve institutions and mechanisms for developing geographical space, conserve resources and protect the ecological environment, and promote modernization featuring harmonious development between man and nature....

##### **VIII. Making Great Efforts to Promote Ecological civilization**

Promoting ecological civilization is a long-term task of vital importance to the people's well-being and China's future. Faced with increasing resource constraints, severe environmental pollution and a deteriorating ecosystem, we must raise our ecological awareness of the need to respect, accommodate to, and protect nature. We must give high priority to making ecological civilization and incorporating it into all aspects of the whole process of advancing economic, political, cultural, and social progress, working hard to build a beautiful country, and achieving lasting and

sustainable development of the Chinese nation.

We should remain committed to the basic state policy of conserving resources and protecting the environment as well as the principle of giving high priority to conserving resources, protecting the environment and promoting its natural restoration, and striving for green, circular and low-carbon development. We should preserve our geographical space, improve our industrial structure, and preserve our way of production and way of life in the interest of conserving resources and protecting the environment. We should address the root cause of deterioration in the ecological environment so as to reverse this trend, create a sound working and living environment for the people, and contribute our share to global ecological security.

#### 1. Improve development of China's geographical space

It is in geographical space that ecological civilization can be advanced, and we must cherish every bit of it. Guided by the principle of maintaining balance between population, resources and the environment and promoting economic, social and ecological benefits, we should keep the pace of development under control and regulate its space composition. We should ensure that the space for production is used intensively and efficiently, that the living space is livable and proper in size, and that the ecological space is unspoiled and beautiful; and we should leave more space for nature to achieve self-renewal. We should keep more farmland for farmers, and leave future generations with a beautiful homeland with green fields, clean water and blue sky. We should ensure the speedy implementation of the functional zoning strategy and require all regions to pursue development in strict accordance with this strategy; and advance urbanization, agricultural development and ecological security in a scientific and balanced way. We should enhance our capacity for exploiting maritime resources, develop the maritime economy, protect the maritime ecological environment, resolutely safeguard China's maritime rights and interests, and build a sustainable maritime economy.

#### 2. Promote all-around resource conservation

Resource conservation is an important way to protect the ecological environment. We should conserve resources and use them efficiently and bring about a fundamental change in the way resources are utilized. We should strengthen conservation efforts all the way, drastically reduce energy, water and land consumption per unit of GDP, and use such resources in a better and more efficient way. We should launch a revolution in energy production and consumption, impose a ceiling on total energy consumption, and save energy and reduce its consumption. We should support the development of energy-efficient and low-carbon industries, new energy sources and renewable energy sources and ensure China's energy security. We should better protect water sources, impose a cap on total water consumption, promote water recycling, and build a water-conserving society. We should ensure that the red line for protecting farmland is not crossed and strictly control land uses. We should strengthen exploration, protection and proper exploitation of mineral resources. We should develop a circular economy to reduce waste and resource consumption, reuse resources and recycle waste in the process of production, distribution and consumption.

### 3. Intensify protection of the ecosystem and the environment

A sound ecological environment is the fundamental basis for sustainable human and social development. We should launch the following major projects for restoring the ecosystem: increase our capacity for producing ecological products; take integrated steps to control desertification, stony deserts and soil erosion; enlarge forests, lakes and wetlands; and protect biodiversity. We should accelerate construction of water conservancy projects, and enhance our capacity for responding to floods, drought and waterlogging in urban and rural areas. We should improve the system for preventing and mitigating natural disasters and become more capable of responding to meteorological, geological and seismic disasters. We should take a holistic approach to intensifying prevention and control of water, air and soil pollution, putting prevention first and placing emphasis on serious environmental problems that pose health hazards to the people. We will work with the international community to actively respond to global climate change on the basis of equity and in accordance with the common but differentiated responsibilities and respective capabilities of all countries.

### 4. Enhance system building to promote ecological civilization

System building is crucial to protecting the ecological environment. Resource consumption, environmental damage and ecological benefits should be covered by the system of standards for evaluating economic and social development, and related goals; evaluation methods and reward and punishment mechanisms should be adopted in keeping with the need of promoting ecological civilization. We should establish a system for developing and protecting China's geographical space and improve the system for providing the strictest possible protection for farmland and systems for managing water resources and protecting the environment. We should deepen reform of prices, taxes and fees for resource products, and establish a system for paying for resource consumption and compensating for ecological damage - a system that responds to market supply and demand and resource scarcity, recognizes ecological values and requires compensation in the interests of later generations. We should carry out trials for trading energy savings, carbon emission rights, pollution discharge rights and water rights. We should strengthen environmental monitoring and improve the system of accountability for ecological and environmental protection and the system of compensation for environmental damage. We should increase publicity of and education in ecological civilization, raise public awareness of the need to conserve resources, protect the environment and promote ecological civilization, and foster a social atmosphere of practicing moderate consumption and cherishing the ecological environment.

