



China Council for International Cooperation on Environment and Development

Progress in Environment and Development Policies in China
and
Impact of CCICED's Policy Recommendations
(2013-2017)

Beijing, December 2017

Foreword

As a high-level policy advisory body approved by the Chinese Government, and chaired by the Vice Premier of China the China Council for International Cooperation on Environment and Development, (CCICED, the Council) is responsible for proposing policy recommendations on important issues related to environment and development. At the Council's annual general meetings, Chinese and international members engage in policy discussions based largely on policy research. These discussions lead to policy recommendations that are submitted to the State Council and to central government departments.

Annually since 2008, the Support Team for the Council's Chinese and International Chief Advisors has produced a report entitled *Progress of Important Policies Pertaining to China's Environment and Development, and Impact of CCICED Policy Recommendations*. The report briefs Council members on the outcomes of policy studies and recommendations by providing an overview of China's progress in environmental and development policies during the previous year; the report also indicates whether or not policy shifts are consistent with the CCICED recommendations submitted to the Government of China. The report should not be considered a direct measure of CCICED influence on China's environmental and development policies. This is because the State Council can draw upon various sources of advice for any particular matter. However, this report does highlight linkages between China's policies and corresponding CCICED recommendations—thereby demonstrating the relevance of the Council's work in terms of theme selection and policy proposals.

This is the tenth report provided by the Chinese members of CCICED's Chief Advisor Support Team. Instead of examining only the past year as is the usual case, it reviews policy developments for selected areas of environment and development over the past five years, and describes the comprehensive and deepening reforms undertaken by President Xi Jinping's central leadership.

The report is divided into six thematic areas: Planning for Environment and Development; Ecosystem and Biodiversity Conservation; Energy, Environment and Climate; Environmental Governance and the Rule of Law; Pollution Prevention, Control and Mitigation; and Regional and International Engagement. For each theme, various government actions are introduced and corresponding CCICED recommendations of recent years are listed. The table found in the appendix presents these linkages in greater details.

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I. Planning for environment and development

(I) Speeding up system reform for developing an ecological civilization, and building a Beautiful China

In his report, General Secretary Xi Jinping expounded on "speeding up system reform for developing an ecological civilization, and building a Beautiful China" at the 19th National Congress of the Communist Party of China (CPC) held in Beijing on October 18, 2017, providing broad directions for promoting ecological progress in the near future and to 2050.

As the report states, the modernization that China pursues is characterized by harmonious coexistence between humanity and nature. In addition to creating more material and cultural wealth to meet people's ever-increasing needs for a better life, China's government also needs to provide greater quality ecological goods and services to meet people's ever-growing demand for a beautiful environment. Therefore, acting on the principles of prioritizing resource conservation and environmental protection and letting nature restore itself, the government needs to engage in comprehensive regional and landscape planning, industrial restructuring, and encouraging work and lifestyle modes that conserve resources and protect the environment.

(1) Promoting green development. China is determined to step up efforts to establish a legal and policy framework that promotes green production and consumption, and promote a sound economic structure that facilitates green, low-carbon, and circular development. The government states it will create a market-based system for green technology innovation, develop green finance, and spur the development of energy-saving and environmental protection industries as well as clean production and clean energy industries. China will promote a revolution in energy production and consumption, and build an energy sector that is clean, low-carbon, safe, and efficient. China will also encourage widespread conservation and promote recycling, take action to ensure everyone conserves water, cut consumption of energy and materials, and establish linkages between the circular use of resources and materials in industrial production and in everyday life. China will encourage simple, moderate, green, and low-carbon lifestyles, and discourage extravagance and excessive consumption. Also announced are initiatives to make the CPC and government offices improve their own performance in terms of conservation, and develop eco-friendly families, schools, communities, and transportation services.

(2) Solving prominent environmental problems. The CPC report commits to engaging the whole population in improving the environment and addressing the root causes of environmental problems. The campaign to prevent and control air pollution to make skies blue again will continue. There will be an acceleration of prevention and control of water pollution, and comprehensive measures will be implemented to improve river basins and offshore zones. The government will strengthen control of soil pollution and the restoration of contaminated soils, intensify the prevention and control of agricultural pollution from non-point sources, and take measures to improve rural areas' living environments. The government commits to improving the treatment of solid waste and garbage, enforcing stricter pollutant discharge standards, and making polluters accountable for infractions. There will be improvements in systems used to assess environmental protection performance, to undertake

mandatory release of environmental information, and to impose severe penalties for environmental violations. China will establish an environmental governance system in which government takes the lead, enterprises assume the main responsibility, and civic organizations and the public also participate. China is to become actively involved in global environmental governance, fulfilling its commitments on emissions reduction.

(3) Intensifying the protection of ecosystems. The government commits to major projects to protect and restore important ecosystems, improve safeguards for ecological security, and develop ecological corridors and biodiversity protection networks, so as to strengthen the quality and stability of the country's ecosystems. The government will complete its system of redlines for ecosystem protection, designating areas as permanent basic agricultural land, and for delineating urban development boundaries. Afforestation will be promoted and comprehensive steps will be taken to control desertification, as well as to prevent the creation of stony deserts and soil erosion. Wetland conservation and restoration will be strengthened and there will be enhanced prevention and control of geological disasters. There will be improvements in the protection of natural forests, and a greater area of marginal farmland will be restored to forests and grasslands. China will rigorously protect farmland and expand trials in crop rotation and keeping land fallow; the government will improve its approaches to the regeneration of croplands, grasslands, forests, rivers, and lakes, as well as implement diversified market-based mechanisms for ecological compensation.

(4) Reforming the environment regulatory system. China will strengthen overall planning, organization, and leadership for the establishment of an ecological civilization. There will be regulatory agencies established to manage state-owned natural resource assets, to monitor natural ecosystems, and to improve environmental management systems. These agencies will, in a coordinated way, perform the duties of the owner of public-owned natural resource assets, regulating the use of all territorial space protecting and restoring ecosystems, and monitoring the discharge of all pollutants in urban and rural areas. The agencies will be responsible for administrative law enforcement. The government will establish systems for developing and protecting landscapes, improve supporting policies on functional zones, and develop a network of nature reserves composed mostly of national parks. China will take tough measures to stop and penalize all activities that damage the environment.

(II) Upgrading the five-year plans for energy conservation and emissions reduction to the standards of the 13th Five-Year Plan for green development

China outperformed the economic targets set for the 10th FYP period, but environmental performance often lagged behind national economic and social development. China has gradually moved towards a green transition of its economy since energy conservation and emissions reduction were included as binding targets in the 11th Five-Year Plan for national economic and social development¹. Nevertheless, a number of environmental problems occurred due to a sizeable historic debt and long-term pollutant accumulation. In particular,

¹ The 11th Five-Year Plan set the target of reducing energy consumption per unit of gross domestic product (GDP) by 20% and chemical oxygen demand and sulfur dioxide emissions 10% each. The 12th Five-Year Plan proposed to reduce energy consumption per unit of GDP by 16% and carbon dioxide emissions 17%, and curtail the emissions of major pollutants, including cutting chemical oxygen demand and sulfur dioxide emissions by 8% each and ammonia nitrogen and nitrogen oxide emissions 10% each.

the persistent haze that can cover large regions since 2013 has had negative impacts on production and on citizens' lives. This has evolved into a serious environmental problem as authorities failed to properly understand the complex root causes and the challenges in tackling the problem.

Facing up to the problem of ecological and environmental protection, the country's leadership appointed in 2013 incorporated the goal of ecological progress into the government's 'five-in-one' comprehensive plan and embarked on the current unprecedented effort to protect the environment. The 13th Five-Year Plan was unveiled at a critical stage of building a moderately prosperous society (*xiaokang*). For the first time, the Plan outlines the green transformation that must take place on all fronts, and specifically proposes a vision of "innovative, open, green, coordinated and shared" development.

(1) Basic environmental objective. The 13th Five-Year Plan places more emphasis on the "improvement of environmental quality" and strives to nurture green mode of production and lifestyles, as well as espousing the adoption of landscape and regional planning, as well as a system of safeguards for ecological security. This core shift, from the reduction of pollutant emissions in the previous plan to the improvement of environmental quality in the current plan, illustrates the progress made in environmental policy in China.

(2) Environmental management. While the 12th Five-Year Plan achieved few breakthroughs in systems and mechanisms², the Outline of the 13th Five-Year Plan puts forward a series of comprehensive institutional reforms in line with the *Integrated Reform Plan for Promoting Ecological Progress*. Among them, the "reform of fundamental environmental governance systems" encompasses:

- establishment of a responsibility system and performance assessment mechanisms for meeting environmental protection targets;
- implementation of a vertical management system for monitoring, supervision, and law enforcement activities of environmental bodies below the provincial level;
- establishment of an emissions permit system that puts the regulation of all pollutants under permit;
- strict and trans-regional joint law enforcement for environmental protection and strengthened oversight over law enforcement and investigation into accountability;
- compilation of environmental credibility record of enterprises and blacklist of illegal polluters; and
- performance audit of out-of-office officials in having fulfilled their environmental protection responsibilities.

Overall, the Outline of the 13th Five-Year Plan makes major adjustments and changes in guiding philosophy, basic objectives, and institutional mechanisms, and promotes reforms of

² It established a sound mechanism for regional joint prevention and control to address complex regional air pollution; strengthened environmental law enforcement and tightened environmental access; set up a social oversight mechanism for environmental protection.

unparalleled intensity and depth to improve environmental quality.

(III) Exploring the mode of eco-friendly urban development to curb urban sprawl

Held in December 2015, the Central Urban Work Conference called for a scientific approach to urban planning, with a preference for urban clusters, so as to achieve compact, efficient and green development. It highlighted the need to strengthen industrial coordination and cooperation among cities of all sizes and small towns, and to coordinate this with the development of modern agriculture, in order to create a new pattern for urban and rural integrated development. The Conference report also stated that China will make cities more livable by planning space for production, living and ecological purposes, and will advance the planning and construction of urban infrastructure that is green, low-carbon and circular.

According to the 13th Five-Year Plan, China is to accelerate the development of an urbanization strategy, which stresses reasonable distribution and coordinated development of cities of all sizes and small towns, and the establishment of sound coordination mechanisms to achieve integrated and efficient development of urban clusters. Megacities and supercities should act quickly to remove from their central area, where appropriate, functions that are not essential, increase transportation efficiency for commuters, and integrate development with neighboring towns and cities. China will support the development of “sponge cities” and increase the resilience of urban buildings and infrastructure to natural disasters. The country will see the development of green cities by adapting cities’ scale to available resources and to environmental carrying capacities, using eco-friendly planning, design, and construction standards, and carrying out initiatives to build ecological corridors and restore ecosystems.

(IV) Improving ecological protection and environmental governance by virtue of an "Internet Plus" action plan

The "Internet Plus" action plan was introduced in the *Report on the Work of the Government* delivered in March 2015, stating that China will develop an "Internet Plus" action plan to integrate mobile Internet, cloud computing, big data, and the Internet of Things with modern manufacturing, in order to encourage the healthy development of e-commerce, industrial networks, and Internet banking, as well as encouraging Internet-based companies to take a more robust position on international markets.

Issued by the State Council the same year, the *Circular on Printing and Issuing the Action Outline for Promoting the Big Data Development* recognized big data as a fundamental strategic resource, and a new pathway to enhance governance capacity. The data based governance mechanism, including "voice, decision-making, management and innovation" will facilitate science-based decisions and spur progress in government thinking on both governance and models of social governance.

On January 11, 2016, the National Development and Reform Commission (NDRC) released the *Three-Year Action Plan for Internet Plus Green Ecology* to promote in-depth integration of the Internet in developing an ecological civilization. China is to improve the pollutant monitoring and information dissemination system, and establish a dynamic monitoring network for resource and environment carrying capacities of main ecological factors. This was done to support the sharing of networked and accessible environmental data. The Internet

will serve as a platform for recycling in reverse engineering systems, which makes the trade and reuse of renewable resources more convenient, interactive, transparent, and contributes to green modes of production and lifestyles.

In March 2016, the Ministry of Environmental Protection (MEP) released the *Master Plan for Big Data Construction for Ecological Environment*, stressing it is necessary to unify infrastructure construction and centrally manage data resources that target improvements in environmental quality. China is to promote system integration and interconnection, data access and sharing, and business collaboration, as well as to improve system standards and data security. Through five years of efforts, the government plans to complete the basic framework of an application platform, a management platform and a big data based cloud platform, and achieve evidence-based, integrated decision making, well-targeted regulations and convenient public services in the areas of ecology and environment.

Highlights of the *Three-Year Action Plan for Internet Plus Green Ecology*

1. Enhance the dynamic monitoring of resources and environment, and in conjunction with local governments, establish a monitoring and early warning database and information sharing platform. Formulate the *Action Plan for Internet Plus Forestry*, advance the monitoring and mapping of ecological protection red lines, and develop forestry standards adapted to the Internet Plus green ecology.
2. Promote smart environmental protection. Apply intelligent monitoring equipment and mobile Internet to improve the online monitoring system for pollutant discharge, in order to include more pollutants and cover a wider scope, and to establish a multi-level artificial intelligence system that covers all weather conditions and sources. Strengthen data collection and collation on corporate environmental credits and incorporate the records into the national unified framework for credit information sharing and exchange. Improve the early warning and monitoring information network for environmental risks to enhance prevention and emergency response to major risks such as heavy metals, hazardous waste, and hazardous chemicals.
3. Improve the recycling, reuse and online trading system for waste and recycled resources, formulate the *Internet Plus Resource Recycling Program (2016-2020)*, support the recycling industry to use the Internet of Things and big data for data collection and analysis and flow monitoring, and promote the Internet Plus recycling model.

(V) Developing integrated planning that coordinates territorial landscape planning with resource conservation and environmental protection

Unveiled in 2015, the *Integrated Reform Plan for Promoting Ecological Progress* calls for the establishment of a unified and standardized mechanism for developing regional and landscape plans. The *Opinions on Accelerate the Construction of Ecological Civilization* defines targets for 2020, including further optimized regional plans, a balanced economic structure and population distribution, controlled development intensity of terrestrial and marine areas,, as

well as scale of urban space, and more rational urban-rural structure and regional planning. On January 3, 2017, the State Council issued the *National Land Planning Outline (2016-2030)*, a strategic, comprehensive and fundamental plan that covers national spatial development plans, resource conservation and environmental protection, comprehensive territorial governance and prevention system construction. According to this document, by 2020, the living environment will be gradually improved, and ecosystem stability will be stronger and biodiversity effectively protected. By 2030, the system of intensive, green, low-carbon, circular utilization of resources will be basically established, contributing to resource conservation and intensive utilization. The ecological environment will be effectively protected, significantly enhancing environmental functions in production, living and ecosystems. The Outline also suggested creating an overall pattern for protecting a safe and harmonious ecological environment and promoting a pattern of coordinated and linked regional development.

Creating an overall ecological protection pattern and a regional development pattern defined in the *National Land Planning Outline (2016-2030)*

Establish an overall pattern of protection for a safe and harmonious environment:

1. Advance the protection of national lands according to types and levels. Targeted measures will be taken to protect, maintain and restore land based on resource and environmental carrying capacities, focusing on critical resources and environments, and considering ecological functions, development levels and resources and environment issues in different regions. This zoning-based environmental governance will be strengthened for better urban and rural environments, natural ecosystem functions, and marine environmental protection, in order to form a hierarchical national land protection system based on land types.
2. Build ecological security frameworks for terrestrial and marine territories. The ecological security framework for terrestrial territory will be underpinned by the Qinghai-Tibet Plateau Ecological Shield, Loess Plateau-Sichuan-Yunnan Ecological Shield, Northeast Forest Belt and major rivers, and comprised of key ecological functional zones and development prohibited areas sparsely distributed in the country. The ecological security framework for marine territory will encompass the green ecological shield, island chain, and typical ecosystems, with consideration to marine ecological protection, development and utilization.

Promote a framework of coordinated and linked regional development:

1. Fully implement the strategies for the Belt and Road Initiative, the Beijing-Tianjin-Hebei Integration, and the Yangtze River Economic Belt plan. Guided by these three strategies, China is to expand regional development by fostering economic growth poles which extend from coastal areas to inland areas along major rivers and important transportation trunks, and revisit the patterns of regional development favoring the orderly and free flow of elements, the effective control of main functions and appropriate resource and environment capacities.
2. Promote coordinated development of different regions. The government will implement its comprehensive strategy for regional development, and define the orientation, development priorities, protection measures and remediation tasks for different regions, in order to leverage comparative advantages based on regional resources and environmental endowments. Innovative and targeted regional policies will be introduced. Authorities will accelerate the development of priority areas, support the leapfrog development of marginalized, remote, and poor areas, encourage the transformation of resource-rich areas, so as to achieve differentiated, but coordinated regional development. The government will promote concentric land development clusters to stimulate urban development, industrial planning, resource development and utilization, environmental protection and infrastructure construction in these clusters and surrounding areas, so as to accelerate the process of regional integration.

(VI) CCICED policy recommendations

Over the past five years, CCICED has provided valuable, forward-looking policy

recommendations on planning for environment and development, which can be divided into six categories.

1. Speeding up reform of the system for developing an ecological civilization, and building a Beautiful China

CCICED has played a very important historical role in changing the ideas related to sustainable development in China.

