



中国环境与发展国际合作委员会
China Council for International Cooperation on
Environment and Development

**Progress on Environment and
Development Policies in China and
Impact of CCICED's Policy
Recommendations**

(2017–2018)



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Views Presented Are Those of the Authors

Contents

Foreword.....	3
Preface.....	4
I. Xi Jinping Thought on Ecological Civilization becomes a guide for ecological environment protection in the new era.....	6
(I) Overview of the National Conference on Ecological Environment Protection	6
(II) Main content of the conference	7
(III) Guiding significance of Xi's Thought on Ecological Civilization.....	8
II. Planning for environment and development	8
(I) Planning based on 2035 planning for environment and development.....	8
(II) Regional planning for environment and development released in succession	9
(III) Development planning for green cities and towns	10
(IV) Seeking to win the tough battle of pollution prevention and control.....	11
III. Ecosystem and biodiversity conservation.....	12
(I) Positive progress has been made in ecological protection red lines drawing and conservation	12
(II) "Green Shield 2018" provides strong guarantee for ecological protection in the Yangtze River basin	13
(III) Ecological environment protection audit forces green development	14
IV. Energy, environment and climate.....	15
(I) Optimizing and adjusting the energy structure	15
(II) Strengthening energy conservation and increasing energy efficiency.....	16
(III) Coordinating national efforts to cope with and adapt to climate change	18
(IV) Promote the construction of a national carbon market	19
V. Pollution prevention and control	19
(I) Air pollution prevention and control.....	19
(II) Water pollution prevention and control	22
(III) Soil pollution prevention and control.....	23
VI. Governance and rule of law	24
(I) Major organizational reform in ecology and environmental protection	24
(II) Emission permits	25
(III) Thoroughly implementing environmental economic policies.....	26
(IV) Judicial reform drives ecological civilization governance.....	30
VII. Regional and international engagement	31
(I) Greening Belt and Road Initiative	31
(II) Making new progress in tackling climate change with active efforts	32
(III) Promoting South-South cooperation	33
(IV) Participating in global ocean governance	34
VIII. Conclusions.....	35
Appendix: Overview on the Relevance of China's Environmental and Development Policies and CCICED Policy Recommendations over the Past Year.....	37

Progress on Environment and Development Policies in China and Impact of CCICED's Policy Recommendations (2017-2018)

Foreword

As a high-level policy advisory body approved by the Chinese Government, China Council for International Cooperation on Environment and Development (CCICED) is mainly engaged in proposing policy recommendations on major issues of environment and development for reference and adoption by policy makers. At annual general meetings of the CCICED, Chinese and international members have policy discussions based on policy research, generate policy recommendations and then submit them to the State Council of China and central government departments concerned.

CCICED's Chinese and International Chief Advisors Support Group has been commissioned by CCICED Secretariat to draft a report titled "Progress in Environment and Development Policies in China and Impact of CCICED's Policy Recommendations" annually since 2008, so as to better serve policy discussions and recommendations made by Chinese and international members of CCICED in the following ways: having a full understanding of major environment and development policies issued by China over the past year; having a knowledge of main policy recommendations proposed by CCICED in the last few years, especially in the previous year, and incorporation of these recommendations into relevant Chinese legislation and policies over the past year. The report contains no assessment of the impact of CCICED. It summarizes and compares China's policy practice and CCICED's policy recommendations, with a view to demonstrating the relevance of CCICED's selection of policy research themes and its recommendations to policy progress, thereby providing reference for CCICED members. This is the eleventh report provided by the Chief Advisors Support Group.

This report sums up the latest regulation and policy progress in China's environment and development since the 2017 annual general meeting of CCICED. With a writing style remaining the same as its predecessors, the report describes CCICED's policy recommendations and corresponding government actions in China in each part and ends with an overview on policy recommendations for readers' reference.