We must treasure nature more consciously, protect the ecosystem more actively, and strive to usher in a new era of socialist ecological civilization.

In addition, the new Government (2013-2018) articulated three priorities in the effort to protect the environment: 1) the prevention and control of air pollution putting emphasis on PM2.5; 2) the prevention and control of water pollution putting emphasis on clean water; and 3) special action putting emphasis on environmental protection

and soil pollution in rural areas. To this end, the State Council decided to develop the *Action Plan for Air Pollution Prevention and Control*, *Clean Water Action Plan* and the *Action Plan for Ecological Environmental Protection in Rural Areas*. In June 2013, the Standing Committee of the State Council devoted the meeting to the deployment of ten measures to prevent and control air pollution. The *Action Plan for Ambient Air Pollution Prevention and Control* has been officially unveiled, while the formulation of other two action plans is receiving priority attention.

### **1.3. Environmental Problems Facing China and Work Priorities in Environment and Development in 2013**

Despite the significant achievements in environmental protection, the current environmental situation is very grim. 1) Emission reduction remains an arduous task, given the large emissions of major pollutants. In industries with high pollution and energy consumption and extensive resource use, the investment expansion slows down, but the pollutants from the existing capacity are still a large problem. In addition, NO<sub>x</sub> emissions from vehicles tend to increase along with the annual increase of about 15 million motor vehicles. 2) Environmental pollution remains severe. Approximately 70% of the cities fail to meet the new standards for ambient air quality, and 20% of state-controlled waterway sections are under Grade V for water quality. Groundwater is seriously contaminated in half of the urban areas, with very poor water quality indicated in 57% of the monitored sites. 3) Environmental risks continue to increase and environmental problems posing hazards to human health are becoming more prominent. In the current stage of social transformation, environmental sensitivity, environmental risks and environmental consciousness are increasing. Long-term environmental contradictions are exposed, of which PM2.5, safe drinking water, and chemical pollution have received widespread attention. 4) A dispersed distribution of ecological and environmental protection authorities among different departments of government still exists under the current inadequate environmental management system. More efforts are needed with respect to capacity building, supervision and intellectual development. 5) Environmental protection departments urgently need to further change their style of work and improve their service capacity.<sup>13</sup>

In the next ten years, the country will experience rapid urbanization, and a population of 300 million will have to be integrated in cities by 2030, causing the urbanization rate to rise to 70%. Urbanization is an integral component of Chinese modernization and an important way to sustain economic development by stimulating the domestic demand needed for future economic development. How to solve a series of environmental problems and achieve sustainable urbanization is a huge challenge

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<sup>13</sup> Zhou Shengxian, Implement the Spirit of the 18th CPC National Congress, Promote Ecological civilization, and Open up a New Situation -- Speech at the 2013 National Conference on Environmental Protection, website of MEP, [http://www.zhb.gov.cn/gkml/hbb/qt/201302/t20130204\\_245877.htm](http://www.zhb.gov.cn/gkml/hbb/qt/201302/t20130204_245877.htm) , last visit on September 8, 2013.

facing the country. According to the *2013 China National Human Development Report* on "Sustainable and Livable Cities: Towards Ecological Civilization" jointly completed by United Nations Development Programme (UNDP) and Chinese Academy of Social Sciences (CASS), Chinese urbanization has entered a critical stage. Pressures on multiple fronts will increase, including the efficient usage of energy and other natural resources. Pressures will also be felt in such areas as urban governance systems, employment, transportation, housing, and access to basic public services, security, livelihood of migrant workers, population aging, economic restructuring, and air and water pollution. The way China continues its process of urbanization will shape the final outcome of these challenges.

To address these issues, we must have a sense of urgency, but also be mentally ready to fight a protracted war. It is necessary to treat both symptoms and root causes and achieve the goals of environmental protection established each year.

In the field of environment and development, work priorities were basically established at the Central Economic Work Conference held in December 2012 and in the Government *Work Report* delivered by former Premier Wen Jiabao to the National People's Congress in March 2013. Generally, priority will be given to the in-depth strategic adjustment of the industrial structure for sustained and healthy economic development and social harmony and stability.

Premier Wen clearly stated in the Government *Work Report*: 1) At the macro level, we should accelerate the transformation of the economic growth model and promote sustained and healthy economic development. In response to people's expectations of having a favorable living environment, we should greatly strengthen ecological improvement and environmental protection. Additionally, we should adhere to the basic state policy of conserving resources and protecting the environment and strive to promote green, circular, and low-carbon development. 2) Efforts should be exerted to significantly boost the conservation and reuse of energy and resources, prioritize saving energy in industry, transportation, construction, and in public institutions, restrict total energy consumption, and reduce energy and materials consumption and carbon dioxide emissions. 3) In regards to pollution prevention and control, the pace should be accelerated in adjusting the economic structure and distributing and upgrading of relevant standards, practices, laws, and regulations. Effective measures should be adopted to prevent and control pollution and change the way we work and live. Resolution should be made to solve the problems of serious air, water, and soil pollution that affect the people's vital interests. In addition, we must resolve to improve environmental quality, safeguard people's health, and give the people hope through our concrete action and achievements. 4) In regards to ecological protection, we should optimize development of the country's territory, carry out development at a proper pace and adjust its spatial layout. Also we should strengthen comprehensive maritime management, develop the maritime economy, become better able to exploit maritime resources, protect the maritime ecological environment, and safeguard

China's maritime rights and interests.