- In 1993, the second year since its inception, the Council recommended abandoning the extensive mode of production and instead supporting intensive production. In 1996, the Chinese Government explicitly required a shift in the mode of economic growth from extensive to intensive in the *Outline of the Ninth Five-Year Plan for National Economic and Social Development and the Long-term Targets through the Year 2010*.
- In 2007, CCICED via its unique platform began to disseminate to the international community the concept of "ecological civilization", introduced at the 16th CPC National Congress. Under the framework of developing an ecological civilization, CCICED has explored various reforms including: environmental protection system reform, greening China's legal system, and the establishment of green finance, environmental taxation, ecological compensation mechanisms, and ecological redlining based on ecological functional zones.
- In Phase IV, CCICED launched a series of major studies on the green transition of China's economy, and set forth a vision of green low-carbon, and circular development. It also examined transformation of green supply chain at the production end and the mode of terminal green sustainable consumption, and suggested the development of eco-friendly households, schools, communities, and transportation services, and the establishment of a performance evaluation system for leading officials favouring green transformation of development mode. The *12th Five-Year Plan for Energy Conservation and Emissions Reduction*, promulgated by the State Council in August 2012, clearly stipulates that the State Council will assess provincial government responsibility for achieving energy conservation and emissions reduction targets every year, and reflect the results in the comprehensive appraisal of leading organizations and officials, as well as the management performance of governments to encourage accountability.
- In line with CCICED's policy recommendation for formulating a green-oriented plan in 2013, the 13th Five Year Plan connects green development with the guiding principles of innovation, openness, coordination and sharing.

2. Setting the core objective of improving environmental quality

The 11th Five-Year Plan specified the binding targets for energy conservation and emissions reduction from 2006 onwards, but did not establish the direct measurement-response relationship with the improvement of environmental quality. To this end, CCICED advised the Chinese Government in 2012 to advance the strategic transformation of

environmental management aimed at improving environmental quality and protecting public health. The 13th Five-Year Plan defines the core objective of environmental quality improvement and requires the implementation of more stringent pollution control and environmental risk prevention, to promote comprehensive environmental protection that highlights environmental quality, human health, and ecosystem protection.

3. Renewing the environmental management system

Environmental protection has been constrained in various institutional arrangements for a long time. The systems and mechanisms at the central and local levels are far from perfect, and in particular, environmental departments find themselves in difficult positions. To further reform the environmental management system, CCICED reiterated in 2015 the recommendations that China accelerate system reform for developing an ecological civilization, establish a multi-stakeholder environmental governance system, and promote the vertical management of environmental departments below the provincial level in the new era.

4. Sustainable urbanization

Sustainable urbanization is one of the major issues on the Council's research agenda. As early as 2005, CCICED proposed the establishment of a multi-level public-private partnership (PPP) to improve urban transportation, strengthen facilities for environmental protection, and promote buildings efficient in water, energy and materials. In 2012, focusing on balanced regional development, CCICED recommended the development of differentiated sustainable urbanization plans for regions in accordance with the principles of gradual progress, land conservation, intensive development and rational distribution, in an effort to support urban development models that are resource-saving, environment-friendly, cost-effective and harmonious in eastern, central and western regions.

The policy recommendations for this new era include implementing people-centered urbanization with due respect for ecosystems, ecological services and green spaces; paying attention to resource and environment challenges in the process of urbanization and exploring paths to green urbanization; and encouraging the adoption of "compact and multi-centered" city plans (2013); and exploring new urbanization models in the context of creating an ecological civilization (2014). These recommendations were valued and partially absorbed and adopted by the Chinese Government.

5. Internet Plus environmental protection

Big data and mobile Internet have not only greatly changed people's work and lifestyles, but also enabled environment protection to a higher level. With farsighted vision, the CCICED suggested, in 2015, the establishment of a nationwide big data network, information system, and environmental management platform to enhance information support for environmental management and decisions.

II. Ecosystem and biodiversity conservation

Ecosystem and biodiversity conservation has been greatly strengthened over the last five

years. Specific progress includes:

(I) Observing ecological bottom lines, drawing ecological protection red lines, and implementing ecological compensation

Given the limitation of available effective means, an ecological redlining system based on national functional zoning and an ecological compensation policy for trans-regional balanced green development stand out as two key measures to effectively protect China's ecology and environment in the new era.

1. Promoting the ecological redlining system

CCICED has focused on examination of ecological redlining for a considerable period. As early as 2001, the State Environmental Protection Administration (SEPA), together with concerned departments, completed the investigation into the state of ecosystem protection in western regions and launched a pilot project with Gansu province focusing on ecological functional zoning. In 2002, the report entitled *Interim Rules for Ecological Functional Zoning* was released and provided initial results on the zoning of ecological functions in China. MEP and the Chinese Academy of Sciences (CAS) published a Bulletin (No. 35 of 2008) on the release of *National Ecological Functional Zoning Plan*.

After more than ten years of exploration, the development of ecological functional zoning is now progressing rapidly. On April 25, 2015, the CPC Central Committee and the State Council explicitly required the strict observance of ecological protection red lines for resources and environment through the *Opinions on Accelerating the Construction of Ecological Civilization*. According to the document, the government will delineate and strictly observe resource consumption ceilings, environmental quality bottom lines, ecological protection red lines and control all kinds of economic and social activities within established resource and environmental carrying capacities; determine ecological protection red lines for key ecological functional areas, ecologically sensitive areas and ecologically vulnerable areas; and define scientifically ecological protection red lines for forests, grasslands, wetlands and oceans in order to effectively curb the degradation of ecosystems.

On November 23, 2015, the *National Ecological Functional Zoning Plan (Revised)* was put in effect to guide the preparation and adjustment of ecological functional zoning plans nationwide.

On April 30, 2015, MEP formulated and implemented the *Technical Guidelines on the Delineation of Ecological Protection Red Lines* to specifically guide the establishment of ecological red lines. On May 30, 2016, nine ministries including NDRC issued the *Guiding Opinions on Strengthening Ecological Redlining Control of Resources and the Environment*, calling for ecological protection red lines for key ecological functional areas, ecologically sensitive areas and ecologically vulnerable areas and also for forests, grasslands, wetlands and oceans, in order to effectively curb the degradation of ecosystems.

When it comes to specific practices, redlining delineation and control was piloted in Jiangsu, Hainan, Hubei, Jiangxi province as well as in the large municipalities of Chongqing and Shenyang; ecological protection red lines were put into effect in Tianjin city and Jiangsu

Province; process-wide environmental protection of key ecological functional zones were carried out on a pilot basis in the municipality of Chongqing and in the provinces of Hainan, Shaanxi and Ningxia; the transfer payment policy was improved for key ecological functional zones.

2. Ecological compensation system progress

In December 2015, the CPC Central Committee and the State Council issued the *Pilot Plan for Reforming the Compensation System for Eco-Environmental Damage*, which proposes establishing a national unified system of technical standards for national eco-environmental damage assessment and encourages qualified civic organizations to carry out ecological damage compensation litigation according to law.

In April 2016, the State Council released the *Opinions on Improving the Compensation Mechanism for Ecological Protection*. By 2020, the government expects to implement the compensation mechanism for ecological protection and to fully cover such key areas as forests, grasslands, wetlands, deserts, oceans, rivers and farmland and such important regions as exploitation-prohibited areas and key ecological functional areas; make significant progress in the pilot and demonstration of ecological compensation across regions and basins, and put in place a diversified ecological compensation mechanism. The document sets forth measures to implement an ecological compensation mechanism that mainly depends on local compensation while receiving financial support from the central government. It encourages protected and beneficiary areas, as well as the lower reaches and upper reaches of the same river, to set up a horizontal compensation payment relationship through fund compensation, targeted coordination, industry transfer, capacity building and co-construction of industrial parks.

On a practical level, Shandong³ and Hubei⁴ provinces rolled out ecological compensation measures and corresponding incentives and disincentives to control air pollution and improve air quality. In 2016, a comprehensive demonstration project on ecological compensation was initiated, bringing into play agreements on horizontal ecological compensation between the upper and lower reaches of the Tingjiang-Hanjiang river basin (Fujian and Guangdong provinces), Jiuzhou River basin (Guangdong and Guangxi provinces), Luanhe water diversion basin (Hebei province and Tianjin municipality) and Dongjiang River basin (Jiangxi and Guangdong provinces).

(II) Developing national planning to provide programmatic guidance for ecological

³ The *Interim Measures of Shandong Province for Ecological Compensation for Ambient Air Quality* stipulates quarterly assessment and accounting for ecological compensation according to the contribution of cities to the province's air quality improvement. Provincial departments shall compensate municipal departments if these cities make a positive contribution by improving their own air quality, and vice versa. The compensation paid by municipal departments shall be included into the provincial ecological compensation funds to support cities performing well in ambient air quality.

⁴ The *Interim Measures of Hubei Province for Ecological Compensation for Ambient Air Quality* clearly stipulates that the provincial department of environmental protection shall quarterly release the results of ambient air quality assessment, report the results of ecological compensation accounting to the provincial government and copy to the provincial department of finance. The provincial department of finance shall implement ecological compensation and the relevant incentives and disincentives on an annual basis by adjusting the amount of funds for general transfer payments. The funds for ecological compensation for ambient air quality shall be used only to control air pollution based on coordination of provincial and local departments and shall not be misappropriated

protection

The *Outline of the 13th Five-Year Plan for Ecological Protection* was promulgated in December 2016. It clearly defines the targets to be achieved by 2020: the ecological space will be secured, ecological quality improved, and ecological functions enhanced, and the biodiversity loss will be effectively curbed; the unified regulation of ecological protection will be upgraded; pilot programs for creating an ecological civilization will produce results; national ecological security will be secured. in harmony with building a moderately prosperous society in a comprehensive way. Specific to biodiversity conservation, the system for improving ecological quality and biodiversity will be enhanced by launching pilot projects for biodiversity assessments, inventories and evaluations and conservation and poverty reduction, upgrading traditional industries and promoting poverty reduction in biodiversity-rich western areas, and strengthening biological genetic resources protection and biosecurity management.

(III) Implementing an ecological compensation system and clarifying responsibilities for ecological protection

Ecological and environmental problems have kept pace with economic development since China's 'reform and opening up' period. However, it has been difficult to make polluters pay for environmental pollution and ecological damage, or to effectively protect the public interest and the nation's ecosystems. The *Pilot Plan for Reforming the Compensation System of Eco-Environmental Damage* was designed as an important measure to assess accountability for ecological damage, protect the environment, and promote ecological civilization.

The CPC Central Committee and the State Council formally promulgated the *Pilot Plan for Reforming the Compensation System of Eco-Environmental Damage* in December 2015. As planned, China will strive, by 2020, to build an eco-environmental damage compensation system nationwide that sets down clear responsibilities, efficient channels, technical specifications, and strong safeguards to ensure appropriate compensation and effective restoration. In line with these requirements, MEP released the *Technical Guidelines for Identification and Assessment of Eco-Environmental Damage -- General Program* and the *Technical Guidelines for Identification and Assessment of Eco-Environmental Damage --Damage Investigation* in June 2016.

The introduction of this document indicates that judicial protection ensues from the state's ownership of natural resources as mandated by China's *Constitution*, *Property Law* and a range of statutes focusing on the environment and natural resources. Provincial governments can claim for compensation on eco-environmental damage or join hands with civic groups to file public interest lawsuits, thereby putting into practice the principle of "accountability for damage" laid down in the latest *Environmental Protection Law*.

On August 29, 2017, the *Plan for Reforming the Compensation System of Eco-Environmental Damage* was adopted by the 38th Meeting of the Central Leading Group for Comprehensively Deepening Reforms, establishing for the first time a national system of ecological compensation through more systematic and comprehensive regulations.

(IV) Preparing the balance sheets for natural resources and clarifying regulatory

responsibilities

The balance sheets for natural resources are of great significance for strengthening the auditing of out-of-office leading officials on natural resource assets and the investigation into accountability for ecological damage.

In November 2015, the General Office of the State Council released the *Pilot Scheme for Compiling the Balance Sheets of Natural Resources*. The pilot was designed to explore and establish balance sheets for natural resources, through which China will establish a robust, scientific and standardized statistical survey system and ascertain fluctuations in natural resource assets, so as to provide baseline data, monitoring, early warning and decision support for carrying forward ecological civilization construction and effectively protecting and sustainably utilizing natural resources. Meanwhile, the complex balance sheet for natural resources will be incorporated into the system to support ecological civilization and aligned with systems for ecological redlining, control of resources and the environment, property and use of natural resource assets, out-of-office official audits on natural resources assets, and accountability for eco-environmental degradation.

In 2016, the *Pilot Program on Improving the State System for Management of Natural Resource Assets* was adopted at the 30th Meeting of the Central Leading Group for Comprehensively Deepening Reforms. The general concept is to put into effect the ownership of all public natural resources and define the responsibilities of stewardship of public resources, in accordance with the principles of separating owners from regulators and assigning the responsibility for one matter to one single department.

(V) Amending the Wildlife Protection Law to extend the protection from animals to habitats

The amendment to the *Wildlife Protection Law*, which is the first major change in the law since it came into effect in 1988, was adopted by the NPC Standing Committee in July 2016. The newly revised law clearly stipulates, in Article 26, "wildlife shall not be ill treated" and substantial protection of animal welfare, and changes "wildlife conservation" into "protection over wild animals and their habitats," in order to provide comprehensive, systematic and coherent protection of wildlife.

(VI) Establishing the national park system, offering an effective way to protect ecosystems

On December 5, 2016, the 13th Meeting of Central Leading Group for Comprehensively Deepening Reforms considered and adopted the *Pilot Program for Giant Panda National Parks* and the *Pilot Program for Northeast Tiger and Leopard National Parks*. The programs were designed to develop national parks and improve the system of protected areas that focus on ecosystem protection and economic and social development, and make substantial breakthroughs in integrated, standardized management, financial security, property rights and the rule of law.

On September 2017, the General Office of the CPC Central Committee and the General Office of the State Council jointly unveiled the *Overall Plan for Establishing a National Park*

System. By 2020, the country will finish pilot programs for establishing national parks, set up a hierarchical unified management system, and draw the boundaries of its national parks, encompassing a number of already developed national parks. By 2030, China's national park system and its comprehensive management will be well established, providing effective protection and sound management. At present, the country is at the critical stage of summing up and sharing the experience gained to date.

(VII) CCICED policy recommendations

Over the past five years, CCICED has contributed sound, clear-sighted policy recommendations on ecosystem and biodiversity conservation, including:

1. Exploring systems for ecological redlining, ecological compensation and environmental damage compensation

Attaching great importance to ecological protection, CCICED has designed and conducted a number of research projects on ecosystem conservation, and proposed the establishment of ecological compensation and ecological redlining. CCICED set up the task force on ecological compensation as early as 2005, and referred to the ecological compensation mechanism in the follow-up studies and policy proposals to address issues related to regional and cross-border ecological protection.

Examples include introducing the ecological compensation mechanism to regulate the relationship between environmental interests and economic benefits of stakeholders, and formulate relevant laws and policies to encourage environmental protection (2006); establishing and improving the ecological compensation mechanism, and exploring the urban and rural integrated model of environmental governance to promote the overall advancement of China's environmental protection cause (2008); establishing the ecological compensation system for coal mining and implementing a bond system for environmental restoration (2009); accelerating the legislative process of ecological compensation and establishing and improving public welfare compensation funds for forests, grasslands and wetlands (2010); allocating the ecological compensation fund combined with the ecological functional zoning of the eastern and middle-western regions (2012)⁵; setting up the mechanisms for ecological compensation and pollution damage compensation on the basis of accounting ecosystem services (2013); and perfecting the ecological compensation system and incentive mechanism based on ecological redlining system⁶.

Ecological redlines are also frequently mentioned in CCICED policy recommendations, such as strengthening redline controls on important and fragile ecosystems, environmental quality

⁵ Under the framework of national ecological compensation, set adequate and reasonable budgets for the national nature reserves; gradually include afforestation into the scope of national ecological compensation; build ecological compensation mechanisms for the protection of marine and water ecosystems. Establish special construction funds and ecological compensation funds that provide stable financial support for ecological protection and remediation in the central and western regions.

⁶ Establish a long-term mechanism for ecological compensation that considers both landowners and stakeholders, which supports direct payment of ecological compensation to landowners or operators of ecological redlined areas and deployment of major ecological construction projects with focus on ecological redlined areas. Accelerate and improve the ecological compensation system, with adherence to the principle of "polluter pays, destroyer compensates, and protector benefited", and mobilize the local governments to protect the environment, especially those with financial difficulties.

and risk control, and energy and resource consumption with serious ecological impact through the most stringent environmental governance measures (2013) and developing as soon as possible the *Measures for Ecological Redlining Management* that stipulate the definition and connotation of ecological redlines, delineation methods and management system (2014).

In addition to ecological compensation for development-prohibited areas, within river basins and between regions, those who destroy or damage protected ecosystems are also required to pay compensation. In 2019, CCICED proposed that China study and formulate relevant environmental standards and guidelines, including standards for pollution damage compensation.