Preface

The year of 2018 is an extraordinary year as it is the first year of a new era. This year is of great historical significance as it coincides with the 40th anniversary of the reform and opening-up and the 20th anniversary of National Environmental Protection Agency (now Ministry of Ecology and Environment) and is the first year to implement the spirit of the 19th CPC National Congress. Meanwhile, this year is also witnessing major adjustments to and deepened reform of China's government management systems and mechanisms, with unprecedented intensity and depth of reform of central government agencies. In particular, the administration and management system of ecological environment and natural resources in China has been greatly adjusted. Apart from responsibilities shouldered by Ministry of Environmental Protection (MEP), the newly established Ministry of Ecology and Environment (MEE, the successor of MEP) assumes more environmental responsibilities, such as the responsibility of National Development and Reform Commission (NDRC) for dealing with climate change and reducing emissions, the responsibility of Ministry of Natural Resources (MNR) for supervising and preventing groundwater pollution, and responsibilities of Ministry of Water Resources (MWR) for working out water function zoning, setting up and managing drain outlets and protecting watershed environment. In respect of administration of natural resources, the newly established MNR is authorized to work out main functional area planning in place of NDRC, manage urban-rural planning in place of Ministry of Housing and Urban-Rural Development (MOHURD), and administer natural resources such as water, grassland, forest, wetland and ocean in replace of MWR, Ministry of Agriculture (MOA), National Forestry and Grassland Administration and State Oceanic Administration (SOA), in addition to duties of Ministry of Land and Resources (MLR, the predecessor of MNR). These efforts are far intensive than expected.

China held the 8th National Conference on Ecological Environment Protection this year, which is the highest-profile and exerts a profound influence on China's ecological civilization. The conference witnessed the birth of a major theoretical achievement, namely Xi's Thought on Ecological Civilization, which becomes the theoretical guide for Beautiful China Construction. This conference has not only strengthened the determination of environmentalists to hold fast to the main battlefield of ecological civilization and keep fighting with environmental pollution and ecological destruction, boosted the confidence in realizing the goal of building a Beautiful China; but also identified building a Beautiful China and developing an ecological civilization as an unshakable national strategic goal, thus opening a new chapter of fully promoting green transition, building a Beautiful China and making ecological progress.

In the past year, Chinese governments at all levels, enterprises and institutions as well as the public, insist on the idea of harmony between human and nature, focus on changes to the main social contradiction in the new era, strengthen ecological environment protection, push forward high-quality development and offer more quality ecological goods to meet people's ever-growing demands for a beautiful life; strive to win the tough battle of pollution prevention and control, one of the three tough battles to build

a moderately prosperous society in all respects, and advance the construction of a Beautiful China; accelerate system reform for developing an ecological civilization and building a Beautiful China, promote green development, solve prominent environmental problems, intensify the protection of ecosystems, reform the environment regulatory system, etc. MEE will remain committed to the core goal of winning the tough battle of pollution prevention and control, energetically implement the *Three-Year Action Plan on Defending the Blue Sky* deeply carry out Action Plans for Air, Water and Soil Pollution Control and deepen the work of pollution prevention and control; carry on strict environmental law enforcement and environmental protection supervision; work with departments concerned to promote air pollution prevention and control in key areas like Beijing-Tianjin-Hebei region; propel ecological progress, adjustment to industrial structure, energy structure, transportation structure and land use structure, and enhance source control; reform and advance the pricing mechanism for green development, vigorously develop green finance, boost the growth of the energy conservation and environmental protection industry; and facilitate positive results in ecological environment protection in the Yangtze River Basin and Xiong'an.

As a policy platform of the Chinese Government and a bond, bridge and window between China and the international community for environmental cooperation, the 6th CCICED is reformed to bring into full play intellectual resources at home and abroad, carry out a lot of innovative and leading policy research in important fields against typical and prominent environment and development problems in China in the new era, with milestones achieved, and have preliminary generated forward-looking, strategic and warning policy recommendations, thereby continuing to contribute to ecological progress in China and sustainable development around the world.