According to the 2013 National Conference on Environmental Protection, the environmental priorities are as follows: 1) To strive to complete the task of conserving energy and reducing emissions. Relative to the level in 2012, COD and SO<sub>2</sub> emissions shall be decreased by 2%, ammonia nitrogen emissions decreased by 2.5 % and NO<sub>x</sub> emissions decreased by 3%. 2) To give priority to the role of environmental protection in economic development. The preparation of the environmental zoning plan must be expedited, and efforts must be made to strengthen and improve the environmental impact assessment (EIA) for construction projects, with tight control of construction projects with high emissions, pollution and resource consumption, and of low-level redundant construction and overcapacity construction projects. Backward production capacity should be eliminated at a rapid pace, and emerging strategic industries, infrastructure and livelihood projects should be encouraged. Better EIA management should be introduced for chemical, petrochemical, heavy metal, iron and steel sectors as well as transportation infrastructure projects. Post-project assessment of major projects should be undertaken. 3) The PM<sub>2.5</sub> monitoring, information disclosure and integrated treatment should be strengthened. Advancement should be achieved in the linked air quality monitoring of the Beijing-Tianjin-Hebei region, the Yangtze River Delta, and the Pearl River Delta. Through comprehensive measures, PM<sub>2.5</sub>'s annual average concentration should be reduced by 5% in major areas and by 6% in the above-mentioned three regions.<sup>14</sup>

## **2. IMPORTANT PROGRESS IN ENVIRONMENTAL AND DEVELOPMENT POLICIES RELATED TO CCICED POLICY RECOMMENDATIONS**

In a report to the Chinese Government in 2012, the China Council for International Cooperation on Environment and Development (CCICED) highlighted the strategic transformation that should be directed at green transformation, while the 18th CPC National Congress proposed ecological civilization as one of the five components of modern development. The 12th Five-Year Plan stressing green development is a milestone in the exploration of a new road towards environmental protection. Green transformation is of vital significance not only for China, but also for the world's green progress.

CCICED also added that China's green transformation was at a crucial stage. China is confronted with unprecedented challenges and pressures in achieving strategic objectives by 2020, and green development still must address prominent unbalanced, uncoordinated and unsustainable development issues. To this end, in keeping with the 2012 theme of "regional balance and green development," CCICED established the

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<sup>14</sup> Zhou Shengxian, Implement the Spirit of the 18th CPC National Congress, Promote Ecological civilization, and Open up a New Situation -- Speech at the 2013 National Conference on Environmental Protection, website of MEP, [http://www.zhb.gov.cn/gkml/hbb/qt/201302/t20130204\\_245877.htm](http://www.zhb.gov.cn/gkml/hbb/qt/201302/t20130204_245877.htm), last visit on September 8, 2013.

Task Force on Western Environment and Development Strategies and Policies and the Task Force on the Mechanism and Policies for the Realization of the 12th FYP Environmental Goals. CCICED carried out case studies on environmental strategies and policies for the eastern development transformation, regional air quality control system, and maritime environmental management mechanisms, all of which relate to regional balance and green development.

In 2013 China has made significant progress in environment and development. Many policy recommendations submitted by CCICED have been realized, including the following: "to better the top-level design of ecological civilization at the central level and integrate the ecological civilization into the economic, political, cultural and social progress"; "to establish a government performance evaluation, assessment and accountability mechanism favorable to ecological civilization"; "to strengthen joint prevention and control of air pollution, so as to improve regional air quality"; "to build the general idea of and national strategy for balanced regional development to shape the regional pattern of green development"; and "to strengthen maritime environmental protection and build a sustainable maritime economy" (see Box 2). In response to the serious air pollution, the policy recommendations on air pollution prevention and control have been incorporated into the *Action Plan for Air Pollution Prevention and Control* (see Box 3). National leadership affirmed green economic transformation in addressing the relationship between economic development and the environment, which is important to that strategic transformation. In the speech delivered on the 8th G20 Summit in September 2013, President Xi Jinping stressed that China has been firm in advancing economic structural reform, even at the price of slower growth. He re-emphasized economic transformation in the APEC CEO Summit held in October 2013 and noted that "the GDP growth is no longer the only indicator, and the growth quality and effectiveness will also be fundamental"

CCICED's policy achievements go beyond the policy recommendations raised in 2012. Many of its earlier policy proposals also made new progress in 2013, after years of debate, as also shown in Box 2.. These include promoting a green transformation of the economic development pattern, strengthening ecological protection and ecological compensation, improving public participation and information disclosure, building an emissions trading platform, and actively participating in international environmental cooperation.