2. Compiling a natural resources balance sheet and strengthening performance evaluation of officials

In China, the performance of government and specific officials has relied heavily on GDP and given inadequate consideration to ecological protection. CCICED conducted a number of policy studies over the years and put forward recommendations on national economic accounting and government performance appraisal. For example, the Council suggested, in 2010, carrying out research on ecosystem service valuation and green accounting, and incorporating these aspects into national economic accounts and officials' performance evaluation system. In 2012, CCICED recommended the Central Government continue to promote relevant research and accelerate the process of demonstration and application, noting that establishing a green national economic accounts system is a fundamental reform in order to achieve the green transformation of officials' performance evaluation process. In 2013, CCICED recommended research be conducted on national green accounts and that a methodology for integrating resource consumption, environmental damage and protection benefits into the evaluation of the national economy be developed.

These recommendations on green national accounts have laid a solid foundation for environmental audits and the management of state-owned natural assets.

3. Establishing a national park system and strengthening wildlife protection

Drawing on international experience in national parks and wildlife conservation, CCICED suggested in 1999, strengthening biodiversity protection legislation and law enforcement, and preventing the destruction and unreasonable use of wildlife resources. In 2007, CCICED advised curbing activities prohibited under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Policy recommendations in 2015 included drafting a *National Parks Law* to clarify the nature and types of national parks in China and establishing an integrated administrative system, which would remedy the current situation which is typified by a patchwork of administrative systems, unclear functions and overlapping authorities for nature reserves, scenic areas, geological parks and forest parks.

III. Energy, environment and climate

(I) Pushing forward the energy revolution, and establishing a clean, efficient, safe and sustainable modern energy system

The *Energy Development Strategy Action Plan (2014-2020)*, released by the State Council in April 2014, calls for faster progress in building a clean, efficient, safe and sustainable modern energy system, which is in line with the principles of "conservation, cleanness, and safety." The targets to be achieved by 2020 include limiting total primary energy consumption to about 4.8 billion tons of coal equivalent, and total coal consumption to 4.2 billion tons; raising the proportion of non-fossil fuels in primary energy consumption to 15% and natural gas to more than 10%, and cutting the proportion of coal to 62%. The plan also spells out the strategy of green, low-carbon, and innovation-driven energy development that gives priority to conservation and is rooted in current domestic conditions.

The *Opinions on Accelerating the Construction of Ecological Civilization*, released by the CPC Central Committee and the State Council on April 25, 2015, set the goal of building a resource-saving and environment-friendly society. The energy sector is expected to continue to reduce energy consumption intensity, greatly improve in resource productivity, and increase the proportion of non-fossil fuels in primary energy consumption to around 15%. These targets are the pillars for the series of energy plans to be implemented during the 13th FYP.

(II) Optimizing the energy structure and supporting the development of clean and renewable energy

1. Exercising strict control on coal consumption and promoting the substitution to electricity. According to the *Energy Development Strategy Action Plan (2014-2020)*, China will implement reduced subsidies for coal consumption, lower the proportion of coal consumption, and curtail total coal consumption in key regions such as the Beijing-Tianjin-Hebei-Shandong region, Yangtze River Delta and Pearl River Delta. To implement the *Action Plan for Air Pollution Prevention and Control*, NDRC, MEP and the National Energy Administration (NEA) jointly issued the *Work Plan for Strengthening Air Pollution Control and Controlling Total Coal Consumption in Major Cities*, aiming at a negative growth in coal consumption in ten poor-performing cities over the previous year. NDRC and NEA also issued the *Circular on Promoting Orderly Development of Coal Power in China* in March 2016, which put forward strict controls over incremental coal power and a gradual phase-out of thermal power units that have operated too long to meet the requirements for energy efficiency, environmental protection, safety, and quality.

In 2016, eight ministries including NDRC, NEA, MEP, and the Ministry of Finance (MOF) issued the *Guiding Opinions on Promoting the Substitution of Electric Power*, and planned to substitute about 130 million tons of coal equivalent of dispersed coal and fuel oil with electric power in final energy consumption during 2016-2020, which will increase the proportion of power generated by coal thermal plants by 1.9% and the proportion of electric power in final energy consumption by 1.5% to 27%.

In March 2016, NDRC and NEA jointly unveiled the *Action Plan for Revolutionary Energy Technology Innovation (2016-2030)*. This document states that by 2020, China will

significantly improve its international competitiveness in terms of power generation and institute an energy technology innovation system. By 2030, China will adapt its energy technology innovation system to prevailing national conditions, support sustainable energy development in harmony with the environment, and reach the ranks of the world's leaders in terms of energy technology.

2. Encouraging the clean use of fossil fuels. In December 2014, NEA, MEP and the Ministry of Industry and Information Technology jointly issued the *Opinions on Promoting Safe and Green Development and Clean and Efficient Utilization of Coal*. In April 2015, NEA promulgated the *Action Plan for Clean and Efficient Coal Utilization (2015-2020)* to proactively transform coal development, so as to improve the comprehensive development and utilization of coal, and promote clean and efficient utilization of these resources. In October 2014, MOF and the State Administration of Taxation (SAT) issued the *Circular on Implementing the Coal Resource Tax Reform* to levy a coal resource tax on an *ad valorem* basis to promote efficient and intensive resource use and environmental protection. In 2016, the resource tax reform reached a broader scope to effectively use this tax leverage.

3. Encouraging the development of renewable, non-fossil fuel energy. MOF, NDRC and NEA jointly formulated and promulgated *The Interim Administrative Measures for the Collection and Use of Renewable Energy Development Fund* and the *Interim Administrative Measures for Tariff Surcharge Subsidies for Renewable Energy*; NDRC issued the *Interim Administrative Measures for Guaranteed Full Purchase of Electricity Generated by Renewable Energy Sources*. These measures provide policy support for renewable energy grants and guarantee priority development of renewable energy projects. At the end of 2016, the proportion of non-fossil fuels in primary energy consumption rose by 1.3 percentage points over 2015 to a record high of 13.3%.

(III) Enhancing demand-side energy management, and intensifying efforts to improve energy efficiency

1. Strengthening the supervision and management of responsibility for energy conservation targets. During the 12th FYP, NDRC in conjunction with concerned departments, carried out an investigation into provincial government responsibility for energy conservation targets, reflecting the results in the comprehensive appraisal of leading bodies and leading officials, and integrating this effort into the government performance management.

2. Improving energy efficiency standards and labels. In 2014, NDRC and six other ministries jointly released the *Circular on Issuing the Implementation Plan for Energy Efficiency Leader System* to select energy efficiency leaders in the areas of end-use products, energy-consuming industries and public institutions.

3. Promoting energy-saving technologies and products. Since 2013, MIIT issued documents to promote energy conservation and emissions reduction technologies, including the *Implementation Plan for Special Program for Industrial Energy Efficiency and Green Development*, *Catalog of Advanced Energy-saving Motor Technologies for Priority National Promotion*, and *Guiding Catalog of Energy-saving Technologies for the Communications*

Sector. It also published a catalog of "Energy Star" products to encourage the use of energy-efficient consumer goods, such as air conditioners, cars, motors and lighting appliances. NDRC also published a catalog of key energy-saving technologies to be promoted.

4. Making progress in building energy efficiency. The Ministry of Housing and Urban-Rural Development (MOHURD) has developed special planning and measures to promote energy efficient buildings during the 12th FYP.

5. Advancing energy conservation in transportation. The Ministry of Transportation (MOT) issued the *Guiding Opinions on Developing Green, Low-carbon and Circular Transportation*, *Guiding Opinions on Building a Low-carbon Transportation System* and implemented the *Guiding Opinions on Accelerating Energy Conservation and Emissions Reduction in Civil Aviation*. MOT issued together with relevant departments the *Circular on Preferential Vehicle and Vessel Tax Policies for New Energy Vehicles and Vessels*. MOT conducted energy consumption monitoring of important enterprises, piloted natural gas powered vehicles and vessels, put into force fuel consumption limits and published attainment vehicle models. The Ministry of Science and Technology (MOST) also launched the demonstration project to promote energy-efficient new energy vehicles in ten cities.

6. Boosting energy conservation in public institutions. The Government Offices Administration of the State Council played a positive role in establishing an energy efficiency management system for public institutions. The Ministry of Commerce (MOFCOM) developed the industry standards *Green Retail* and conducted a green store demonstration.

(V) Coordinating national climate change mitigation and adaptation

In 2013, NDRC and the relevant ministries promulgated the *National Strategy for Adaptation to Climate Change* to guide the coordinated efforts to adapt to climate change by clearly setting forth the main objectives, key tasks, regional patterns and safeguard measures. In 2014, NDRC unveiled the *National Climate Change Plan (2014-2020)* which put forward the guiding principles, objectives and requirements, policy orientation, priority tasks and safeguard measures for addressing climate change. The majority of provinces (autonomous regions and municipalities) announced their respective plans for tackling climate change and ensured this was reflected in their economic and social development plans. In addition, the Chinese economy's principal industrial sectors also developed plans or programs dedicated to combatting climate change. In 2015, the Chinese Government submitted to the United Nations the *Enhanced Actions on Climate Change – Intended Nationally Determined Contributions*, which clarifies the direction of long-term efforts to address climate change. The targets specified in this document include peaking carbon dioxide emissions around 2030 striving to reach this emissions peak early, and reducing carbon dioxide emissions per unit of GDP by 60--65% from the 2005 level.

(VI) Pressing ahead with the national carbon market

In January 2016, NDRC issued the *Circular on Success Criteria to Launch the National Emissions Trading Market*, requiring joint and coordinated efforts to build an emissions trading scheme and market so as to ensure the nationwide launch in 2017.

In February 2016, NDRC and MOHURD jointly released the *Work Plan for the Pilot Program of Creating Climate-Resilient Cities*. By 2020, they plan to improve significantly the capacity of average cities in adapting to climate change and increasing the proportion of green buildings to 50%; by 2030, they intend to ensure cities have the capacity to implement comprehensive adaptation to climate change. Unveiled in March 2016, the *Outline of the 13th Five-Year Plan* dedicates a chapter to "Respond to Global Climate Change", stating: that "while working hard to both adapt to and slow down climate change, we will take active steps to control carbon emissions, fulfill our commitments for emissions reduction, increase our capability to adapt to climate change, and fully participate in global climate governance, thus making a contribution to the response to global climate."

In June 2016, the *Interim Measures for the Administration of Public Resources Trading Platforms* was jointly formulated by 14 ministries including NDRC, MIIT and MOF to ensure the smooth operation of exchanges and other platforms for trading public resources.

(VII) CCICED policy recommendations

Energy and climate change have been an important focus of CCICED research. Since its inception in 1992, CCICED has carried out more than a dozen research projects on energy policy and presented, especially in recent years, several policy recommendations on optimizing the energy structure, improving energy efficiency, clean energy use, energy conservation and addressing climate change.

1. Energy development strategy

In the Council's 2009 policy recommendations, it recommended that China reduce total energy consumption and green its energy mix since these are fundamental solutions to balance energy and environment. It is acknowledged that this will be a long and challenging process. Therefore, China should make it a priority to improve energy efficiency. While ensuring national energy and environmental security, China should develop and implement a national strategy of safe, efficient and clean coal exploitation and utilization to lay a long-term stable energy foundation for the robust development of China's green economy.

Recognizing coal will remain a principal source of energy supply for China over the long term, CCICED suggested China further clarify what is the position of coal in national medium- and long-term energy strategies, and formulate a national sustainable coal use strategy as soon as possible. Planning should be in place for safe, efficient and clean use of coal resources, covering mining, transportation, end-use, emissions and waste. To curb and reduce greenhouse gas emissions, total coal consumption should be controlled in accordance with environmental standards, and the regulation of functional government departments strengthened. In 2014, the Council highlighted the adoption of a total energy consumption control policy.

2. Optimizing China's energy structure

CCICED proposed three main measures in order to optimize the country's energy structure:

(1) Reduce the proportion of coal in total energy consumption. In 2009, CCICED urged the Chinese Government to develop low-carbon energy sources, striving to reduce the proportion

of coal in total energy consumption from 70% to 55% (58% set in the 13th Five-Year Plan), 50% and less than 33% in 2020, 2030, and 2050 respectively.

(2) Replace coal. CCICED advocated alternative high quality energy sources such as natural gas, low-sulfur diesel, liquefied petroleum gas and electricity to replace coal, so as to diversify energy sources and ensure the consumption of high-quality energy

(3) Adjust the energy structure and tackle air pollution. In 2014 policy recommendations, CCICED recommended a dramatic cut in the consumption of coal by 2020 and encouraged controlling the increase in crude oil use, in order to ensure peak consumption as early as 2025; engineer the increase of non-fossil fuel consumption so it becomes higher than fossil fuels by around 2025, and reduce total fossil fuel consumption by or before 2030. Mandatory laws and regulations are also expected to promote production and utilization of renewable energy, so that the proportion of non-fossil fuels can increase by at least 0.7 percentage points every year, and renewable energy sources can contribute more than 20% of total energy consumption by 2030.

CCICED pointed out in 2013 that the most effective approach to resolving current serious environmental issues such as air pollution is to change the economic growth model and adjust the energy structure, including such measures as capping total coal consumption, improving fuel quality, and promoting urban green transportation.

3. Conserving energy

A CCICED policy recommendation in 1999 states: "Develop energy efficiency policy for urban construction, promote energy saving technologies and standards, and construct "low energy and carbon buildings". Establish building energy efficiency standards for different regions and different types of buildings and, on this basis evaluate energy consumption and decide on subsidies for buildings; cancel the financial support for individual technologies and conduct renovation of existing energy-consuming buildings; encourage developers and consumers to develop and purchase energy-efficient and low-carbon buildings through fiscal policy incentives; initiate pilot efforts of energy-efficient and low-carbon building; strengthen urban energy consumption supervision and audit and adopt certification for energy-efficient products; improve efficiency of urban heat supply and encourage utilization of new energy sources."

In 2001, CCICED recommended: "Amend energy efficiency standards of buildings, transportation equipment, major industrial equipment, and main energy-consuming items like household appliances and lighting products. Improve energy efficiency label management and accreditation and expand the scope of mandatory energy efficiency labeling. Strictly implement energy efficiency standards and raise access of energy intensive sectors. Carry out energy efficiency evaluation for new public buildings and commercial housing upon completion, and suspend completion approval for those that do not meet mandatory standards so as to control emissions from the source. Establish energy efficiency examination, verification and certification system. Enhance monitoring, indicator and evaluation systems of energy conservation and emissions reduction, strengthen accountability of energy conservation targets, and improve incentive-disincentive mechanisms."

4. Mitigating and adapting to climate change

In 2011, CCICED suggested that the Chinese Government incorporate climate change into its legislative agenda, develop and promulgate as soon as possible the *Energy Law* and amend the *Coal Law*, *Electric Power Law*, *Energy Conservation Law*, and *Renewable Energy Law* to further encourage clean and low-carbon energy development and utilization.

Council policy recommendations in 2014 called for greater attention to climate resilience and environmental planning of cities, and the establishment of risk assessment frameworks for climate change adaptation and fiscal emergency response.

5. Developing the carbon market

In 2009, CCICED proposed that China gradually explore and establish a voluntary emissions trading system; in 2011, the Council suggested promoting the emissions trading system, establishing markets and exchanges for trading emissions, including conventional pollutants and carbon dioxide, and launching a carbon tax pilot as soon as possible

These instances demonstrate that based on systematic research on energy, environment and climate change, CCICED has contributed a wide range of policy recommendations, covering clean coal use, energy structure adjustment, energy efficiency improvement, energy conservation, low carbon economy, and air pollution control. The Chinese Government has taken these recommendations into consideration and adopted them to varying degrees. For example, Premier Li Keqiang specifically commented on the recommendation on sustainable clean use of coal.

IV. Environmental governance and rule of law

(I) Finishing the revision of major environmental laws, and pushing environmental legislation and enforcement into a new phase

Only the most stringent systems and laws can provide a reliable foundation to support the creation of an ecological civilization. Those that make rash decisions without regard for the environment and incur serious consequences as a result, must be held accountable for their entire lifetime, said CPC Secretary General Xi Jinping at the sixth collective study of the CPC Central Committee Politburo in May 2013.

Environmental protection legislation gained momentum in 2014. The *Soil Environmental Protection Law* was put on the legislative agenda of the Standing Committee of the National People's Congress (NPC), while the *Environmental Protection Law*, *Air Pollution Prevention and Control Law*, *Water Pollution Prevention and Control Law*, *Environmental Impact Assessment Law*, *Environmental Protection Tax Law*, and *Nuclear Safety Law* were either amended or enacted.

With the *Environmental Protection Law* as a starting point, the formulation and revision of environmental legislation emphasizes more responsibility borne by polluters and leaders of local governments and CPC organizations. The new legal framework allows for more effective improvements in environmental quality and in the protection of public health. The newly amended *Environmental Protection Law*, put into effect on January 1, 2015, has for the

first time intensified the effort and enhanced the deterrent of environmental law enforcement.

The newly amended *Law on Air Pollution Prevention and Control*, which came into force on January 1, 2016, includes three key chapters: "Standards for air pollution prevention and control and plans for compliance within the prescribed time"; "Joint prevention and control of air pollution in key regions"; and "Plans for response to heavy pollution weather events", focusing on the improvement of ambient air quality. The newly amended *Law on Water Pollution Prevention and Control*, which will take effect on January 1, 2018, clearly defines the responsibility of governments at all levels for water quality and promulgates the appointment of "river chiefs at the provincial, municipal, county and township levels to organize and lead water conservation, shoreline management, water pollution control, water environmental governance of rivers and lakes within the administrative area; step up efforts on public health and environmental impact; combat against illegal sewage discharge and data fraud in the operation of urban sewage treatment plants; prevent and control livestock and poultry farming pollution; and protect and manage drinking water sources."