I. Xi Jinping Thought on Ecological Civilization becomes a guide for ecological environment protection in the new era

(I) Overview of the National Conference on Ecological Environment Protection

The 8th National Conference on Ecological Environment Protection was held on May 18-19 in Beijing, which was attended and addressed by President Xi Jinping and Premier Li Keqiang, and attended by Wang Yang, Wang Huning and Zhao Leji. Vice Premier Han Zheng made a summary speech.

Apart from speeches made by central leaders, leaders of NDRC, Ministry of Finance (MOF), MEE, Hebei Province, Zhejiang Province and Sichuan Province spoke to exchange their opinions. Present were also members of Political Bureau of the CPC Central Committee, General Secretary of the Secretariat of the CPC Central Committee, leaders of the NPC Standing Committee, State Councilors, President of Supreme People's Court, Procurator-General of Supreme People's Procuratorate and leaders of Chinese People's Political Consultative Conference (CPPCC), together with leaders of provinces, cities, districts and municipalities with independent planning status under the national social and economic development, Xinjiang Production and Construction Corps, departments concerned in central and state organs, mass organizations concerned, large state-owned enterprises concerned and military units concerned.

In his address, Xi Jinping stressed that building an ecological civilization was of fundamental importance for the sustainable development of the Chinese nation. Since the 18th CPC National Congress, we have carried out a number of fundamental, groundbreaking and long-term tasks to promote historical, watershed and global changes to ecological environment protection. Developing an ecological civilization in the new era requires compliance with six principles such as harmony between human and nature, that lucid waters and lush mountains are invaluable assets, that a good ecological environment is the most inclusive wellbeing for people, that mountains, waters, forests, farmlands, lakes and grasslands form a life community, conservation of the ecological environment through the strictest system and rule of law, and pursuit of global ecological progress. Efforts should be made to ensure that the quality of the ecological environment will be radically improved and the goal of building a Beautiful China basically attained by 2035 through accelerated construction of ecological civilization systems. By the mid-21st century, material, political, spiritual, social and ecological civilizations will be upgraded in all respects, green development models and lifestyles formed all-sidedly, harmony between human and nature maintained, national governance system and capacity for ecological environment fully modernized, and a Beautiful China built.

In his speech, Li Keqiang proposed to study carefully, understand and implement the spirit of important speeches delivered by General Secretary Xi Jinping and, guided by Xi's Thought on Socialism with Chinese Characteristics for a New Era, build ecological civilization systems, strengthen system and rule-of-law construction, remain committed to ecological progress and environmental protection, and strive to win the tough battle of pollution prevention and control.

Han Zheng indicated in the summary speech that efforts should be made to learn carefully and comprehend Xi's Thought on Ecological Civilization while local governments and departments

should focus on the implementation of the thought, introduce specific and practical policies and measures to ensure feasibility and effectiveness.

(II) Main content of the conference

This conference is the highest-profile ever. All members of the NPC Standing Committee were present at the conference except one abroad. Meanwhile, the conference involves rich content and enormous information, and is mainly composed of the following six parts:

Firstly, the conference has raised the significance of developing an ecological civilization to a higher level, namely upgrading it from being of “great importance” for the sustainable development of the Chinese nation as stated in the report to the 19th CPC National Congress to being of “fundamental importance”.

Secondly, the conference offers a highly recognition for the achievements in ecological civilization construction since the 18th CPC National Congress with three affirmative words: historical, watershed and global changes resulted. However, it also indicates that China's ecological environment is still very fragile and the results are not stable despite continuously improved quality of the ecological environment and a trend of being stable and improved.

Thirdly, the conference has made three judgments on the status quo of the ecological civilization construction: first, it is in a key period of various pressures and loads; second, it has entered a critical period that requires more quality ecological goods to meet people’s ever-growing demands for a beautiful environment; third, it has also come to a period when China is capable of addressing prominent ecological and environmental problems.