**Box 2. Major policy recommendations in recent years and the progress in 2013**

Year	Policy recommendations	Progress
<b>2008</b>	The Government should disclose environment and health information of public concern in	In October 2012, the General Office of MEP issued the <i>Circular on Further Strengthening Environmental</i>

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an accessible, understandable, and timely manner via government websites and various news media.

*Information Disclosure*, requiring environmental protection departments at all levels to strengthen the verification and approval of environmental information disclosure, strengthen environmental monitoring information disclosure, comprehensively promote the disclosure of environmental information associated with people's livelihood and high social concerns, and disclose information about major environmental emergencies in a timely fashion.

In May 2013, MEP solicited public comments on the drafts for *Measures for the Self-monitoring of Key Enterprises and Information Disclosure (Trial)* and *Measures for the Supervisory Monitoring of Pollution Sources for Key Enterprises and Information Disclosure (Trial)*.

In July 2013, MEP issued the *Circular on Strengthening the Disclosure of Monitoring Information about Environmental Pollution Sources*, which requires environmental protection departments at all levels to voluntarily disclose environmental pollution information.

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**2009**

Intensify efforts to boost the circular economy, and improve the resource and environmental efficiency of economic development.

In January 2013, the State Council announced the *Circular Economy Development Strategy and the Immediate Plan of Action*, noting that the mid-and long-term objectives for a circular economy are wide application of circular production methods, penetration of green consumption patterns, initial establishment of resources reuse system covering the whole of society, substantial increase in resource

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		productivity, and significant improvement in sustainable development capacity.
2010	Accelerate the legislative process of ecological compensation, and improve relevant policies and mechanisms.	In April 2013, NDRC Director Xu Shaoshi delivered the <i>Report on the Ecological Compensation Mechanism</i> on behalf of the State Council to the NPC Standing Committee. It is the first time the State Council reported to the NPC Standing Committee specifically on the construction of an ecological compensation system. In the next step, work priorities include effectively intensifying ecological compensation, further clarifying the rights and responsibilities of beneficiaries and protectors, actively exploring diversified compensation and experimental areas, improving supporting institutions, expediting the introduction of ecological compensation policies and regulations, strengthening organizational leadership and supervision and inspection, and enhancing the whole society's awareness of ecological compensation .
2011	Improve energy conservation monitoring, indicators and evaluation systems; strengthen the assessment of responsibilities for meetings targets related to energy conservation, and improve the reward system.	In January 2013, MEP, NBS, NDRC, and Ministry of Supervision of the State Council jointly issued the <i>Statistical Measures for the Total Emissions of Major Pollutants During the 12th Five-Year Plan Period</i> and the <i>Measures for Monitoring the Total Emissions of Major Pollutants During the 12th Five-Year Plan Period</i> .  In May 2013, MEP announced the <i>Letter of Accountability for the Reduction of Major Pollutants in the 12th FYP Period</i> .

		In August 2013, MEP announced that PetroChina and Sinopec failed the annual assessment due to inadequate completion of the task of reducing pollutants in 2012, and decided to limit the EIA approval for their new and expanded refinery projects.
2011	Establish an emissions trading platform.	Emission trading pilot projects were inaugurated in Beijing, Shanghai, Guangdong and four other provinces and cities in 2013.
2012	Improve the top-level design of ecological civilization at the central level and integrate ecological civilization into economic, political, cultural and social progress.	In the sixth collective study of the CPC Central Committee Politburo on vigorously promoting ecological civilization on May 24, 2013, Xi called for appropriate harmonizing of economic development and eco-environmental protection and emphasized the concept that to protect the ecological environment is to protect productivity, and to improve the ecological environment is to develop productivity.
2012	Lever government performance evaluation, assessment and accountability mechanisms favorable for ecological civilization to improve decision-making and governance processes and structures at all levels of government.	<p>Xi Jinping called for the establishment of a lifelong accountability system in the sixth collective study of the CPC Central Committee Politburo on vigorously promoting the ecological civilization on May 24, 2013. Those making decisions without due regard for the ecological environment and causing serious consequences can be held accountable for life.</p> <p>To further clarify the overarching requirement stressed by Xi at the operational level, the Ministry of Supervision has initiated research on accountability systems.</p> <p>The <i>Environmental Protection Law</i> currently under modification (second</p>