(II) Reforming environmental protection systems and mechanisms to better adapt to new requirements

1. Reorganizing MEP to improve efficiency and meet the requirements of environmental protection

In view of increasingly prominent water, soil air pollution along with economic development, the State Council announced three targeted action plans in 2013, 2015 and 2016. MEP consequently set up dedicated departments for water, air and soil environmental management in March 3, 2016, in order to better implement these action plans.

2. Launching a pilot on a vertical management system for environmental monitoring, supervision and law enforcement to reduce local protectionism

The *Guiding Opinions on the Pilot on Reform for Vertical Management System of Environmental Protection Organizations below the Provincial Level Concerning Environmental Monitoring, Supervision and Law Enforcement*, released in September 2016, strengthens environmental protection responsibilities of local Party committees and governments and the relevant departments.

The document clarifies that environmental protection departments of provinces (including autonomous regions and province-level cities) shall provide unified supervision and management of environmental protection within their jurisdiction; local management systems for environmental protection will be adapted to the dual management of municipal bureaus, mainly by provincial departments; the power of environmental monitoring will be transferred from city and county departments and exercised by the corresponding provincial departments. Environmental management across regions and river basins should be strengthened in order to establish sound, efficient, coordinated operations.

The document also requires improving the deliberation and coordination mechanism for environmental protection, strengthening the collaboration between environmental protection departments and other concerned departments, and facilitating the sharing of environmental

monitoring and law enforcement information.

3. Conducting audits on out-of-office officials and implementing a system of lifelong accountability for environmental damage

In July 2015, the Central Leading Group for Comprehensively Deepening Reforms proposed "requiring Party committees and governments to share the responsibility and to implement audits on out-of-office officials regarding natural resource assets and instituting a system of lifelong accountability for environmental damage."

Prior to this, local governments were generally held accountable for environmental accidents, while the Party committees assumed no specific responsibility for environmental protection. From now on, the audit of retired officials focusing on natural resource assets will be the responsibility of audit departments, which will assert their authority and force officials at all levels to attach importance to ecological progress.

4. Performing the same responsibility of the Party committees and governments, dual responsibilities in one position, and accountability for dereliction of duty

From December 31, 2015 to February 4, 2016, the Central Environmental Protection Inspection Teams conducted environmental protection inspections in Hebei province in accordance with the *Environmental Protection Supervision Plan (for Trial Implementation)*, ensuring local governments were held accountable for pollution control. By the end of 2017, the first round of environmental protection inspections of all provinces, autonomous regions and municipalities was drawing to a close. As of August 2017, more than 100,000 complaints were registered and more than 10,000 individuals were held accountable⁷.

(III) Mobilizing judiciary bodies to contribute to ecological progress and green development

On May 26, 2016, the Supreme People's Court published the *Opinions on Giving Full Play to the Role of Adjudicatory Function to Provide Judicial Service and Safeguard for Promoting Ecological Progress and Green Development* to make full use of environmental and resource trials in protecting environmental rights and interests, restricting public powers, resolving conflicts and disputes, and forming public policies to continuously improve environmental quality. The Court plans to explore actively judicial measures to combat climate change, promote the formation of a national system for tackling and controlling climate change, hear cases involving carbon emissions, and advance the construction of a national carbon market.

(IV) Creating national pilot zones to provide replicable experience for ecological civilization construction

Issued on August 22, 2016, the *Opinions on Establishing Unified and Standard National Ecological Civilization Demonstration Zones* proposed that by 2020, pilot areas be established where a comprehensive system supporting ecological civilization will be demonstrated. These demonstration zones will produce feasible and effective institutional examples through experiment and exploration. The first pilot zones, including in the

⁷ <http://finance.chinanews.com/gn/2017/08-22/8310682.shtml>.

provinces of Fujian, Jiangxi and Guizhou, announced their respective implementation plans in October 2017, signaling the accelerated implementation of these zones.

(V) Putting into effect pollutant emission permits to strengthen front-end pollution control

On November 10, 2016, the State Council promulgated the *Implementation Plan for the Emission Permit System to Control Pollutant Emissions*, which plans, by 2020, to complete the issuance of emission permits that cover all stationary sources of pollution, and to establish an emissions permit system to achieve permit-based management. Up to the present, such permits have been issued to thermal power plants and paper-making companies, enterprises in the key industries covered by the *Action Plan for Air Pollution Prevention and Control* and the *Action Plan for Water Pollution Prevention and Control*, and enterprises in industries deemed to be producing over capacity. By 2020, the emissions permit system will cover all stationary sources of pollution.

All enterprises and public institutions covered by this system will need an emission permit to discharge pollutants. The enterprises will monitor their own emissions, keep thorough records and install online monitoring devices, which are networked with environmental protection departments. The authorities will strengthen their supervision and management, and strictly enforce the permits. In 2017, an initial information platform for emission permit management was put in place.

(VI) Reforming resource and environmental taxes in support of the green transformation of enterprises

In May 2016, MOF and SAT issued the *Circular on Comprehensively Promoting Resource Tax Reform* and the *Interim Measures for Pilot Reform of Water Resource Tax*. The documents make it clear that in order to advance comprehensive resource tax reform on July 1, 2016, there will be a change to a price-based tax from the previous ad valorem tax. This demonstrates that the Chinese Government has considered incorporating environmental costs into the resource pricing mechanism.

A pilot project on water resource tax reform was carried out in Hebei province. It involves the collection of the water resource tax, whereby surface water and groundwater user fees are converted into a tax. Higher rates are charged to water-intensive industries, to entities that use more than their water quota, to those extracting groundwater from areas where reserves are shrinking. However, water levies have not increased for households or for enterprises that use reasonable water volumes.

The *Environmental Protection Tax Law* was adopted on December 25, 2016 and put into effect on January 1, 2018. It alters sewage charges to enhance mandatory collection and reduce the use of taxation.

(VII) Building a green finance system to promote the green transformation of enterprises

The *Integrated Reform Plan for Promoting Ecological Progress* makes it clear to "establish a green finance system." On December 31, 2015, NDRC issued the *Guidelines for the Issuance*

of *Green Bonds*, according to which, companies issuing green bonds can enjoy preferential treatment. On December 22, 2016, the People's Bank of China (PBC) announced the publication of guidelines for the issuance of green bonds by non-financial companies.

On August 31, 2016, seven ministries including PBC, MEP and NDRC released the *Guiding Opinions on Building the Green Finance System* and proposed to support the local development of green finance, promote international cooperation on green finance, and explore the use of environmental pollution liability insurance for environmental risk management.

Initiated by China, the G20 Green Finance Study Group was set up and issued the *G20 Green Finance Synthesis Report* at the G20 Hangzhou Summit, putting green finance on the G20's agenda for the first time.

In June 2017, pilot projects on green finance were launched in Jiangxi, Guizhou, Xinjiang, Guangdong and Zhejiang provinces.

(VIII) Making the environmental impact assessment (EIA) system more effective through reform

The *Administrative Measures for Ex-post Environmental Impact Assessment of Construction Projects (for Trial Implementation)* and the *Administrative Measures for Regional Restricted Approval of Environmental Impact Assessment for Construction Projects (for Trial Implementation)* were formulated by MEP in December 2015.

The revised *Environmental Impact Assessment Law* was adopted the NPC Standing Committee in July 2016 and took effect on September 1, 2016. The revision streamlines administration and delegates power to lower administrative levels, and intensifies sanctions for violations ⁸.

In July 2016, MEP released the *Implementation Plan for Environmental Impact Assessment Reform during the 13th Five-Year Plan Period* with objectives that "general design of strategic and planned environmental impact assessment should be improved further, environmental impact assessments should be binding and its warning system should take initial shape."⁹

⁸ It eliminates a prior EIA approval for construction projects, stipulating that an EIA approval needs to be sought along with other approvals, but it must be obtained before construction starts; eliminates a regulation stipulating that "any construction project involving water and soil conservation must have a water and soil conservation plan approved by water administration departments"; revokes the "preliminary review" of competent departments of the corresponding sectors; enhances EIA planning, requiring government organs that formulate specialized plans to justify their adoption or rejection of an EIA report conclusion; allows for more severe penalties for unlawful acts, and cancels the criticized "EIA makeup" regulation. As for construction projects that proceed without EIA approval, environmental protection departments at municipal level and beyond will have the authority to stop the construction and to impose a fine of 1% to 5% of the total cost of the project, depending on the severity of the breach and its environmental consequences; restoration may be ordered as well.

⁹ The work includes advancing strategic environmental assessment which should be completed for the Beijing-Tianjin-Hebei region, Yangtze River Delta and Pearl River Delta, and organized for the Yangtze River Economic Zone and the Belt and Road Initiative; launching early warning pilot for regional environmental impact, such as aimed at environmental quality improvement, carrying out accounting and early warning of regional environmental capacity, early warning for environmental impact of strategies concerning the Yangtze River Economic Belt and the Beijing-Tianjin-Hebei integration; initiating early warning pilot for resource and environmental carrying capacities of typical areas for key development and optimal development and space redlining warning for typical areas restricted and prohibited from exploitation.

(VI) Reinforcing the environmental credit system, which lays the groundwork for differentiated management of enterprises

In December 2015, MEP and NDRC jointly published the *Guiding Opinions on Strengthening the Construction of the Enterprise Environmental Credit System*, planning to, by 2020, set up an environmental credit system and an environmental credit information system for enterprises at national, provincial, city and county levels, establish corresponding environmental credit records, and put into place effective incentive and disincentive mechanisms, so as to generally improve corporate awareness and capacity in environmental credit.

In December 2015, Jiangsu Province issued the *Circular on the Issues Concerning the Trial Implementation of Differential Electricity Prices according to Environmental Credit Rating*, putting into practice differentiated electricity prices and sewage treatment fees according to the enterprises' annual environmental credit rating.

(X) Greening modes of consumption and lifestyles to encourage public participation in the green transition

On April 25, 2015, the State Council published the *Opinions on Accelerating the Construction of Ecological Civilization*, emphasizing the need to nurture an ecological culture as an essential building block. It requires incorporating ecological progress into the country's socialist core values, and strengthening publicity and education on ecological culture to advocate economical, green, low-carbon, civilized and healthy lifestyles and consumption patterns, and improve society's general awareness of ecological progress. In November 2015, MEP issued the *Implementation Opinions on Accelerating the Promotion of Green Lifestyles*, expecting that by 2020, the concept of ecological civilization will be embraced by the Chinese population. In February 2016, NDRC, MOST and the Public Information Department of the CPC Central Committee jointly released the *Guiding Opinions on Promoting Green Consumption*, signaling an acceleration in the transition towards green consumption and the formation of a long-term mechanism to popularize green development concepts and socialist core values.

When presiding over the 11th collective study of the CPC Central Committee on May 26, 2017, CPC Secretary General Xi Jinping stressed that China will promote green models of development and lifestyles, promote regional and city plans that embody energy-saving and environment-friendly landscape planning approaches, industrial structures, and methods of production as well as lifestyles, in a bid to coordinate economic and social development with environmental protection.

(XI) CCICED policy recommendations

Over the past five years, CCICED put forward several constructive policy recommendations on environmental institutional reform, management innovation, and lifestyle changes based on its macro, strategic and early warning policy studies in the field of environment and development.

1. Reforming systems and mechanisms for environmental protection

In a farsighted way, the CCICED has emphasized the establishment of a national governance system for green development. In 2016, the Council put forward the recommendation to "establish a national green development governance system. Incorporate the concept, principles and norms of Ecological Civilization into the Constitution during the 13th FYP, and ensure the establishment of legal and administrative systems under the umbrella of Ecological Civilization." This recommendation is closely linked to the reforms for promoting ecological progress and the initiative of pilot zones.

The previous year, CCICED proposed that a central working conference on ecological civilization be held, in order to assign broad responsibilities for ecological civilization and resource/environmental protection, and to implement the shared responsibility of the Party committees and governments for environmental protection. Forward-looking policies and clear requirements for key tasks should be in place, and environmental responsibilities at various levels of governments and Party committees should be strengthened to promote economic, social and environmental sustainable development.

The full reform of systems and mechanisms involve not only the Ministry of Environmental Protection, but also the departments for environmental management nationwide. As recommended by CCICED as early as 2006, the State Environmental Protection Administration was upgraded to the Ministry of Environmental Protection in 2008. The establishment of departments for water, soil, and air environmental management conforms to the global best practice of environmental management. In the 2006 policy recommendations on reform of the government's environmental management capacity, CCICED pointed out that the country should "improve multi-level governance by realigning local environmental management to create a direct line of authority to provincial environmental protection bureaus." A decade later, this policy recommendation was adopted by China.

CCICED made clear in 2015 that China should implement a vertical management system for environmental supervision under the provincial-level; explore the establishment of regional environmental protection bodies in regions such as Beijing-Tianjin-Hebei region¹⁰, and strengthen regional approaches to pollution control; strengthen environmental performance supervision of local governments; use environmental quality as a key indicator of performance evaluation for local governments; organize third-party bodies to conduct regular independent environmental performance evaluations of local governments, and disclose evaluation results to the public.

As for the judicial system for environmental protection, CCICED clearly stated in 2014 that China should promote an environmental judiciary and strengthen environmental judicial practice; promote coordination between environmental departments and judicial departments, and strengthen the capacity of environmental courts and judges; and improve the environmental public interest litigation system.

2. Innovating and optimizing environmental management

(1) Green finance system

¹⁰ Drawing on this recommendation, the first regional environmental protection agency will be set up for the Beijing-Tianjin-Hebei region.

Based on vanguard policy research on green finance, CCICED put forward several specific policy recommendations in 2015. Examples include establishing a National Green Development Fund; promoting green credit, green bonds and green insurance; and establishing cross-department green finance coordination mechanisms. These important studies and policy recommendations, well ahead of their time in terms of China's context, were not only adopted by the central government, but also incorporated into the G20 Summit agenda.

(2) Resource and environmental tax reform

These policy recommendations were proposed in 2015, including reforming the pricing mechanism for critical resources; internalizing environmental costs into the pricing mechanism; developing green finance and taxation policies to reflect environmental costs of production and consumption; promoting governmental green procurement, and encouraging leading enterprises to implement voluntary green supply chain management.

(3) Permit system

CCICED proposed, in 2015, drafting an *Emission Permits Law* to integrate the emissions permit system within the broad system of environmental standards, environmental monitoring, environmental impact assessment, integration of the concept known as "Three Simultaneous" (namely pollution emission registration, total emission control, and the regulation of environmental facilities and management of emission discharge outlets); enhancing the legal status of the emission permit system, and ensuring this system forms the core of environmental management.

(4) Enterprise environmental credit system

CCICED proposed in 2014 that China should establish an enterprise environmental credit evaluation system. More specifically, the government should reward enterprises that go beyond mere compliance with environmental protection laws and regulations; provide a platform with information about pollution treatment services and access to finance for small and medium sized enterprises; and actively promote voluntary pursuit of good environmental performance on the part of industries and enterprises. The next year, CCICED reiterated the recommendation to establish an environmental credit evaluation system and proposed the mandatory disclosure of environmental information by listed companies.

These policy recommendations were timely for the central government and have been reflected in the Report to the 19th CPC National Congress.

3. Guiding green lifestyles

CCICED pointed out in 2015 policy recommendations that China should advocate sustainable consumption, encourage sustainably produced and consumed food, clothing, housing and travel, and guide the greenization of people's lifestyles.

4. Promoting the rule of law for ecological progress

Legislation and law enforcement are always issues of concern in CCICED policy recommendations. CCICED mentioned in 2012 that the existing *Air Pollution Prevention and*

Control Law could not adequately address air pollution control under current circumstances. The law needs to be revised. It needs to: treat PM_{2.5} and ozone that affect public health as the new core need of air pollution control; keep ambient air quality improvement as the key objective of air environmental management; and strengthen the penalties against violators with a view to make non-compliance more expensive than compliance.

In 2013, CCICED called on the Chinese Government to strengthen supporting laws and regulations for the implementation of corporate environmental and social responsibility, suggesting to "Enhance coordination of the *Corporation Law*, *Environmental Protection Law*, *Consumers Rights Protection Law* and *Labor Law*, increase punishment of enterprises not in compliance with the laws and regulations; promote establishment of local environmental protection courts and improve relevant juridical practices; support environmental public litigation and enable the supervision function of social organizations."

The policy recommendations made in 2014 include strengthening the legal framework underpinning Ecological Civilization; enhancing law enforcement and regulation; speeding up the development of detailed implementation rules for the newly amended environmental protection law; and "establishing a mandatory, authoritative, and independent enforcement system and exploring joint-action mechanisms involving environmental department and police department cooperation to improve the effectiveness of enforcement and supervision."

In 2015, CCICED highlighted the need to strengthen the rule of environmental law in all aspects, suggesting accelerating the compilation of a *Green Civil Code*, and conducting timely research on the *Environmental Code*; and developing *Dangerous Chemicals Safety and Environmental Risk Control Law*, *Emission Permits Law*, *Environment Standards Law*, *National Parks Law* and *Soil Environment Protection Law*.