Fourthly, the conference has put forward six principles and five requirements for the advancement of ecological civilization construction in a new era. The six principles are harmony between human and nature; that lucid waters and lush mountains are invaluable assets; that a good ecological environment is the most inclusive wellbeing for people; that mountains, waters, forests, farmlands, lakes and grasslands form a life community; conservation of the ecological environment through the strictest system and rule of law; and pursuit of global ecological progress. The five requirements are to accelerate the construction of ecological civilization systems; to promote green development in all respects; to give priority to solving prominent ecological and environmental problems for better people’s livelihood; to effectively prevent ecological environment risks; and to raise the level of environmental governance.

Fifthly, the conference emphasizes speeding up the establishment of five sound ecological civilization systems: an eco-culture system based on ecological values; an eco-economic system led by ecology-based industrial development and ecological industrialization; a target responsibility system with improvement of ecological environment quality at its core; an ecological civilization system guaranteed by the modernization of governance system and capacity; and an ecological security system focusing on virtuous cycle of the ecological system and effective prevention and control of environmental risks.

Sixthly, the conference stresses that the Party leadership should be strengthened and that local Party committees at all levels and government leaders should assume primary responsibility for ecological environment protection in respective administrative regions.

(III) Guiding significance of Xi's Thought on Ecological Civilization

The 8th National Conference on Ecological Environment Protection is of historical significance for speeding up ecological civilization construction in the new era. The core outcome of the conference is Xi's Thought on Ecological Civilization, which defines the position of "ecological civilization" in national development and reform at a higher level, more broadly and furthest.

As a systematic and complete theoretical system, Xi's Thought on Ecological Civilization has rich connotations and gives a profound reply to major theoretical and practical questions such as why to build an ecological civilization, what the ecological civilization should be and how to build. It is the fundamental guide for the ecological civilization construction in the new era and the answer to what modern power should be built in the new era.

Xi's Thought on Ecological Civilization will become the long-term guiding ideology for building a Beautiful China. Moreover, the 8th National Conference on Ecological Environment Protection, which is of historical significance, marks the beginning of efforts to develop an ecological civilization and build a Beautiful China for a new era and definitely will bring the ecological civilization construction in China to a new stage.

II. Planning for environment and development

(I) Planning based on 2035 planning for environment and development

As CCICED's first recommendation in 2017 states, a 15-year strategy for pollution prevention and control action plan should be developed. The recommendation indicates that clean coal utilization and gas power generation technology, which are being promoted at present, are just temporary choices in green transition, that efforts should be made to make a plan and budget for cancellation of clean coal utilization on a large scale to prevent China from being trapped in the fossil energy-dependent development path, and that adaptation planning should be a key part of the strategic planning.

In line with China's energy development plan, China will actively promote grid parity for and market-oriented development of wind power and photovoltaic power around 2020 whilst ensuring that the proportion of non-fossil energy consumption in primary energy consumption will reach 15% by 2020. Based on the "two 15-year" overall arrangement set forth in the report to the 19th CPC National Congress, National Energy Administration (NEA) will make development goals and strategies for 2035 and 2050 in advance, begin to develop an outline of energy development strategy on how to achieve the two milestones, study energy guarantee, draw the roadmap and timetable for energy development in the new era and concentrate its efforts on improving energy supply guarantee and people's wellbeing, advancing green development of energy, increasing development quality and efficiency, implementing the innovation-driven strategy, establishing sound systems, mechanisms and legislation, and promoting the building of a community of shared future for mankind. Preliminary ideas are listed below:

In the first stage from 2020 to 2035, China will actively promote market-oriented reform and innovation in systems and mechanisms, and facilitate scale development and technological

progress in the renewable energy industry. China will seek to ensure that by 2035, all incremental energy demands at home will be met by clean energy and renewable energy development will come to the stage of incremental replacement.