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		draft) also stipulates in Article 19 that "the state shall implement the accountability and evaluation system for environmental protection targets. The State Council and local governments shall include the completion of environmental protection targets in the evaluation of the competent environmental departments and responsible officials at the same and lower levels, and the evaluation results shall be made public."
2012	Develop and apply timely assessment procedures for quantitative management, such as comprehensive budget management and credit card management.	Authorities in many provinces are experimenting with budget management systems designed to control any increase in pollutants. To date, the system has been implemented in Henan and Guizhou. It will be implemented in January 2014 in Jiangsu, Zhejiang, Tianjin, Hunan, Hubei, Inner Mongolia, Shanxi, Hebei, Shaanxi, and Chongqing with the prior consent of local governments and MEP, and in the first year of the 13th Five-Year Plan in other provinces.
2012	Intensify joint prevention and control of air pollution to improve regional air quality.	<p>In October 2012, MEP, together with NDRC and MOF, announced the <i>12th Five-Year Plan for Air Pollution Prevention and Control in Key Regions</i>.</p> <p>MEP released the <i>Announcement on the Special Emission Caps for Air Pollutants</i> in February 2013, with the focus on thermal power, steel, petrochemical, cement, non-ferrous metals, and chemicals sectors and coal-fired boiler projects.</p> <p>In June 2013, Premier Li Keqiang announced the ten measures for air</p>

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	<p>pollution prevention and control in the State Council Standing Committee Meeting.</p>
	<p>In September 2013, the State Council promulgated the <i>Action Plan for Air Pollution Prevention and Control</i> and MEP, NDRC and four other ministries printed and distributed the <i>Rules for the Implementation of Action Plan for Air Pollution Prevention and Control in the Beijing-Tianjin-Hebei Region and the Surrounding Areas</i>.</p>

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2012	<p>Develop strategies for balanced regional development and that take into account regional green development imperatives. Based on current function zoning, development goals, industrial development trends, and spatial layout, balanced development should be reflected in the specific administrative areas and become more operable. Regions should complement each other in sectors, markets, resources, infrastructure and development potential to promote balanced development.</p>	<p>In June 2013, NDRC issued the <i>Opinions on Implementing the Strategies and Policies for the Development of Main Functional Zones</i>, proposing efforts to build scientific and rational patterns for urbanization, agricultural development and ecological security, and promoting the balanced development in urban and rural areas and between regions, and in population, economy, resources and environment.</p>
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2012	<p>Strengthen regional maritime environmental protection and improve sustainable maritime development.</p>	<p>At the eighth collective study of the CPC Central Committee Politburo dedicated to the development of maritime power on July 30, 2013, CPC General Secretary Xi Jinping stressed that a sustainable maritime economy and sound management of maritime resources are important components of socialism with Chinese characteristics. He highlighted the need to protect the maritime environment and called for efforts to promote the recycling and reuse. He said that we should be determined to take measures to</p>
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		reverse the worsening trend in the maritime environment in order to make significant improvements, so that the people can enjoy green, safe and secure maritime food resources and a clean sea and seaside environment. He required incorporating the maritime ecological civilization into the general layout of oceanic development and developing and utilizing maritime resources scientifically and rationally with emphasis on development, conservation, pollution prevention and control, and ecological restoration
2012	Develop as soon as possible national planning for maritime development and environmental protection and formulate the necessary policies and strategies, providing guidelines and action plans for sound maritime environmental management.	<p>In January 2013, the State Council approved the <i>12th Five-Year Plan for the Development of the Maritime Industry</i>.</p> <p>In January 2013, the State Council announced the <i>12th Five-Year Plan for National Maritime Economic Development</i> as the program of action for developing the maritime economy.</p>
2012	Establish and improve the legislation, enforcement, and management systems necessary for sound maritime environmental management; strengthen the capacity of national maritime authorities in the enforcement, supervision, and management of maritime environmental protection; establish an integrated national maritime enforcement team and the requisite administrative inspection systems and law enforcement systems.	In March 2013, the NPC approved the program for a new series of institutional reforms under the auspices of the State Council, which includes the re-organization of the State Oceanic Administration (SOA), to promote unified maritime law enforcement. According to the program, SOA shall be re-organized by integrating the teams and responsibilities of the current oceanic administration, maritime surveillance, border defense maritime police under MPS, fishery administration under MOA, and anti-smuggling police of the General Administration of Customs (GAC); the new organization will be supervised by

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**Box 3: CCICED policy recommendations in 2012 and Action Plan for Air Pollution Prevention and Control**