In 2016, CCICED put forward the concept, principles and norms of Ecological Civilization within specific elements for the Rule of Law. These elements include the Constitution, civil and commercial laws, administrative laws, economic laws, social laws, criminal laws, litigation and non-litigation procedural laws. It reiterated the need to fill important legal gaps in environmental law, suggesting developing a *Legal Guarantee Plan for China's Sustainable Development* and a *Special Law on Atmospheric Environmental Protection in the Beijing-Tianjin-Hebei Region* and revising the existing *Environmental Impact Assessment Law*.

V. Pollution prevention, control and mitigation

Over the past five years, unprecedented efforts have been made to address pollution.

(I) Stepping up efforts to control air pollution

In September 2013, the State Council issued the *Action Plan for Air Pollution Prevention and Control*. It aims to achieve, to 2017 and beyond, an overall improvement in air quality of the whole country and marked improvements in the Beijing-Tianjin-Hebei region, Yangtze River Delta, and Pearl River Delta, and a dramatic reduction of heavy pollution weather events. The action plan is deemed the largest-ever campaign to clean air in China. Since its implementation, national air quality has generally improved and the concentrations of major

pollutants have fallen in key regions. However, winter air pollution remains serious in some areas, especially in the north. While past efforts focused on end-of-pipe treatment, such as ultra-low emissions, transformation in compliance with upgraded standards, and new emission reductions, more efforts should be made to adjust energy and industrial structures.

(II) Making remarkable progress in water pollution control

On April 2, 2015, the State Council released the *Circular on Issuing the Action Plan for Water Pollution Prevention and Control*, setting forth targets for staged improvement in the quality of water environment in 2020, overall improvement with aquatic ecosystem functions basically recovered in 2030, and all-round improvement and a virtuous circle in the ecosystems in 2050.

In February 2016, NDRC and MEP issued the *Circular on Strengthening Environmental Pollution Prevention, Control and Governance of the Yangtze River Golden Waterway*, putting environmental restoration of the Yangtze River uppermost and improvement of aquatic environmental quality as a central concern. According to the document, by 2020, the quality of water in the Yangtze River Economic Belt will continue to improve and more than 75% of water bodies and all waterways will have good water quality (at or better than Grade III); drinking water safety will be enhanced, and more than 97% of centralized drinking water sources in cities at the prefecture level or above will have good water quality (at or better than Grade III); the total emissions of major pollutants will be slashed; the water quality in the Three Gorges Reservoir will have further improved; eutrophication will be curbed in Taihu and other major lakes.

(III) Implementing the action plan for soil pollution prevention and control

Issued by the State Council in May 2016, the *Action Plan for Soil Pollution Prevention and Control* proposed to improve the quality of soil environment and ensure the quality of agricultural products and the quality and safety of living environment. It calls on China to firmly observe basic standards for soils which affect the quality of agricultural products and safety of human settlements, with a focus on contaminated farmland and construction zones. By 2020, the aggravation of national soil pollution is expected to have been curbed and soil environmental risks basically controlled. By 2030, the national soil environment will steadily improve. The safety of soils for agriculture and construction will be effectively guaranteed with all risks fully under control. By 2050, soil environmental quality will be improved comprehensively and a virtuous cycle in the ecosystems will be established.

(IV) CCICED policy recommendations

The control of air, water and soil pollution has been the mainstay of CCICED research. Over the past five years, CCICED has carried out several pertinent studies and put forward many constructive recommendations. With the adoption of policy recommendations by the Chinese Government to varying degrees, CCICED has contributed to the introduction of action plans for air, water and soil pollution control and the acceleration of green transition in the country in the new era.

1. Air pollution control

CCICED set up a special policy study on air pollution control in 2011 and recommended in 2014 that the country establish a quality-based air pollution management system, improve the organization and effectiveness of regional joint air pollution prevention and control mechanisms, and improve policies for regional air pollution control.

Similar policy recommendations were made respectively in 2012 and 2013. CCICED advised in 2012 that China strengthen joint control of air pollution to improve regional air quality, revise relevant laws and regulations to provide legitimate guarantees for regional air pollution control, and strengthen pollution control and implement multiple-pollutant synergic control; increase investment and strengthen science and technology development and implement a strong national clean air action plan as soon as possible.

Concerning the implementation of the action plan, CCICED suggested in 2013 that the central government should focus its supervision and coordination efforts on three aspects: (a) strengthening overall action by local governments and step up review and accountability; (b) fulfillment of responsibilities of central government agencies, especially the development of supporting policies; (c) joint action among local governments within each region.

2. Waste pollution control

CCICED recommended, in 2015, that the Chinese Government establish an environmental risk assessment and prevention system for major national macro strategies, conduct environmental risk assessments for macro strategies such as the Belt and Road Initiative, the Beijing-Tianjin-Hebei integration, and the Yangtze River Economic Belt to form an integrated environmental risk prevention system. Putting environmental restoration of the Yangtze River uppermost, CCICED called for all-out efforts to control water pollution and protect and restore the ecological zones of the Yangtze River with the focus squarely on improving the quality of the aquatic environment.

3. Soil pollution control

CCICED began to make recommendations on soil pollution control based on pertinent studies in 2011. It suggested introducing a package of green programs and policy measures concerning pollution prevention, energy and climate change, resource pricing, ecological compensation and environmental restoration to address soil pollution in traditional industries and mining areas (2011); regularly updating and publicizing the projections of future health risks to the urban population from air, water and soil pollution, climate change impacts and adaptation, and using such results an important basis for performance evaluation and accountability of government officials (2014); and amending the *Soil Pollution Prevention and Control Law* in the legislative plan to the *Soil Environmental Protection Law* (2015).

VI. Regional and international engagement

(I) Playing a responsible leading role in addressing global climate change

On November 30, 2015, Chinese President Xi Jinping pointed out that China has been actively engaged in the global campaign on climate change in the speech entitled *Work*

Together to Build a Win-Win, Equitable and Balanced Governance Mechanism on Climate Change at the Paris Conference on Climate Change. China has made active bilateral and multilateral efforts and issued joint statements with the United States, France, Central Europe and the BRIC countries before this meeting, playing an important role in reaching the *Paris Agreement*. On April 22, 2016, China signed the *Paris Agreement* at United Nations Headquarters, sending a positive and forceful signal that China is willing to work with countries to fight against global warming. On the eve of the G20 Hangzhou Summit on September 3, 2016, the NPC Standing Committee rectified China's accession to the *Paris Agreement*.

In October 2016, the *Montreal Protocol on Substances that Deplete the Ozone Layer* was adopted at the 28th Meeting of the Parties at Kigali, Rwanda, marking a historic consensus on reducing the use of hydrofluorocarbons. China as the Co-Chair of the negotiations has made strenuous efforts to bridge differences and build consensus, which were highly recognized by the delegates.

(II) Promoting South-South cooperation and contributing to the United Nations Agenda for Sustainable Development

On September 5, 2017, Chinese President Xi Jinping said at the United Nations Sustainable Development Summit that China would establish an Assistance Fund for South-South Cooperation, with an initial pledge of 2 billion US dollars in support of developing countries' implementation of the post-2015 development agenda, and continue to increase investment in Least Developed Countries, aiming to increase its total to 12 billion US dollars by 2030. The Chinese Government has fulfilled its policy commitments of South-South cooperation regarding climate change. In a show of greater support, China announced in September 2015 the establishment of an RMB 20 billion South-South Climate Cooperation Fund.

On September 5, 2017, Chinese President Xi Jinping committed a pledge of 500 million US dollars to the Assistance Fund for South-South Cooperation in the speech delivered in the Dialogue of Emerging Market and Developing Countries at Xiamen International Conference Center. Added by the President, China will work through such mechanisms as the Assistance Fund for South-South Cooperation, China-UN Peace and Development Fund and South-South Climate Cooperation Fund to boost cooperation on development and help fellow developing countries in implementing the Sustainable Development Agenda. China will enhance development experience-sharing and capacity-building cooperation with other countries through such platforms as the Center for International Knowledge on Development and the Academy of South-South Cooperation and Development, and provide other developing countries with 40,000 training opportunities in China in the coming year.

(III) Advancing the green Belt and Road Initiative

Issued on March 28, 2015, the *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road* states that China will promote ecological progress in conducting investment and trade, increase cooperation in conserving eco-environment, protecting biodiversity, and tackling climate change, and join hands to make the Silk Road an environment-friendly one.

Unveiled on March 17, 2016, the *Outline of the Thirteenth Five-Year Plan* makes it clear China intends to carry out intensive cooperation in the fields of education, science and technology, culture, sports, tourism, environmental protection, health and traditional Chinese medicine.

On November 24, 2016, the State Council released the *Thirteenth Five-Year Plan for Protecting the Ecological Environment*. According to this document, to stimulate green development of the Belt and Road, China will step up multilateral and bilateral cooperation, including cooperation with Russia, Kazakhstan and ASEAN, Shanghai Cooperation Organization, and Lancang-Mekong River environmental cooperation; carry out all-round multi-channel dialogue and exchange activities and implement the Green Silk Road Envoys Program to share ideas and experience in ecological civilization and green development. Furthermore, the country will establish a sound management system for green investment and trade, and implement the *Guidelines on Environmental Protection in Foreign Investment and Cooperation*; set up technical cooperation parks and demonstration bases in favor of environmental protection industries; extend green industrial supply chains through industrial and innovation upgrading of provinces (autonomous regions and municipalities) along the Belt and Road area; conduct environmental assessment of key strategies and projects to improve environmental risk control and resilience. In addition, targeted plans for protecting the environment will be formulated and implemented.

In May 2017, Chinese President Xi Jinping delivered a keynote speech at the opening ceremony of the Belt and Road Forum for International Cooperation. In pursuit of the new vision of green development and a way of life and work that is green, low-carbon, circular and sustainable, efforts should be made to strengthen cooperation in ecological and environmental protection and build a sound ecosystem so as to realize the goals set by the 2030 Agenda for Sustainable Development. China will seize opportunities presented by the new round of change in energy mix and the revolution in energy technologies to develop global energy interconnection and achieve green and low-carbon development. The government will set up a big data service platform on ecological and environmental protection. China proposes the establishment of an international coalition for green development along the Belt and Road area, and will provide support to involved countries in adapting to climate change

In April 2017, NDRC, MEP, MOCOM and the Ministry of Foreign Affairs (MFA) released their *Guiding Opinions on Promoting a Green Belt and Road Initiative*, calling for enhanced environmental protection to jointly build a green Silk Road. They plan to form a mutually beneficial cooperation network, innovative cooperation mode, and multi-stakeholder cooperation platform, and strive to build a pragmatic and efficient system of environmental cooperation and exchange, support and the service platform and industrial technology cooperation base within 3-5 years, and a full-fledged service, support and safeguard system for environmental cooperation within 5-10 years.

(IV) Ushering in the new decade of BRICS cooperation on ecological environment and climate change

On September 4, 2017, the BRICS Leaders issued the Xiamen Declaration after the 10th meeting in Xiamen, China. They agree to further strengthen cooperation on environmental protection and climate change, and reaffirm the commitment to fully implementing the 2030 Agenda for Sustainable Development. They commit to further promote green development and low-carbon economy, enhance BRICS cooperation on climate change and expand green financing; call upon all countries to fully implement the Paris Agreement; agree to take concrete actions to advance result-oriented cooperation in such areas as prevention of air and water pollution, waste management and biodiversity conservation.

(V) CCICED policy recommendations

CCICED itself is the result of international environmental cooperation, and is dedicated to promoting international exchange and cooperation between China and other countries in the field of environment and development. Whether as it relates to climate change, South-South cooperation or Belt and Road Initiative, CCICED has facilitated two-way policy communication and interaction by mobilizing domestic and international high-level experts to conduct research. The relevant policy recommendations issued are:

1. Urging international cooperation and historical responsibility concerning climate change

CCICED held the first international conference on low-carbon development in 2007 and conducted a number of targeted policy studies over the next years. It noted in the 2009 annual policy recommendations that China can contribute to solving global environmental concerns including climate change in the process of building an environment-friendly society. CCICED made it clear in 2016 that the coming several years are the time to demonstrate just how much can be achieved by accelerating the pace of China's efforts to address international goals particularly for the Paris Agreement on Climate Change and the Chinese Implementation Plan for the 2030 Agenda for Sustainable Development. It proposed three major actions, including to promote substantive progress in addressing climate change at the global and regional levels; to enhance environmental safeguards in bilateral and multilateral agreements; and to foster green action by businesses both domestically and internationally.

2. Promoting South-South cooperation and contributing to the United Nations Agenda for Sustainable Development

In 2016, CCICED suggested China should use the opportunity of the 2030 Agenda for Sustainable Development to advance global sustainable development via South-South cooperation. It called on the Chinese Government to step up efforts to promote China's already announced international development initiatives and actions in order to favor green sustainable development, including the Belt and Road initiative, Asian Infrastructure Investment Bank, New Development Bank, South-South Cooperation Fund, plus China's official development assistance and foreign direct investment.

3. Advancing the green Belt and Road Initiative

In 2015, CCICED proposed the development of a green Belt and Road Initiative. The specific policy recommendations include advocating for and implementing ecological civilization and

green development concepts, strengthening environmental protection policy cooperation and exchange with countries along the routes, and establishing an environmental information sharing and service platform for the Belt and Road Initiative; incorporating green financing mechanisms into the financing of Belt and Road projects, encouraging Chinese enterprises that plan to operate in the Belt and Road area to pay attention to environmental protection and to actively implement corporate social and environmental responsibility; developing a national green overseas assistance action plan, strengthening South-South cooperation, and implementing a low-carbon, environment-friendly and green Belt and Road Initiative.

VII. Conclusions

Over the past five years, the new Central Collective Leadership around President Xi Jinping has heralded a new era of courageous and wise promotion of ecological progress. Under the guidance of China's "five-sphere integrated plan" and its "four-pronged comprehensive strategy", China has started to put in place a national governance system in favor of ecological progress, with a view to building a beautiful China. In line with the *Opinions on Strengthening the Construction of Ecological Civilization* and the *Integrated Reform Plan for Promoting Ecological Progress*, China has advanced the reform of systems and mechanisms and amendment to laws and regulations, enforced action plans for air, water and soil pollution control, formed the green financial system and corporate environmental credit system, and boosted green modes of production and life.

On the international scale, China has strengthened and leads the response to climate change, launched the green Belt and Road Initiative, enhanced BRICS cooperation, and promoted the 2030 Agenda for Sustainable Development of the United Nations. As summarized in the Report to the 19th CPC National Congress, China has made notable progress in building an ecological civilization over the years. The whole country has become more purposeful and active in pursuing green development, and there has been a clear shift away from the tendency to neglect ecosystems and environmental protection.

Efforts to develop a system for building an ecological civilization have accelerated; functional zoning has steadily improved; and progress has been made in piloting the national park system. Widespread efforts to conserve resources have seen encouraging progress; the intensity of energy and resource consumption has been significantly reduced. Good progress has been made in major ecological conservation and restoration projects; and forest coverage has increased. Ecological and environmental governance has been significantly strengthened, leading to marked improvements in the environment. Taking the lead in international cooperation to respond to climate change, China has become an important participant, contributor, and torchbearer in the global endeavor for ecological civilization.

CCICED Phase V witnessed the tremendous changes that occurred in the field of environment throughout China in the past five years. Many of its policy recommendations have become reality. In particular, the improvement of comprehensive planning has opened up unprecedented space for the adoption of CCICED policy recommendations. CCICED has participated in and pushed forward the reform for promoting ecological progress as a unique

mechanism for exchanges on environment and development.

Over the five-year main period of analysis for this report (2013 to 2017), CCICED conducted policy studies and raised policy recommendations from different perspectives to advance reforms, promote ecological progress and engage the country in global environmental governance. The themes explored have included: Regionally Balanced and Green Development; Environment and Society for Green Development; Management and Institutional Innovation for Green Development; Enabling Governance Capacity for Green Transformation; and Ecological Civilization: China and the World. Over these five years, CCICED has been deeply involved in and given an impetus to reforms in line with China's reform agenda for environment and development, and seen the Council's reputation enhanced.

Looking ahead, the 19th CPC National Congress expounded on the new orientation of development and the evolution of contradictions during the upcoming era, but also made clear the vision and direction of developing an ecological civilization. China is committed to realizing this new era of building an ecological civilization, in which the green transition will be practiced in the pursuit of green development towards a Beautiful China. CCICED Phase VI is also launched into this new stage, with the current context that China will become more integrated in the world, and that environment and development will become more closely related.

Appendix: Overview on the Relevance of China's Environmental and Development Policies and CCICED Policy Recommendations

The table presents the linkages between China's major environmental and development policies and CCICED policy recommendations over the past five years.