In the second stage from 2035 to the middle of this century, China will construct a modern energy system led by renewable energy in an all-round way and usher in a stage of stock replacement of fossil energy with renewable energy. By 2050, the proportions of renewable energy consumption in primary energy consumption and power consumption will reach 60% and 80% respectively, and renewable energy will play a key role in energy supply, while China should complete energy transformation before this.

Meanwhile, provinces and municipalities concerned also focus on the year of 2035 in their overall planning. For example, cities like Beijing have developed their urban master planning at the time node of 2035.

Of course, CCICED has also begun the “SPS on Goals and Pathways for Environmental Improvement in 2035” and studies on a final solution by analyzing the environmental improvement goals set forth in the report to the 19th CPC National Congress, analyzing obstacles and drawing experience from international practices.

(II) Regional planning for environment and development released in succession

As CCICED’s policy recommendations in 2017 state, decision-making fragmentation should be addressed to build an ecological civilization. Great efforts are required to maintain information sharing between organizations concerned in a certain region and make overall arrangements for utilization of land and water resources, and responsibilities for protecting and restoring the ecosystem should be further defined. Current practices such as ecological protection red lines and comprehensive planning in the Yangtze River Economic Belt are a successful case of ecological environment protection in the new era.

The *Plan for Ecological Environment Protection in the Yangtze River Economic Belt* (hereinafter referred to as the *Plan*) came into effect in the second half of 2017. The *Plan* requires clear thinking, establishment of hard constraints and improvement, not degradation, of ecological environment at the Yangtze River. By 2020, the ecological environment should be notably improved, the stability of ecological environment fully increased, ecological functions of rivers, lakes and wetland basically restored, and systems and mechanisms for ecological environment protection further optimized. By 2030, main streams and their tributaries should have sufficient ecologic water, the quality of water environment, air should be improved in all aspects, ecosystem services should be significantly enhanced and the ecological environment should be more beautiful. The *Plan* contains comprehensive planning for the Yangtze River basin by requiring designating the upper limit for utilization of water resources, drawing ecological protection red lines, sticking to the bottom line for environmental quality, promoting environmental pollution control in an all-round way and strengthening efforts to prevent and deal with environmental emergencies.

In order to facilitate the implementation of the *Plan*, MEE carried out the Waste Cleanup Action 2018, which started from May 9 and ended at the end of June. MEE transferred law enforcement backbones nationwide and set up 150 task forces which inspected and verified dumping of solid

wastes in the Yangtze River Economic Belt, urged local governments to rectify problems if any within a definite period of time, punished illegal behaviors if any according to law and disclosed the list of all problems and the progress on rectification, until all rectifications were completed.

After the program began, departments of ecology and environment at all levels filed and investigated environmental illegality problems in question, imposed the strictest punishments on 26 enterprises and seven individuals breaking the law, and cracked down on illegal behaviors through measures such as closedown and attachment, production suspension for rectification and transfer to detention. Currently, fines regarding the 29 problems total more than RMB 2.60 million, and two persons have been transferred to public security departments for administrative detention. For example, with respect to illegal dumping and stockpiling of industrial solid wastes by Hubei Tianmen Yijia Building Materials Co, Ltd., Tianmen Environmental Protection Bureau filed and investigated the case according to law, ordered the company to suspend production and correct, and imposed a fine of RMB 350,000.

On July 25, 2018, MEE published the rectification of the first batch of problems supervised and handled by ministries in the “Waste Cleanup Action 2018”, which involved 29 problems regarding illegal dumping and stockpiling of general industrial solid wastes. To break it down, seven problems were found in Hubei Province, four in Guizhou, four in Jiangsu, three in Yunnan, three in Shanghai, two in Sichuan, two in Anhui, one in Zhejiang, one in Hunan, one in Jiangxi and the rest one in Chongqing. According to on-the-spot verification, all these problems have been rectified as required by MEE.