<i>Action Plan for Air Pollution Prevention and Control</i>	<b>CCICED policy recommendations in 2012</b>
<p>Desulfurization, denitrification, and dust removal projects should be introduced in key industries at a more rapid pace.</p> <p>Emissions of volatile organic compounds (VOCs) should be prevented and brought under control by means of integrated treatment in petrochemicals, organic chemicals, surface coating, and packaging and printing industries and the technical transformation of "leak detection and repair" in the petrochemical industry.</p> <p>Urban traffic management should be strengthened. In the context of urban development planning, the number of motor vehicles on roads should be appropriately controlled and strictly limited in Beijing, Shanghai, and Guangzhou. By encouraging green travel, and raising the cost of use, the usage of motor vehicles should be reduced.</p> <p>Fuel quality should be improved through rapid technical upgrading of oil refining enterprises.</p> <p>The elimination of yellow-marked and old vehicles should be realized by delineating the restricted regions and providing economic compensation.</p>	<p>Introduce methods for total emission control targeted at air quality improvement, and based on a multi-pollutants control strategy introduced to reduce emissions of SO<sub>2</sub>, NO<sub>x</sub>, PM2.5, and VOCs in order to address the current outstanding photochemical smog and haze issues.</p> <p>Strengthen industrial pollution prevention and control: promote comprehensive SO<sub>2</sub> emission reduction, build industrial NO<sub>x</sub> prevention and control system with a focus on the power and cement sectors, strengthen the prevention and control of industrial smoke dust pollution, and VOCs in the sectors concerned.</p> <p>Comprehensively strengthen the prevention and control of mobile sources of pollution: implement new vehicle emission standards to reduce the emission per km in a timely manner, carry out pilot studies of motor vehicle control in polluted cities, build a new, sustainable urban transportation system, and delineate low emission zones and zero-emission zones in the urban planning in key areas.</p>
<p>We should intensify the study of the formation, sources, migration, early warning mechanisms, and monitoring</p>	<p>Carry out as soon as possible special scientific studies and make breakthroughs in the study of the generation mechanism,</p>

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mechanisms of haze and ozone to support pollution control and advance researches on the relationship of air pollution and health.

We should amplify the research and development of technologies with respect to desulfurization, denitrification, efficient dust removal, VOCs control, (vehicle) diesel emission purification, environmental monitoring, new energy vehicles, and smart grid, in addition to promoting the application of technological achievements.

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In terms of the comprehensive renovation of small coal-fired boilers, we should accelerate to replace coal with gas and electricity installations using electricity, new energy or clean coal in areas not covered by heating and gas supply pipe lines, and promote the installation of environmentally-friendly energy-efficient boilers. In the chemical, papermaking, printing and dyeing, leather, pharmaceutical and other industrial agglomeration areas, cogeneration units should be built on a large scale to phase out coal-fired boilers.

source apportionment, and control paths of atmospheric pollution in different regions.

Vigorously promote quality alternative energy, such as natural gas, low sulfur diesel, liquefied petroleum gas (LPG), and electricity, as an alternative to coal, and achieve the diversified supply and consumption of quality energy. Strictly control the growth of total regional coal consumption, define the ban zone of high-polluting fuel combustion and progressively increase the proportion of such zones in urban areas.

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Green credit and green securities policies should be perfected to include corporate environmental information into the credit system, and businesses involved in environmental violations should not have access to loans. Pilots for emissions trading and other ‘emission paying’ systems should be developed.

A business "leader" system should be introduced to encourage leading enterprises to achieve higher standards for energy efficiency and emission intensity.

Reform of the investment and financing

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Promote systems for paying for air pollution and emission trading systems that are conducive to regional air quality improvement.

Establish central special funds for air pollution prevention and control, strengthen technical support for and expedite the implementation of the National Clean Air Action Plan. Direct and encourage local governments and businesses to actively invest resources into air pollution prevention and control.

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system for energy saving and environmental protection should be improved to encourage the involvement of private and public capital and encourage financial institutions to increase credit support for air pollution prevention and control. Mortgage financing models for emission rights should be studied in order to develop financing and leasing services for energy conservation and environmental protection facilities.

With proper environmental law enforcement and clear price mechanisms, special funds for air pollution prevention and control should be established based on the integration of the projects for pollutant reduction to facilitate the "incentives instead of subsidies" to achieve treatment results in key areas. More central infrastructure investment should be diverted to air pollution prevention and control in the key areas.

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The pace of amendment to the *Law of Air Pollution Prevention and Control* should be accelerated, with the focus put on improving systems for overall control, pollution permits, emergency warning and legal liability. The introduction of measures should be considered that hold business and the responsible persons to account under criminal law for malicious sewage discharge and creating serious pollution and hazards, and penalties for violations should be increased. The environmental public interest litigation system should be established and perfected. We should study and draft the environmental tax law, expedite the pace of amending the *Law of Environmental Protection* and of formulating regulations for motor vehicle pollution prevention

Amend the relevant laws to provide the legal basis for regional air pollution prevention and control.

Amend the *Law of Air Pollution Prevention and Control*, which has been unable to correct recent trends, to meet new requirements, and to provide legal support to the corresponding policies and measures. Include PM<sub>2.5</sub> and O<sub>3</sub> which have a major impact on human health, as the core content of air pollution prevention and control, and strengthen industrial pollution treatment, placing emphasis on small and medium sized boilers, dust, cooking fumes, decorative painting and other non-point sources, as well as vehicles and other mobile sources of pollution. Highlight air quality improvement as the core content of

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and control, as well as regulations for pollutant discharge permits. In accordance with local conditions, local regulations and rules for air pollution prevention and control can be introduced.