Field	Time of Release of Policy	Policy Progress (2013-2017)	Time of CCICED Proposal	Content
Planning for Environment and Development				
<i>Outline of the Thirteenth Five-Year Plan</i>	March 18, 2016	Achieve overall improvement in eco-environmental quality, and green and low-carbon improvements in modes of production and life, in pursuit of innovative, coordinated, green, open and shared development.	2013	Study major environmental and development issues during the 13 th Five-Year Plan period. In the mid-to-late 12 th Five-Year Plan period, the Chinese Government should start to analyze the situation of economy, society, resources and environment during the 13 th Five-Year Plan period and develop medium and long-term targets and measures concerning green development, environmental protection, energy conservation and emission reduction in the next 5-10 years.
		Establish the national space planning system and coordinate space planning based on main functional zoning planning to promote integrated planning.	2015	Incorporate environmental risk assessments into integrated planning.
		Establish the marine ecological redlining system.	2012	Set ecological protection red lines for important ecological zones in areas restricted or/and prohibited from development, nature reserves, terrestrial and marine environmental sensitive areas and ecological fragile areas.
		Reform the fundamental system of environmental governance.	2015	Speed up the reform for promoting ecological progress to establish a pluralistic system of environmental governance; improve the environmental

				legal system to provide a solid legal safeguard for green transition; reform the green financial system to promote green industrial transformation and upgrading; build a highly efficient system of environmental risk prevention and control to safeguard public health and ecological security.
		Achieve overall improvement in eco-environment quality, green and low-carbon improvements in modes of production and life. Improve substantially the efficiency of energy resource development and utilization through effective control of the use of energy and water resources and construction land and total amount of carbon emissions, and slash the total emissions of major pollutants. Basically form the main functional zones and ecological security barriers.	2012	Implement a more stringent system of pollution control and environmental risk prevention during the Five-Year Plan period with environmental quality improvement as the core objective to promote integrated environmental protection that considers environmental quality, human health and ecosystem protection.
		Introduce innovative policies and improve mechanisms for regional development to promote coordinated, synergetic and common development and strive to narrow regional disparity.	2012	Develop the strategy of green, balanced regional development that relies on the eastern region and focuses on central and western regions.
Central Urban Work Conference	December 2015	Grasp the internal link among space for the three purposes to achieve intensive and efficient production space, livable	2012	Develop region-specific sustainable urban development plans, and strive to form a new pattern of urban development in the eastern, central and western regions in a

		and moderate living space, and clean and beautiful ecological space. Practice green, circular, and low-carbon development in the planning and construction of urban infrastructure, covering transportation, energy, water supply and drainage, heat, sewage and waste disposal.		resource-conserving, environment-friendly and cost-effective, harmonious manner, in accordance with the principle of gradualness, land conservation, intensive development and rational distribution.
			2013	Promote people oriented urbanization with respect for ecosystems, ecological services and green space; attach a high degree of attention to resource and environmental challenges in urbanization and explore the green urbanization model.
			2014	Accelerate the implementation of new urbanization strategy, explore the ecological oriented urbanization model, and formulate and implement specific policies.
		Respect the right of residents to know, participate in, supervise urban development decisions, and encourage the participation of enterprises and residents in urban construction and management in various ways, to truly achieve urban co-governance, co-management and co-construction, and shared urban development.	2005	Establish multi-level government-private partnerships (PPPs) to improve urban transportation, strengthen environmental protection facilities, and promote the development of water, energy and material efficient buildings.
			2013	Set up consumer consulting centers in cities, providing advisory services on recycling, product sharing, energy and water conservation, and food safety, in order to enhance the consumption awareness of the next generation.
<i>Master Plan for Big Data Construction for Ecological Environment</i>	March 8, 2016	Build the framework for an application platform, a management platform and an environmental protection cloud platform based on Big Data, and achieve scientific integrated eco-environmental	2015	Establish nationwide big data network, information system and environmental management platform for the ecological environment, so as to enhance information technology and decision support capability for environmental governance.

		decisions, precisely monitored eco-environment and public services provided for public convenience.		
<i>Three-Year Action Plan for Internet Plus Green Ecology</i>	January 21, 2016	Strengthen the dynamic monitoring of resources and environment, and join hands with local governments to establish a database for the monitoring and early warning of resources and environment as well as information sharing platform.		
<i>Several Opinions on Establishing a Long-term Mechanism for Monitoring and Early Warning of the Carrying Capacity of Resources and the Environment</i>	September 20, 2017	Persist in the main functional zoning strategy and system and establish a long-term mechanism for monitoring and early warning of resource and environmental carrying capacities. The mechanism should realize real-time efficient data sharing and strong control based on complete means and multiparty coordination, in order to effectively regulate the order and rationally control the intensity of space development, and limit all kinds of space development activities within the carrying capacity, laying a solid foundation for creating an efficient and coordinated pattern of national territorial space development.	2013	Develop urbanization system and layout in line with resource and environmental carrying capacities. Strictly control the scale of large cities to optimize urban development pattern, promote the coordinated development of small and medium-sized cities and small towns, and place special emphasis on the quality of urbanization in the western region. Maintain and reserve adequate ecological space, properly handle the relationships among urbanization, new countryside construction, and ecological service and nature reserves, and encourage the adoption of "compact and multi-centered" city plans.

Ecosystem and Biodiversity Conservation				
<i>Guiding Opinions on Strengthening Ecological Redlining Control of Resources and the Environment</i>	May 30, 2016	Delineate and strictly observe ecological protection red lines which consider the requirements of water conservancy, water and soil conservation, wind and sand fixation, flood control, biodiversity conservation, nature preservation and ecosystem integrity and stability and the needs of economic and social development. Determine ecological protection red lines for key ecological functional areas, ecologically sensitive areas and ecologically vulnerable areas in accordance with the law, and provide strict protection to maintain their area and nature, as well as ecological functions. Define scientifically ecological protection red lines for forests, grasslands, wetlands and oceans, and tighten the management of natural ecological space use (occupation) to effectively curb the degradation of ecosystems.	2014	Develop as soon as possible the <i>Measures for Ecological Redlining Management</i> that stipulate the definition and connotation of ecological protection redlines, delineation methods and management system.
			2013	Strengthen redlining control on important and fragile ecosystems, environmental quality and risk control, and energy and resource consumption with serious ecological impact through the most stringent eco-environmental governance measures.
<i>Opinions on Accelerating the Construction of Ecological Civilization</i>	April 25, 2015	Resource, environment and ecological redlining control refers to the delineation and strict observance of resource consumption ceilings, environmental quality bottom lines, ecological protection red lines and inclusion of all	2014	Implement the national ecological redlining system: incorporate the national ecological redlining system and related systems into the legislation; perfect the spatial planning system for land and sea use, and clearly define ecological protection red lines; renew

		<p>kinds of economic and social activities into control of redlining constraints. Observe strictly the environmental quality redline. Set up periodical and regional objectives of air, water and soil environment quality to enhance the control of total pollutant emissions for each region and each industrial sector, and take strict precautions against emergent environmental incidents. Require areas up to the environmental quality standard to further improve their environmental quality and those below the standard to formulate relevant plans and attain the standard as early as possible.</p>		<p>the national coordination mechanism for ecological conservation, monitoring and law enforcement; improve nature protected area system; perfect ecological compensation system and incentive mechanism based on ecological protection red lines.</p>
<p><i>Several Opinions on Delineating and Strictly Observing Ecological Protection Red Lines</i></p>	<p>February 7, 2017</p>	<p>Delineate scientifically ecological protection red lines in a top-down and bottom-up combined approach with national guidance and local organization, taking into account the terrestrial ecological security pattern of "two barriers and three belts" and the marine ecological security pattern of "one belt, one chain, and multiple points". Urge party committees and governments at all levels to fulfill the responsibility and strengthen the rigid</p>		

		constraints of ecological protection red lines through a set of control and incentive measures.		
<i>Technical Guidelines on the Delineation of Ecological Protection Red Lines</i>	April 30, 2015	Clearly define the specific connotation, basic characteristics, and management principles of ecological protection red lines.		
<i>Opinions on Improving the Compensation Mechanism for Ecological Protection</i>	May 2016	Implement, by 2020, the compensation mechanism for ecological protection to fully cover such key fields as forests, grasslands, wetlands, deserts, oceans, rivers and farmland and such important regions as exploitation-prohibited areas and key ecological functional areas, with the compensation adapted to economic and social development. Make significant progress in the pilot and demonstration of ecological compensation across regions and basins, put in place a diversified ecological compensation mechanism and basically build an ecological compensation system in line with China's national conditions to promote green modes of production and life. The Opinions set down the measures and departments for implementing ecological compensation in key fields such as forests, grasslands,	2006	Introduce the ecological compensation mechanism to regulate the relationship between environmental interests and economic benefits of stakeholders, and formulate relevant laws and policies to encourage environmental protection.
			2008	Establish and improve the ecological compensation mechanism, and explore the urban and rural integrated model of environmental governance to promote the overall advancement of China's environmental protection cause.
			2009	Establish the ecological compensation system for coal mining and implement the bond system for environmental restoration.
			2010	Speed up the legislative process of ecological compensation and establish and improve the public welfare compensation funds for forests, grasslands and wetlands. Under the framework of national ecological compensation, set adequate and reasonable budgets for the national nature reserves; gradually include afforestation into the scope of national ecological compensation; build ecological compensation mechanisms for the protection of marine and water

		wetlands, deserts, oceans, rivers and farmland, and put forward a raft of innovative institutional mechanisms, including the delineation and strict observation of ecological protection red lines, and research and formulation of ecological compensation policies. The document urged working out an ecological compensation mechanism that mainly depends on local compensation while receiving financial support from the central government. It encouraged the protection areas and benefited areas, lower reaches and upper reaches of the same river to set up a horizontal compensation payment relationship through fund compensation, targeted coordination, industry transfer, talent training and co-construction of industrial parks. It also encouraged the pilot of horizontal ecological compensation in the typical river basins that have important ecological functions or prominent water supply and demand contradictions, or are seriously endangered and threatened by pollution.		ecosystems. Establish special construction funds and ecological compensation funds that provide stable financial support for ecological protection and remediation in the central and western regions.
			2012	Allocate the ecological compensation fund combined with the ecological functional zoning of the eastern and middle-western regions.
			2013	Set up the mechanisms for ecological compensation and pollution damage compensation on the basis of accounting ecosystem services.
			2014	Perfect the ecological compensation system and incentive mechanism based on ecological redlining system. Establish a long-term mechanism for ecological compensation that considers both landowners and stakeholders, which supports direct payment of ecological compensation to landowners or operators of ecological redlined areas and deployment of major ecological construction projects with focus on ecological redlined areas. Accelerate and improve the ecological compensation system, with adherence to the principle of "polluter pays, destroyer compensates, and protector benefited", and mobilize the local governments to protect the environment, especially those with financial difficulties.
<i>Pilot Plan for Reforming the</i>	December 2015	Stipulate that environmental damage	2009	Study and formulate relevant environmental standards and guidelines,

<i>Compensation System for Eco-Environmental Damage</i>		compensation covers decontamination expenses, eco-environmental rehabilitation expenses, loss of service functions during eco-environmental rehabilitation, loss incurred by perpetual damage to eco-environmental functions, eco-environment damage compensation investigation, appraisalment and other reasonable expenses. Establish a national unified system of technical specifications for environmental damage evaluation. Encourage social organizations that meet the defined requirements to carry out environmental damage compensation litigation.		including standards for pollution damage compensation.
<i>Pilot Plan for Preparing Balance Sheets of Natural Resources</i>	November 2015	Prepare the balance sheets of natural resources to facilitate the formation of a scientific and standardized statistical investigation system for natural resources. Ascertain the situation of natural resource assets and its variation, to provide information foundation, monitoring, early warning and decision support for carrying forward ecological civilization construction and effectively protecting and sustainably utilizing natural resources. Include the preparation of balance sheets of natural resources	2010	Carry out research on ecosystem service valuation and green accounting, and incorporate into national economic accounting system and performance evaluation system.
			2012	Establishing a green national economic accounting system is a fundamental reform measure conducive to green transformation of cadre performance evaluation system. The Central Government should continue to promote relevant research and accelerate the process of demonstration and application.
			2013	Organize the research on green accounting of national economy, and gradually develop a methodology for integrating resource consumption,

		into the systems for promoting ecological progress, and align with the systems for ecological redlining control of resources and the environment, property and use control of natural resource assets, off-office cadre auditing concerning natural resources assets, and eco-environmental damage accountability.		environmental damage and protection benefits into the national economic evaluation system.
<i>Wildlife Protection Law</i> (amended)	July 2016	Specify that "wildlife shall not be ill treated" and change "wildlife conservation" into "protection over wild animals and their habitats."	1999	Strengthen biodiversity protection legislation and law enforcement, and take comprehensive measures to strengthen the management of biological resources and prevent the destruction and unreasonable use of wildlife resources.
			2007	Curb activities prohibited under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
<i>Pilot Program for Giant Panda National Parks</i> and <i>Pilot Program for Northeast Tiger and Leopard National Parks</i>	December 2016	Carry out the pilot of Giant Panda National Parks and Northeast Tiger and Leopard National Parks to enhance the connectivity, coordination and integrity of habitats for giant panda and northeast tiger and leopard, which will facilitate overall protection and systematic restoration for population stability and reproduction. Develop overall plans for building national parks and improving the system of protected areas, that	2015	Formulate the <i>National Park Law</i> to clarify the nature and types of National Parks in China, establish an integrated administration system, and improve the current situation which is typified by varied administration systems, unclear functions and overlapping management bodies for nature reserves, scenic areas, geological parks and forest parks.

		consider ecological protection and economic and social development, and make substantial breakthroughs in unified standardized management, financial security, property ownership and legal system.		
<i>Overall Plan for Building a National Park System</i>	September 2017	Establish a unified, standardized and efficient national park system with Chinese characteristics, which is effective to solve the issues of fragmented and overlapping management and protect the authenticity and integrity of important natural ecosystems in the country. Foster a new system and model for the protection of natural ecosystems to modernize national environment governance system and capacity, safeguard national ecological security and realize harmony between man and nature.		

Energy, Environment and Climate

<i>Action Plan for Revolutionary Energy Technology Innovation (2016-2030)</i>	April 2016	Achieve major breakthroughs in key technologies, covering energy safety, clean energy, intelligent energy and low-carbon energy; move faster to build a clean and efficient, safe and sustainable modern energy system in accordance with	2000	Strengthen and perfect energy and environmental technology innovation and support system, and give high priority to energy policy.
			2009	For China, reducing the total energy consumption and greening the energy mix are the fundamental solution to balance energy and environment, but this will be a long and challenging process.

		<p>the principles of "conservation, cleanness and safety". The specific objectives are: by 2020, to control the total primary energy consumption at about 4.8 billion tons of coal equivalent and total coal consumption 4.2 billion tons; to basically form a full-fledged energy security system; put a cap of 4.2 billion tons of coal equivalent on the primary energy mix with about 85% energy self-sufficiency and increase the ratio of oil reserve and exploration to 14%-15%, and basically establish an energy reserve emergency system. Raise the proportion of non-fossil fuels in primary energy consumption to 15% and natural gas more than 10%, and cut the proportion of coal to 62%.</p>		<p>Therefore, China should consider improving energy efficiency as a priority task. While ensuring national energy security and environmental security, develop and implement a national strategy of safe, efficient and clean coal exploitation and utilization to pave a long-term stable energy foundation for the sound and rapid development of China's green economy. In heavily polluting situations, establish pilot efforts for regional controls on total coal consumption and strengthen pollution supervision for coal-fired power plants based on the requirement of total emission control. Develop coal consumption assessment standards based on regional environmental capacity; implement total allowable coal consumption adjustment based on the requirement of total emission control in areas with significant air pollution, such as the Yangtze River Delta, Pearl River Delta and Beijing-Tianjin-Hebei region; implement simultaneous control of multiple pollutants based on establishing systematic and scientific air quality standards and emission standards.</p>
<i>Opinions on Accelerating the Construction of Ecological Civilization</i>	April 2015	<p>Reduce energy consumption intensity, substantially improve resource productivity, and increase the proportion of non-fossil fuels in primary energy consumption to around 15%, which have been reflected in the energy planning for the 13th Five-Year Plan period.</p>	2012	<p>Promote multiple high quality energy sources such as natural gas, low-sulfur diesel, liquefied petroleum gas and electricity to replace coal and diversify the supply and consumption of high-quality energy. Control strictly regional coal consumption growth and strengthen the demarcation of high-pollution fuel forbidden zones with a continuous increase in the percentage in urban built-up areas.</p>
			2014	<p>Promote clean, efficient and sustainable use of coal and accelerate adjustment of energy structure. Prefer to use coal only</p>

				in large-scale facilities with high-efficiency end-of-pipe control technologies; improve the energy efficiency of major coal-consuming sectors, such as power plants; increase the proportion of coal washing and promote only clean coal technologies to control total coal consumption. Adopt a total energy consumption control policy. Control China's total energy consumption to below 4.8 billion tons of coal equivalent and coal consumption below 4.0 billion tons in order to achieve peaking of greenhouse gas emissions before 2030.
<i>Circular on Promoting the Orderly Development of Coal Power in China</i>	March 2016	Exercise strict control over the additional increases of coal power in all regions.	2011	Incorporate climate change into the legislative agenda, develop and promulgate as soon as possible the <i>Energy Law</i> and amend the <i>Coal Law</i> , <i>Electric Power Law</i> , <i>Energy Conservation Law</i> , and <i>Renewable Energy Law</i> to further encourage clean and low-carbon energy development and utilization.
<i>Guiding Opinions on Promoting the Substitution of Electric Energy</i>	May 2016	Improve the policy system supporting electric power substitution, establish a standardized and orderly operational and regulatory mechanism, and nurture an energy-saving and eco-friendly consumer market that provides, technically feasible and widely used electric power in a convenient and efficient manner. Substitute about 130 million tons of coal equivalent of dispersed coal and fuel oil with electric power in final energy consumption during 2016-2020, which will approximately increase the proportion of power coal in		