(III) Development planning for green cities and towns

As CCICED’s third recommendation in 2017 states, comprehensive reform of ecological civilization and green development should be carried forward. The recommendation indicates that in the course of rapid urbanization, the principle of green development must be observed and efforts should be made to consider integrated and balanced development of urban and rural areas, carry out necessary planning for ecologically sensitive areas and increase the efficiency of utilizing resources such as space, soil and wastes.

The *Outline of the Planning for Xiong’an New Area of Hebei Province* was officially released in April 2018, which sets forth the construction of Xiong’an New area characterized by high-level green development through measures such as building a scientific and rational spatial layout, creating a beautiful natural and ecological environment, improving the industrial layout and developing a green smart new city.

The planning for Xiong’an New Area attaches great importance to ecological conservation and construction of an ecological security pattern for the new area. Firstly, it contains the planning and construction of “a lake, three belts, nine patches and multiple corridors” to build an ecocity that is integrated into forests which are surrounded by water. “A lake” means environmental governance and ecological restoration at Baiyang Lake, so as to resume its function as “the kidney of North China”; “three belts” mean the construction of circum-Baiyang Lake green belt, circum-initial area green belt and circum-Xiong’an New Area green belt to optimize the ecological spatial structure between the city and the Lake, between urban groups and between the New Area and surrounding areas; “nine patches” mean the construction of nine large forest

patches between urban groups and in key ecological conservation areas to enhance carbon sink capacity and biodiversity protection; “multiple corridors” mean the construction of multiple green ecological corridors along main rivers and on both sides of traffic arteries in the New Area, to protect the blue sky, increase the greening rate and promote ventilation and dust precipitation. Secondly, it puts forward large-scale afforestation. Efforts should be made to highlight indigenous tree species and local characteristics through near-nature greening and multiple mixed modes, plant ecological shelter forests and landscape ecological forests in green belts and ecological corridors to form a plain forest network system, thus maintaining connectivity of ecological space. Land greening should be carried out on a large scale to increase the forest coverage in the New Area from 11% at present to 40%. A high-quality ecological environment should be created for the New Area. Urban ventilation corridors and a city-Lake local air microcirculation system should be built to carry fresh air over Baiyang Lake to city center. A pleasant park system for the convenience of citizens should be established, which should be composed of large suburban eco-parks, large comprehensive parks and community parks, so as to achieve the city surrounded by forests and embracing wetland, maintaining forest, forest belt and park within 3km, 1km and 300m reach respectively, with all streets tree-lined and a green coverage ratio of 50%. Thirdly, it proposes to increase the regional ecological security guarantee. An ecological corridor that joins “Taihang Mountain Chain—Bohai Bay” to “South Beijing Ecological Green Wedge—Juma River—Baiyang Lake” should be built to form a regional ecological security pattern featuring connection of mountains and waters and fusion of the south and the north. Efforts should be made to implement conservation and restoration of key ecosystems, optimize the ecological security barrier system and increase the quality of ecosystems.

(IV) Seeking to win the tough battle of pollution prevention and control

As CCICED’s policy recommendations in 2017 state, as the Air Pollution Prevention and Control Action Plan has first come to a new stage, China should formulate a comprehensive long-term strategic plan covering water, air, soil and marine pollution for the next ten to fifteen years. Deployment of this overall strategy should be completed by 2020, so that China can basically realize the goal of socialist modernization by 2035.

In mid-June, the CPC Central Committee and the State Council released the *Opinions on Comprehensively Strengthening Ecological Environment Protection and Resolutely Fighting for Pollution Prevention and Control* (hereinafter referred to as the *Opinions*). The *Opinions* sets forth that by 2020, the quality of ecological environment will be generally improved, total amount of key pollutants discharged or emitted sharply decreased, environmental risks effectively controlled and the level of ecological environment protection aligned to the goal of building a moderately prosperous society in all respects. It also states that China should ensure, by accelerating the construction of an ecological civilization system, the formation of the spatial pattern, industrial structure, mode of production and lifestyle for resources conservation and ecological environment protection, fundamental improvement of ecological environment quality and basic realization of the goal of building a Beautiful China. By the middle of this century, ecological civilization will be improved in all respects and modernization of the national governance system and capacity for ecological environment will be accomplished.