We should accelerate the pace of designing or revising emission standards for key industries and vehicle fuel consumption, oil standards, and heat metering standards, and improve the policies associated with pollution prevention and control technologies and a cleaner production evaluation system.

atmospheric environment management, and further clarify the responsibilities and obligations of city governments to meet air quality standards in their jurisdictions. Improve regional joint prevention and control mechanisms to address air pollution transmission across administrative boundaries. Further increase the cost of atmospheric environmental violations by increasing the penalties. Put emphasis on the control of non-road mobile source emissions by including the emissions of ships, aircraft, trains and non-road machinery into the scope of legal jurisdictions and clarify management responsibilities.

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A coordination mechanism for air pollution prevention and control in the Beijing-Tianjin-Hebei region and the Yangtze River Delta should be established. The involved provincial governments and the relevant departments of the State Council shall collaborate to solve outstanding environmental problems in the region by organizing joint action on such measures as EIA consultations, joint law enforcement, information sharing, early warning and emergence response, and atmospheric pollution prevention and control measures, and also on information on work progress and the determination of work requirements, priorities and major tasks.

The State Council and the governments of provinces (autonomous regions and municipalities) shall sign letters of responsibility for air pollution control targets, and break down the targets and tasks into those requiring action by local governments and by businesses. PM2.5 levels in priority areas and respiratory

Based on pollutants transportation among cities within the region and the atmospheric environmental quality and environmental capacity in different cities, outline the core areas significantly impacting the regional air quality, such as the Beijing-Tianjin-Hebei region, the Yangtze River Delta, and the Pearl River Delta with serious complicated air pollution; strictly implement the differentiated management policies; and promote a concerted relationship between development of industrial, energy and atmospheric environmental function zoning in the region.

Build a joint information mechanism for regional joint prevention and control of air pollution, and improve the consultation and notification system. Implement strictly pollution liability in various cities, strengthen dynamic evaluation assessments, and restrict new construction projects involving air pollutant emissions in cities where air quality is deteriorating seriously.

Improve policies and measures promoting

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particulate matter in non-priority areas will be included as binding targets of economic and social development in the environment-centered target accountability assessment system.

The State Council shall formulate the measures for assessing the completion of targets in provinces (autonomous regions and municipalities) at the beginning of each year. It will conduct a mid-term assessment in 2015, based on which tasks will need to be adjusted, with a final assessment in 2017.

regional integration of air pollution prevention and control, enforce joint examination and approval systems for large projects, and establish a regional pollution emergency response mechanism and a cross-border coordination mechanism for pollution prevention and control.

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Environmental protection departments should strengthen cooperation with the meteorological department in the establishment of a heavy pollution weather monitoring and warning system. By 2014, the system should be in place at the regional, provincial and municipal levels for the Beijing-Tianjin-Hebei region, the Yangtze River Delta, and the Pearl River Delta, and before the end of 2015, for other provinces (autonomous regions and municipalities), sub-provincial cities, and capital cities. Trend analysis of heavy pollution weather should be achieved through improved consultation and decision-making mechanisms. Thus, more accurate monitoring, early warning and timely information disclosure can be achieved.

A regional, provincial and municipal linkage system for emergency response to heavily polluted weather should be established for the Beijing-Tianjin-Hebei region, the Yangtze River Delta, and the Pearl River Delta.

Enhance air quality monitoring in major areas, and establish a regional environmental information sharing platform.

### 3. CONCLUSION

In 2012, the world economic recovery was fraught with uncertainty and instability amid the lingering deep impact of the international financial crisis. The Chinese domestic economy also faced a severe test. In this difficult context, the Chinese Government expedited the elimination of reduced production capacity forced by the international financial crisis, and successfully addressed emission reduction targets, demonstrating its firm determination to advance the strategic transformation of the industrial structure.

Meanwhile, the report to the 18th CPC National Congress underscored the significance of ecological civilization, signifying that environmental protection efforts have entered a new and higher stage. The concept of a "Beautiful Country" has become an important part of the Chinese Dream. Governments at different levels strived to intensify environmental protection efforts, while expectations for a "Beautiful Country" on the part of the public rose and people became more active in the fight for their environmental rights. A broader consensus and positive interaction developed with respect to issues associated with ecological civilization and a "beautiful country".

In a review of environment and development policies, some policy development trends are worth special attention.

First, China's top leadership has advanced a sophisticated usage of the concept of ecological civilization. President Xi Jinping's discourse that to protect and improve the ecological environment is to protect and improve the productive forces marks a new advancement in grasping the dialectical relationship between environmental protection and economic development. Ever since the judgment that "science and technology constitute a primary productive force" was made by Deng Xiaoping 20 years ago, China has ushered in rapid development in scientific, technological, and economic sectors. In this sense, we have reason to believe that the current discourse will also drive progress towards realization of ecological civilization.