		coal consumption by 1.9% and the proportion of electric power in final energy consumption by 1.5% to 27%.		
<i>Opinions on Promoting Safe and Green Development and Clean and Efficient Utilization of Coal and Action Plan for Clean and Efficient Coal Utilization (2015-2020)</i>		Proactively transform the mode of coal development to improve the comprehensive development and utilization and promote clean and efficient utilization of coal resources.	2009	Optimize energy structure and develop low-carbon energy sources. Pay close attention to development of strategic objectives for intensive, clean and efficient use of coal. Reduce the proportion of coal in total energy consumption from the current 70% to 55%, 50% and less than 33% in 2020, 2030, and 2050 respectively.
			2013	The fundamental approach to resolve current prominent environmental issues such as air pollution is to change the economic growth mode and adjust the energy structure, including such measures as capping total coal consumption, improving fuel quality, and promoting urban green transportation.
<i>Circular on Implementing the Coal Resource Tax Reform</i>	2014	Levy coal resource tax on the basis of ad valorem to promote efficient and intensive resource use and environmental protection. Launch the resource tax reform in 2016 which broadens the scope of resource tax to effectively uses the leverage for regulation. Cut the average standard coal consumption per kilowatt of electricity for 6,000 kilowatt and above thermal power units by 18 grams during the 12 th Five-Year Plan period, remove about 28 million kilowatts of backward thermal power units, and eliminate over 1,000 backward coal mines with a production capacity of over 70 million tons, to limit the use of low-quality commercial coal. Increase	2014	Set out strategic objectives for energy structure adjustment. Significantly reduce the consumption of coal below peak level by 2020 and control the increase of crude oil use so that it might peak as early as 2025. Manage the increase of non-fossil fuel consumption higher than fossil fuel by around 2025, and reduce total fossil fuel consumption by or before 2030. Build demand-based renewable energy development policies. Use mandatory laws and regulations to promote production and utilization of renewable energy: increase the proportion of non-fossil fuel by at least 0.7 percentage points every year, in order to reach the target of over 20% of total energy consumption to be derived

		the scale and level of natural gas utilization, with its proportion in total energy consumption raised to nearly 6% in 2015. Optimize the structure of natural gas utilization and increase the proportion of city gas and natural gas for power generation		from renewable sources by 2030.
<i>Action Plan on Energy Conservation, Emissions Reduction, and Low-carbon Development (2014-2015)</i>	May 2014	Conduct the appraisal and examination of provincial people's governments on energy conservation targets (by the National Department and Reform Commission together with other relevant departments), and reflect the results in government performance management by using as a reference for the comprehensive assessment and evaluation of local leading bodies and cadres.	2009	Develop energy efficiency policy for urban construction, promote energy saving technologies and standards, and construct "low energy and carbon buildings". Establish building energy efficiency standards for different regions and different types of buildings and, on this basis evaluate energy consumption and decide on subsidies for buildings; cancel the financial support for individual technologies and conduct renovation of existing energy-consuming buildings; encourage developers and consumers to develop and purchase energy-efficient and low-carbon buildings through fiscal policy incentives; initiate pilot efforts of energy-efficient and low-carbon building; strengthen urban energy consumption supervision and audit and adopt certification for energy-efficient products; improve efficiency of urban heat supply and encourage utilization of new energy sources.
<i>Circular on Issuing the Implementation Plan for Energy Efficiency Leader System</i>	December 2014	Establish an energy efficiency leader system and form a long-term mechanism that improves the energy efficiency of end-use products, energy-consuming industries, and public institutions through benchmarks, incentives, and standards, so as to promote energy conservation.		
<i>Special Plan for Energy Conservation of</i>	March 2012	Achieve building energy savings of 116 million tons of coal equivalent by the		

<i>Buildings During the 12th Five-Year Plan Period</i>		end of the 12 th Five-Year Plan period, in which developing green buildings and strengthening energy conservation of new building contribute 45 million tons of coal equivalent; deepening heating system reform for full implementation of metered charging model and advance of heating metering and energy-saving transformation for existing buildings in northern regions, 27 million ton of coal equivalent; and strengthening the regulatory system for energy efficiency of public buildings and promoting energy-efficient operation and management through transformation 14 million tons of coal equivalent. Promote integrated application of renewable energy in buildings to replace conventional energy of 30 million tons of coal equivalent.		
<i>Guiding Opinions on Green Circular, Low-carbon Development of Transportation; Guiding Opinions on Building a Low-carbon Transportation System</i>	May 2013; February 2012	Achieve, by 2020, significant improvements in the awareness of green, circular and low-carbon development, systems and mechanisms for energy conservation and emissions reduction, and use efficiency of energy and resources in the industry while accomplishing the		Amend energy efficiency standards of buildings, transportation equipment, major industrial equipment, and main energy-consuming items like household appliances and lighting products. Improve energy efficiency label management and accreditation and expand the scope of mandatory energy efficiency labeling. Strictly implement

		<p>target of carbon emissions per unit of GDP set by the State Council; make notable progress in the control of greenhouse gases emissions and capacity of adaptation to climate change; fully implement ecological protection, effectively control environmental pollution and basically build a green, low-carbon transportation system. Enforce strictly transportation planning, and the systems of environmental impact assessment, "three simultaneousness" and water and soil conservation program preparation for construction projects. Promote eco-friendly design and strengthen vegetation protection and restoration through measures for environmental protection and soil and water conservation measures. Launch projects to green and beautify the environment. Intensify environmental protection to ensure that pollutant discharge during construction meets standards. Strengthen pollutant treatment and noise control in the process of transportation infrastructure construction, maintenance and operation.</p>		<p>energy efficiency standards and raise access of energy intensive sectors. Carry out energy efficiency evaluation for new public buildings and commercial housing upon completion, and suspend completion approval for those that do not meet mandatory standards so as to control emissions from the source. Establish energy efficiency examination, verification and certification system. Enhance monitoring, indicator and evaluation systems of energy conservation and emissions reduction, strengthen accountability of energy conservation targets, and improve incentive-disincentive mechanisms.</p>
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<i>Implementing Opinions on Advancing Energy and Resource Conservation and Boosting Ecological Progress in Public Institutions</i>	December 2015	Require public institutions to promote ecological progress: in combination with energy conservation, carry out energy-saving reform through adoption of new energy-saving technologies and products to continuously improve efficiency of energy and resource utilization; in combination with the development of conservation-oriented agencies, strengthen efficient and intensive use of office space, various assets and office supplies to reduce administrative costs; in combination with the construction of spiritual civilization, play a exemplary role in active publicity and education on ecological civilization and practice of green civilized lifestyle.		
<i>Work Plan for Controlling Greenhouse Gas Emissions During the 12th Five-Year Plan Period</i>	January 2012	Make full deployment of work during the 12 th Five-Year Plan period, followed by the introduction of sectoral and regional action plans or programs to control greenhouse gas emissions.	2009	Accelerate the formulation and amendment of laws and regulations conducive to reduction of carbon emissions, covering energy production and conversion and energy and resource conservation and utilization. Add climate change into the legislative agenda.
<i>National Strategy for Adaptation to Climate Change</i>	December 2013	Clearly set forth the main objectives, key tasks, regional patterns and safeguard measures for China's adaptation to climate change, providing guidance on coordinated		2014

		implementation.		response.
<i>National Climate Change Plan (2014-2020)</i>	September 2014	Put forward the guiding ideology, objectives and requirements, policy orientation, key tasks and safeguard measures for addressing climate change.		
<i>Enhanced Actions on Climate Change – Intended Nationally Determined Contributions</i>	June 2015	Set such targets as peaking carbon dioxide emissions around 2030 and striving to peak early, and reducing carbon dioxide emissions per unit of GDP by 60%-65% from 2005 level, which clarifies the direction of long-term efforts to address climate change in the country.		
<i>Circular on Doing a Good Job in Key Aspects to Launch the National Emissions Trading Market</i>	January 2016	Let the market play the decisive role in the allocation of greenhouse gas emissions oriented to emissions control and low-carbon development. Require joint and coordinated efforts of the central government, local governments and enterprises to build the emissions trading market so as to ensure the nationwide launch in 2017.	2009	Gradually explore and establish a voluntary emissions trading system.
			2011	Promote the emissions trading system, establish markets and exchange for trading emissions, including conventional pollutants and carbon dioxide, and launch carbon tax pilot as soon as possible.
<i>Work Plan for the Pilot Program of Creating Climate-Resilient Cities</i>	February 2016	By 2020, incorporate climate resilience indexes universally into the urban-rural planning system, construction standards and industrial development plans, and	2011	Accelerate the formulation and amendment of laws and regulations conducive to reduction of carbon emissions, covering energy production and conversion and energy and resource conservation and utilization. Add climate change into the legislative

		create 30 pilot climate-resilient cities where the capacity of adaptation to climate change is improved significantly and the proportion of green buildings increased to 50%. By 2030, through wide popularization of scientific knowledge on climate change, make cities apparently more capable of comprehensive adaptation to climate change, including dealing with such problems as waterlogging, drought, water shortage, high temperature, heatwave, breeze and freezing disasters.		agenda.
			2014	Give greater attention to climate resilience and environmental planning of cities. Establish risk assessment frameworks for climate change adaptation and fiscal emergency response.
<i>Outline of the Thirteenth Five-Year Plan</i>	March 2016	Dedicate a chapter to "Respond to Global Climate Change", stipulating "While working hard to both adapt to and slow down climate change, we will take active steps to control carbon emissions, fulfill our commitments for emissions reduction, increase our capability to adapt to climate change, and fully participate in global climate governance, thus making a contribution to the response to global climate."		
Environmental Governance and Rule of Law				
<i>Amendment to the Environmental</i>	January 1, 2015	Renew technical, management and	2013	Strengthen laws and regulations that urge enterprises to fulfill environmental

<i>Protection Law</i>		supervision systems and increase penalties.		and social responsibility and increase penalties for underperforming companies.
Amendment to the <i>Law on Air Pollution Prevention and Control</i>	January 1, 2016	Include "standards for air pollution prevention and control and plans for compliance within the prescribed time", " joint prevention and control of air pollution in key regions" and "plans for response to heavy pollution weather events".	2012	Amend the current Law on Air Pollution Prevention and Control which no longer meets the requirements of air pollution prevention and control in the new situation, in order to provide legal support for policy measures on new pollutants.
Approved institutional reform to the Ministry of Environmental Protection	February 2015	Establish departments for water, air and soil environmental management respectively to replace the department of pollution prevention and treatment and department of pollutant emissions control.	2013	Accelerate the reform of management system for protecting the ecological environment to achieve unified management of all pollutants, emission sources, environmental media, and ecosystems.
Establishment of the departments for water, air and soil environmental management under the Ministry of Environmental Protection	March 2016	Make an institutional reform to strengthen the prevention and control of air, water and soil pollution by establishing the Department of Water Environmental Management, Department of Air Environmental Management and Department of Soil Environmental Management.		
<i>Guiding Opinions on Pilot Reform for Vertical Management</i>	September 2016	Strengthen environmental protection responsibilities of local Party committees and governments and the	2003	Reduce local protectionism and practice more uniform and consistent environmental regulation and law enforcement in provinces.

<i>System of Environmental Protection Organizations below the Provincial Level Concerning Environmental Monitoring, Supervision and Law Enforcement</i>		relevant departments; adjust local management systems for environmental protection; standardize and strengthen local environmental protection agencies and ranks; establish a sound and efficient operation mechanism.	2006	Perform vertical management of environmental departments below the provincial level through the adjustment of local environmental management systems.
14th Meeting of the Central Leading Group for Comprehensively Deepening Reforms	July 2015	Require party committees and governments to share the responsibility and carry out off-office cadre audit concerning natural resource assets and lifelong accountability for eco-environment damage.	2012	Establish marine environmental administrative inspection system and law enforcement system and strengthen supervision and inspection of environmental impact assessment system implementation for marine energy development activities.
<i>Environmental Protection Supervision Plan (for Trial Implementation)</i>	December 2015	Central Environmental Protection Inspection Teams promote the implementation of same accountability of the party committees and governments, dual responsibilities in one position, and accountability for dereliction of duty.	2013	When implementing the action plan for air pollution prevention and control, the Central Government should focus on monitoring and coordinating the full implementation of measures by local governments and intensify environmental accountability.
			2015	Establish marine environmental administrative inspection system and law enforcement system and strengthen supervision and inspection of EIA system implementation for marine energy development activities.
<i>Opinions on Giving Full Play to the Role of Adjudicatory Function to Provide Judicial Service and Safeguard for Promoting</i>	May 2016	Make full use of environmental and resource trials in protecting environmental rights and interests, restricting public power, resolving conflicts and disputes and forming public policies to continuously improve	2014	Promote the environmental judiciary system and strengthen environmental judicial practice. Promote coordination between environmental departments and judicial departments, and strengthen the capacity of environmental courts and judges. Improve the environmental public interest litigation system and the ecological environment damage

<i>Ecological Progress and Green Development</i>		eco-environmental quality, sustain economic and social development, and safeguard environmental justice and intergenerational equity.		compensation and accountability systems. Strengthen responsibility and capacity of the judicial system to investigate environmental violations.
<i>Opinions on Establishing Unified and Standard National Ecological Civilization Pilot Zones</i>	August 2016	Establish a number of pilot zones and form a state-level integrated test platform for reform to promote ecological progress. Obtain feasible and effective institutional achievements through experiment and exploration. Make notable improvement in the level of resource utilization, continuous improvement in the quality of ecological environment, and marked improvement in the quality and efficiency of development. Balance economic and social development and environmental protection, and create a pattern of development towards modernization with man and nature harmony, providing strong institutional support for accelerating ecological progress, boosting green development, and building a beautiful China.	2015	Hold a central working conference on ecological civilization at the appropriate time. When appropriate, organize a central working conference on ecological civilization, in order to accurately analyze the new normal and current state of resources and the environment; assign the broad responsibilities of ecological civilization and resource/environmental protection with equal emphasis on governments and party committees issue forward-looking policies. Strengthen environmental responsibilities of governments and party committees at various levels to promote economic, social and environmental sustainable development.
<i>Implementation Plan for National Ecological Civilization Pilot Zones (in Fujian)</i>	August 2016	By 2020, make significant progress in the development of pilot zones, forming typical practices in the reform for promoting ecological progress. Stand forefront in modernizing		

		<p>governance system and capacity of promoting ecological progress. Perfect the territorial space development and protection system and basically form a provincial territorial space system of intensive and efficient production space, livable and moderate living space, and clean and beautiful ecological space. Put into place a sound, diversified ecological compensation mechanism and a clearly defined and effectively regulated property system for natural resources with clarified rights and responsibilities, so that the value of ecological products can be fully realized. Greatly enhance eco-environmental monitoring capacity and basically form an environmental governance system that integrate urban and rural areas and land and sea areas. Universally practice a full-ledged system of ecological performance evaluation and accountability that combines incentives and disincentives, and firmly establish the orientation to resource-saving and eco-friendly green development.</p>		
<i>Implementation Plan for National Ecological</i>	October 2016	For Jiangxi, by 2020, build a full-fledged system with Jiangxi characteristics for		

<i>Civilization Pilot Zones (in Jiangxi and Guizhou)</i>		<p>promoting ecological progress and offer a group of typical practices and mature models for institutional reform, securing a leading position in governance system and capacity modernization.</p> <p>For Guizhou, by 2020, fully establish a full-fledged system for promoting ecological progress, which clearly defines rights and responsibilities of diverse participants and puts equal emphasis on incentives and disincentives; build Guizhou into a people-oriented green province of parks with production, living effective and ecological space in harmony. Provide effective institutional reference for promoting ecological progress nationwide as a forerunner in modernizing governance system and capacity through the construction of pilot zones.</p>		
<i>Circular on Issuing the Implementation Plan for the Emission Permit System to Control Pollutant Emissions</i>	November 2016	By 2020, complete the issuance of emission permits that cover all stationary sources of pollution, and establish an emission permit system to achieve permit-based management. Make emission permit the core of integrated environmental management system for stationary sources. Implement the	2015	Draft an <i>Emission Permits Law</i> to integrate the emission permit system within the broad system of environmental standards, environmental monitoring, and environmental impact assessment, as well as pollution emission registration, total emission control, and the regulation of environmental facilities and management of emission discharge outlets (known as “Three Simultaneousness”). Enhance the legal status of the emission permit system, and

		system of controlling total pollutant emissions of enterprises and public institutions based on emission permit, rather than control by administrative regions.		ensure this system forms the core of environmental management.
<i>Circular on Comprehensively Promoting Resource Tax Reform and Interim Measures for Pilot Reform of Water Resource Tax</i>	May 2016	Advance resource tax reform in all aspects on July 1, 2016, with focus on the change to price-based tax from ad valorem tax, demonstrating that the Chinese Government has considered including environmental costs into the resource pricing mechanism.	2015	Reform the pricing mechanism for critical resources, and use fossil fuels (such as coal and oil) as entry points to internalize environmental costs into the pricing mechanism. Develop green financial and taxation policies to reflect environmental costs of production and consumption. Create a market environment with healthy competition for green industries and actively promote energy conservation and environmental protection industries.
<i>Integrated Reform Plan for Promoting Ecological Progress</i>	September 2015	Develop a market system which allows economic levers to play a greater role in environmental governance and ecological conservation, with a view to addressing the slow development of market entities and market systems and low rates of public participation in ecological conservation. Establish a green finance system as suggested in Article 45.	2015	1) Establish a national green development fund. The fund should consist of fiscal funds from the central government, other financial institutions and private investors, with a total initial amount of no less than 300 billion RMB. Its operation should be subject to market-based and professional management. It should mainly support large and medium, mid to long-term green projects and other pilot projects that have major demonstration effects, including demonstration projects of clean energy, environmental technology and environmental industries. Explore commercially sustainable operation models, and make full use of the leverage of green funds to mobilize more social capital for environmental protection projects.
<i>Guidelines on Issuance of Green Bonds</i>	December 2015	Provide a series of preferential treatment to enterprises that issue green bonds.		
<i>Guiding Opinions on Building the Green Financial</i>	August 2016	"Mobilize and incentivize more social (private) capital to invest in green		