Second, strategic changes in environmental management are confronted with multiple challenges and difficulties. In 2012, CCICED called for the strategic shift from total emission control to integrated control of total emissions, environmental quality improvement and environmental risk prevention and control. Although we achieved remarkable results in energy conservation and emission reduction during the 11th Five Year Plan, environmental quality did not improve substantially, which creates doubt among the masses about the effectiveness of environmental management. It is urgent to change environmental management approaches; future environmental policy should be targeted at environmental quality, taking environmental quality improvement as the criterion for measuring results. In 2013, MEP proposed more stringent environmental quality standards. In an effort to refine and improve the information content and

professional level of environmental protection in a comprehensive way, the following efforts have been made: change from a passive response to an active response in environmental management; shifting from local mechanisms to regional mechanisms for pollution prevention and control; shifting attention from primary pollutants to both primary and secondary pollutants; and expanding the focus on individual pollutants to multiple pollutants. This transformation, however, faces many obstacles in terms of systems, standards, management and even ideological ideas. Such challenges include: promoting environmental quality as a public service equally among regions; updating the basis for environmental standards from economic development to ecology and health; allocating quality targets while maintaining the effectiveness of responsibility systems; and combining the improvement of environmental quality with incentives to take action on environmental protection on the part of departments and staff.

Third, the intensive efforts to crack down on pollution should be underpinned by the legal system. In less than a year, the new central leadership and the new Government have affirmed their basic stance of seeking ecological civilization, protecting the environment, and conserving resources. There have been clear statements of ideas related to the red line and hard constraints, and expressions of low and zero tolerance for environmental violations and administrative omissions. A strong determination has been demonstrated to crack down on crime by judicial means, as well as a strong will to strengthen the discipline of administrative officials engaged in inspection and supervision. These positions not only provide justice and institutional guarantees for environmental management, but also constitute imperatives for environmental protection departments and personnel, urging them to improve their work quality and working style, and to fulfill duties honestly and efficiently according to the law.

Fourth, specific rules for practices in environmental responsibility and a lifelong accountability system should be in place. A deep-rooted weakness in environmental rule of law is that legal liability both for business and government workers is lenient, and even such 'light' liability is difficult to enforce in practice, let alone "lifelong accountability." In this regard, the concept that "those making rash decisions with no consideration to the ecological environment and resulting in serious consequences must be held accountable and should be held accountable for life" greatly improves the current environmental liability system. Indeed, the "lifetime accountability system", to be solidly carried out, needs better legislation. It demonstrates the firm determination of the top leadership to strengthen the Government's responsibility for environmental protection, and it urges the officials and leaders to be more careful in environmental decision-making.

Fifth, information disclosure and public participation are further strengthened. In light of the mass incidents sparked by environmental problems in recent years, the Chinese Government has become increasingly aware that more adequate information disclosure and public participation will not only prevent the maximum extent of economic damage and social unrest, but will also significantly increase political

legitimacy. In the context of CPC leadership re-emphasizing the "mass line," good approaches for environmental protection come from the rich practice of involving the public in the final analysis of environmental issues. Therefore, competent authorities should be down to earth and learn to communicate with the masses in order to respond seriously to their concerns and expectations, as well as to pool their wisdom and efforts. We should listen more to public opinion and address areas of difficulty in environmental protection, so as to solve the problems at the grassroots level before they grow to become larger problems. Information disclosure also needs to be strengthened to protect the public's right to know and supervise. An increasing number of ordinary citizens apply for the disclosure of environmental information to learn about its close connection with their own lives, for instance on soil pollution and groundwater pollution. The public is urging the government to want to respond positively. In this way, the combination of the top-down and bottom-up philosophy and practice will help information disclosure and public participation in the environmental domain move forward.

Sixth, environmental protection departments need to improve their reputation of pursuing ecological civilization. More specifically, their unclear functions, inadequate management, and repeated inspections have incurred significant additional costs in the daily operations of businesses. Moreover, some private transactions between officials and businesses in the process of sewage charges have recently darkened the image of law enforcement. The former Chief of the Environmental Monitoring Detachment, Environmental Protection Bureau of Baoshan District, Shanghai accepted banquets, gifts and cash against the law and action was taken by the Central Discipline Inspection Commission at the end of July 2013; this caused negative publicity. This case reveals deficiencies in the management and personnel of the environmental protection sector. In the near future, the improvement of work style, close ties with the masses, and implementation of the eight provisions and six bans of the Central Government will create an important opportunity to improve the image of the competent authorities. "To address these problems, we must first of all conduct ourselves honorably." Against the backdrop of extremely severe environmental conditions and growing public consciousness of environmental rights, environmental protection departments at all levels should improve their integrity. This is undoubtedly essential to ecological civilization.

2013 is the first year to fully and conscientiously carrying forward the spirit of the 18th CPC National Congress. It is a critical year to usher in the 13th FYP from the 12th FYP, and an important year to lay a solid foundation for building a moderately prosperous society. A high degree of consensus has been reached between the Government and the people in their efforts to advance ecological civilization and build a beautiful country. In this regard, the Chinese Government should take full advantage of the favorable conditions at home and abroad, and unyieldingly push forward the strategic transformation of the economic structure and the address the cause of environmental protection. A beautiful country will be built, step-by-step.