<i>System</i>		<p>industries, and to more effectively control investments in polluting projects. The green financial system involves financial instruments such as green credit, green bonds, green stock indices and related products, green development funds, green insurance, and carbon finance, as well as relevant policy incentives."</p> <p>"Support local government initiatives to develop green finance. Encourage local governments to include projects with significant environmental benefits into the green project database, and expand the financing channels for these projects by listing them on national financial asset trading centers. Promote international cooperation in green finance. Enhance the "greenness" of China's outward investment; improve environmental information disclosure; explore the use of instruments such as environment pollution liability insurance to manage environmental risks."</p>		<p>bonds and green insurance through innovative means. Implement a mandatory environmental liability insurance system for high-risk sectors. Support and encourage financial institutions and enterprises to issue green bonds. Use green refinancing, fiscal interest subsidies and a green guarantee system to lower the cost of green financing, and encourage banks to support green financing. Support the establishment of professional green guarantee entities. Revise the <i>Commercial Bank Law</i> to clarify the environmental responsibilities of banks.</p> <p>3) Establish cross-department green financing coordination mechanism. Establish a green financing coordination mechanism at the national level, i.e. establish a green financing guidance and implementation entity run jointly by the People's Bank of China, China Banking Regulatory Commission, China Securities Regulatory Commission, China Insurance Regulatory Commission, and environmental protection and finance departments. Streamline pricing and fee collection for green industries.</p>
<i>Administrative Measures for Ex-post Environmental Impact Assessment of Construction</i>	December 2015		2012	<p>Enhance institutional innovation and improve legal system for environmental protection. Accelerate the revision of the <i>Environmental Protection Law</i> and <i>Environmental Impact Assessment Law</i> to further improve the environmental</p>

<i>Projects (for Trial Implementation) and Administrative Measures for Regional Restricted Approval of Environmental Impact Assessment for Construction Projects (for Trial Implementation)</i>				impact assessment system.
<i>Amendment to the Environmental Impact Assessment Law</i>	July 2016	Stipulate that an EIA approval needs to be sought along with other approvals, but it must be obtained before construction starts; allow for more severe penalties for unlawful acts, and cancel the criticized "EIA makeup" regulation; mandate environmental protection departments at municipal level and beyond, as for construction projects that proceed without EIA approval, to stop the construction and to impose a fine of 1% to 5% of the total cost of the project, depending on the severity of the breach and its environmental consequences, or to order restoration.	2013	Reform environmental impact assessments and social impact assessments in a systematic manner. Implement the environmental and social assessment mechanism for major policies based on principles of openness and transparency and on meaningful public access. Specific actions should include the establishment of a "pre-approval" screening system for major projects with environmental and social implications; need of policies and reforms to ensure public environmental interests are better served; practice of accountability system for cadres that fail to strictly follow the assessment process resulting in "assessment failure"; establishment of a robust and anticipatory environmental emergency response mechanism; formation of response mechanisms at all levels that make clear the condition and time of response, and the corresponding personnel and equipment.
<i>Implementation Plan for Environmental Impact Assessment Reform During the 13th Five-Year Plan Period</i>	July 2016	Put forward the "objectives": making more sophisticated and effective top-level design for environment impact assessment of strategies and plans and building a preliminary early warning	2014	Reform environmental impact assessment system to achieve better coordination with the emission permit system. Initiate a pilot effort to integrate environmental impact assessment and emission permit approval. Apply the

		<p>system for environmental impact; advancing strategic environmental assessment which should be completed for the Beijing-Tianjin-Hebei region, Yangtze River Delta and Pearl River Delta, and organized for the Yangtze River Economic Zone and the Belt and Road Initiative; launching early warning pilot for regional environmental impact, such as aimed at environmental quality improvement, carrying out accounting and early warning of regional environmental capacity, early warning for environmental impact of strategies concerning the Yangtze River Economic Belt and the Beijing-Tianjin-Hebei integration; initiating early warning pilot for resource and environmental carrying capacities of typical areas for key development and optimal development and space redlining warning for typical areas restricted and prohibited from exploitation.</p>		<p>environmental impact assessment system to a greater extent on strategies, plans and policies, as well as on situations such as cross-regional, coastal zone and river basin projects that may have significant ecological impacts.</p>
<p><i>Guiding Opinions on Strengthening the Construction of the Enterprise Environmental Credit System</i></p>	<p>December 2015</p>	<p>By 2020, basically build an environmental credit system and environmental credit information system for enterprises at national, provincial, city and county levels, establish the corresponding</p>	<p>2014</p>	<p>Establish an enterprise environmental credit evaluation system. Reward enterprises that go beyond mere compliance with environmental protection laws and regulations. Strengthen the capability of small and medium sized enterprises through provision of a platform with information</p>

		environmental credit records, and put into place effective incentive and disincentive mechanisms, so as to generally improve corporate awareness and capacity in environmental credit.		about pollution treatment services and access to finance. Actively promote voluntary pursuit of good environmental performance on the part of industries and enterprises.
			2015	Establish an enterprise environmental credit evaluation system, and enforce mandatory environmental information disclosure for listed companies.
<i>Opinions on Accelerating the Construction of Ecological Civilization</i>	April 2015	Take cultivation of ecological culture as an important support. Incorporate ecological progress into the socialist core values, and strengthen publicity and education on ecological culture to advocate economical, green, low-carbon, civilized and healthy lifestyles and consumption patterns and improve the social awareness of ecological progress.	2015	Advocate sustainable consumption, encourage sustainably produced and consumed food, clothing, housing and travel, and guide the greenization of people's lifestyles.
<i>Implementation Opinions on Accelerate the Promotion of Green Lifestyles</i>	November 2015	By 2020, popularize the value of ecological civilization and strengthen evidently the concept of green lifestyle across the whole society; establish preliminarily a system of policies, laws and regulations for greening lifestyles; provide fast and convenient access to green products and services, while increasing the inherent driver and nurturing green lifestyle of the general public, with a		

		view to shifting to economical, green, low-carbon, civilized and healthy lifestyles and consumption patterns in the society as a whole, in which ecological progress is embraced in every aspects and at all times.		
<i>Guiding Opinions on Promoting Green Consumption</i>	February 2016	Speed up the transition towards green consumption according to green development concepts and socialist core values. Strengthen publicity and education to create a social atmosphere of thrift and advocate green consumption; regulate consumer behavior and guide consumers to consciously practice green consumption; tighten market access and increase production and effective supply to promote green consumer products; improve the policy system and put in place a long-term mechanism to create a favorable environment for green consumption. By 2020, green consumption will become a social consensus and the long-term mechanism take shape to effectively curb extravagance and waste; the market share of green products will be substantially increased and the economical, green and low-carbon, civilized and		

		healthy lifestyles and consumption patterns basically formed.		
Pollution Prevention, Control and Mitigation				
<i>Action Plan for Air Pollution Prevention and Control</i>	September 2013	Reduce the concentration of respirable particulate matter in cities above the prefecture level by at least 10% in 2017 from 2012 level and increase good days every year. Cut the PM _{2.5} concentration of the Beijing-Hebei-Tianjin region, Yangtze River Delta, and Pearl River Delta by at least 25%, 20% and 15% respectively. To 2017, achieve overall improvement in air quality of the whole country with heavy pollution weather events dramatically reduced, and marked improvements in the Beijing-Tianjin-Hebei region, Yangtze River Delta, and Pearl River Delta. The action plan is known as China's largest-ever campaign to clean air.	2014	Develop a broader regional air pollution control mechanism robust enough to stop severe air pollution and to restore air quality. To improve air quality and protect public health, China has adopted an Action Plan for Air Pollution Prevention and Control, with the strictest controls so far seen in the country. In order to achieve the emission reduction targets of the Action Plan, China should carry out coordinated control efforts for multiple pollutants and emission sources in different regions, and adopt control measures that can complement the process of adjusting the energy structure, improving energy efficiency and enhancing end-of-pipe pollution control.
<i>Action Plan for Water Pollution Prevention and Control</i>	February 2015	By 2020, make stage-based improvement in the quality of water environment as a whole by substantially diminishing seriously polluted water bodies, increasing safeguard for drinking water, strictly controlling groundwater	2015	Establish an environmental risk assessment and prevention system for major national macro strategies, conduct environmental risk assessments for macro strategies such as the Belt and Road Initiative, the Beijing-Tianjin-Hebei integration, and the Yangtze River Economic Belt to form an integrated environmental risk

		over-exploitation, initially curbing the escalation of groundwater pollution, stably improving offshore environment, and optimizing the aquatic ecological environment in the Beijing-Tianjin-Hebei region, Yangtze River Delta, and Pearl River Delta. By 2030, strive to make an overall improvement in the quality of water environment and initially restore aquatic ecosystem functions. By 2050, improve the quality of ecological environment in all aspects, with virtuous circle of ecosystems.		prevention system. The <i>Circular on Strengthening Environmental Pollution Prevention, Control and Governance of the Yangtze River Golden Waterway</i> put environmental restoration of the Yangtze River uppermost and proposed to control water pollution and protect and restore ecological zones of the Yangtze River through zoning, optimizing industrial structures, strengthening source treatment and emphasizing risk prevention and control, with the focus squarely on improving the quality of the aquatic environment.
<i>Action Plan for Soil Pollution Prevention and Control</i>	May 2016	Put the improvement of soil environmental quality in the core position, and stick to the principles of "risk management with emphasis on prevention and priority to protection". Strictly control newly increased pollution and gradually reduce existing pollution, highlighting key regions, industries and pollutants and using a differentiated approach to pollution control based on different categories, uses, and stages. Form a system for prevention and control of soil pollution which combines government guidance, corporate responsibility, and public participation and scrutiny,	2011	Introduce a package of green programs and policy measures concerning pollution prevention, energy and climate change, resource pricing, ecological compensation and environmental restoration to address soil pollution in traditional industries and mining areas, given the weak legal framework for environmental tax and pricing reform.
			2013	Call on the Chinese Government to develop special action plans for environmental issues that seriously affect public health and life such as air pollution, water pollution, soil pollution and ecological service deterioration, when promoting ecological progress or building a green and harmonious relationship between environment and development.
			2014	Regularly update and publicize the projections of future health risks to the

		to promote sustainable use of soil resource and fight for a beautiful China with a blue sky, clear waters and green mountains.		urban population from air, water and soil pollution, climate change impacts and adaptation, and use such results an important basis for performance evaluation and accountability of government officials.
			2015	Amend the <i>Soil Pollution Prevention and Control Law</i> in the legislative plan to the <i>Soil Environmental Protection Law</i> .
Regional and International Engagement				
<i>Work Together to Build a Win-Win, Equitable and Balanced Governance Mechanism on Climate Change</i>	November 2015	Reach agreement on climate change, and create a future of win-win cooperation, with each country making contribution to the best of its ability, a future of the rule of law, fairness fairness and justice, and a future of inclusiveness, mutual learning and common development. China has been actively engaged in the global campaign on climate change. The Chinese Government has earnestly fulfilled its policy commitments of South-South cooperation regarding climate change to support developing countries, especially the least developed countries, landlocked developing countries and small island developing states, in confronting the challenge of climate change. In a show of greater support, China announced in	2009	While there still is a long way to go in exploring a new path for environmental protection with Chinese characteristics, the results will strengthen China's admirable progress towards elimination of poverty, its commitment to build an environment-friendly society, and, indeed, towards defining in real terms the nature of ecological civilization. In the process China can contribute to solving global environmental concerns, including climate change.
			2015	Develop a national green overseas assistance action plan, strengthen South-South cooperation, and implement a low-carbon, environment-friendly and green Belt and Road initiative.

		September 2015 the establishment of an RMB 20 billion South-South Climate Cooperation Fund.		
<i>China-US Joint Presidential Statement on Climate Change</i>	March 2016	Join the <i>Paris Agreement</i> and promote its entry into force as early as possible; achieve positive results on relevant multilateral occasions, including the amendment on hydrofluorocarbons and the global market-based measure of International Civil Aviation Organization to address greenhouse gas emissions from international aviation; financial support and encouragement to the progressive introduction of low-carbon technologies.	2016	The coming several years are critical to accelerating the pace of China's efforts to address international goals particularly for the Paris Agreement on Climate Change and the Chinese Implementation Plan for the UN 2030 Sustainable Development Goals. Among the three major actions is to promote substantive progress in addressing climate change at the global and regional levels; enhance environmental safeguards in bilateral and multilateral agreements; and foster green action by businesses both domestically and internationally.
<i>Montreal Protocol on Substances that Deplete the Ozone Layer</i>		Reach a historic consensus on reducing the use of hydrofluorocarbons.		
<i>Joint Statement Issued at the Conclusion of the 21st BASIC Ministerial Meeting on Climate Change</i>		Promote the outcome of the <i>Paris Agreement</i> , and urge the developed countries to issue commitments.		
<i>Towards Win-win Partnership for Sustainable Development</i> , remarks by Xi Jinping at the United Nations Sustainable	September 2015	Establish an Assistance Fund for South-South cooperation, with an initial pledge of 2 billion US dollars in support of developing countries' implementation of the post-2015 development	2016	Take three major actions, including using the opportunity of 2030 Sustainable Development Goals to advance global sustainable development via South-South Cooperation.

Development Summit		agenda; continue to increase investment in the Least Developed Countries, aiming to increase its total to 12 billion US dollars by 2030; exempt the debt of the outstanding intergovernmental interest-free loans due by the end of 2015 owed by the relevant Least Developed Countries, landlocked developing countries and small island developing countries.		
Speech delivered by Xi Jinping in the Dialogue of Emerging Market and Developing Countries at Xiamen International Conference Center	September 5, 2017	Provide 500 million US dollars to the Assistance Fund for South-South Cooperation to help fellow developing countries tackle famine, refugee, climate change, public health and other challenges. Work through such mechanisms as the Assistance Fund for South-South Cooperation, China-UN Peace and Development Fund and South-South Climate Cooperation Fund to boost cooperation on development and help fellow developing countries in implementing the Sustainable Development Agenda. Enhance development experience-sharing and capacity-building cooperation with other countries through such platforms as the Center for International Knowledge on		

		Development and the Academy of South-South Cooperation and Development, and provide other developing countries with 40,000 training opportunities in China in the coming year.		
<i>Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road</i>	March 2015	Promote ecological progress in conducting investment and trade, increase cooperation in conserving eco-environment, protecting biodiversity, and tackling climate change, and join hands to make the Silk Road an environment-friendly one.	2015	Achieve a green Belt and Road initiative. Advocate for and implement the concepts of ecological civilization and green development, strengthen cooperation and exchange on environmental protection with countries along the Belt and Road, and establish an environmental information sharing and service platform for the initiative. Incorporate green financing mechanisms into the Belt and Road initiative, encourage Chinese enterprises that plan to operate in the Belt and Road area to pay attention to environmental protection and actively implement corporate social and environmental responsibility. Develop a national green overseas assistance action plan, strengthen South-South cooperation, and implement a low-carbon, environment-friendly and green Belt and Road initiative.
<i>Outline of the Thirteenth Five-Year Plan</i>	March 2016	Carry out intensive cooperation in the fields of education, science and technology, culture, sports, tourism, environmental protection, health and traditional Chinese medicine.		
<i>Thirteenth Five-Year Plan for Protecting the Ecological Environment</i>	November 2016	Stimulate green development of One Belt and One Road. Carry out all-round multi-channel dialogue and exchange activities, including with environmental officials, scholars, youth from countries along the routes, environmental public welfare activities, and the Green Silk Road Envoys Program to share ideas and experience in ecological		

		civilization and green development. Establish a sound management system for green investment and trade, and implement the <i>Guidance on Environmental Protection in Foreign Investment and Cooperation</i> . Set up technical cooperation parks and demonstration bases in favor of the go-out of environmental protection industries. Develop and implement plans for protecting the ecological environment in the Belt and Road.		
BRICS Leaders Xiamen Declaration	September 2017	Promote the implementation of Sustainable Development Agenda of United Nations and expand BRICS cooperation on environmental protection and climate change.	2016	Step up efforts to promote China's already announced international development initiatives and actions, including the Belt and Road initiative, Asian Infrastructure Investment Bank, New Development Bank, South-South Cooperation Fund, plus China's official development assistance and foreign direct investment.