The *Opinions* puts forward three requirements regarding the formation of green production models and lifestyles and presents some specific quantitative indexes. For example, in promoting green, low-carbon and circular economic development, the *Opinions* particularly requires accelerating removal and reform of heavily polluting enterprises and those producing hazardous chemicals in urban built-up areas and key basins, for which city governments concerned should make special plans and make them public by the end of 2018. In promoting conservation of energy and resources, it requires implementing national water conservation actions, improving the water pricing mechanism, advancing the construction of a water-saving society and water-saving cities and controlling the total water consumption nationwide within 670 billion cubic meters by 2020; actively coping with climate change, taking effective measures to ensure the attainment of the action target for controlling greenhouse gas emissions by 2020, etc.

The State Council promulgated the *Three-Year Action Plan on Defending the Blue Sky* (hereinafter referred to as the *Plan*) on June 27. The *Plan* sets forth, after three years of efforts, total key air pollutant emissions should be sharply decreased, together with greenhouse gas emissions, the concentration of fine particular matters (PM_{2.5}) further obviously lowered, the number of heavy pollution days remarkably reduced, the quality of ambient air significantly improved and people's blue sky wellbeing substantially enhanced. By 2020, total sulfur dioxide and nitrogen oxide emissions should decrease respectively by more than 15% over 2015; the concentration of PM_{2.5} in cities at the prefecture level and above which fail to meet relevant standards should decrease by more than 18% over 2015, the proportion of good air quality days in cities at the prefecture level and above should reach 80%, and the proportion of days with heavy pollution and above should decline by more than 25% over 2015; provinces which have attained targets set forth in the 13th Five-Year Plan (FYP) ahead of schedule should maintain and consolidate improvement results; those have not should ensure attainment of binding targets in full swing; ambient air quality improvement targets for Beijing should be further raised on the basis of those set forth in the 13th FYP. Key areas include Beijing-Tianjin-Hebei region and surrounding areas, the Yangtze River Delta, Fenhe and Weihe Plains, and so forth.

III. Ecosystem and biodiversity conservation

(I) Positive progress has been made in ecological protection red lines drawing and conservation

The 2017 CCICED Policy Recommendations states that considerable attention has been given to environment-economy relationships in China. In the longer-term, social-environmental linkages may be among the most significant. This is the case for environmental related social unrest ('Not in My Back Yard'), management of nature protected areas, ecological redlining, climate adaptation, urban migration, and relationships of poverty reduction and the environment.

According to *Several Opinions of General Office of the Communist Party of China and General Office of the State Council on Drawing and Strictly Observing Ecological Protection Red Lines* released in February 2017, Beijing-Tianjin-Hebei region and provinces (municipalities directly under the Central Government) along the Yangtze River Economic Belt should draw ecological protection red lines by the end of 2017; other provinces (autonomous regions and municipalities

directly under the Central Government) should draw ecological protection red lines by the end of 2018; and national ecological protection red lines should be drawn and an ecological protection red line system basically established by the end of 2020.

Plans of 15 provinces, including three provinces (municipalities) in Beijing-Tianjin-Hebei region, 11 provinces (municipalities) along the Yangtze River Economic Belt and Ningxia Hui Autonomous Region, for drawing ecological protection red lines have been approved by the State Council while those of other 16 provinces, including Shanxi, have been preliminarily developed. Based on scientific assessment, department coordination, planning coordination, regional coordination and balanced development of land and sea, departments such as MEE and NDRC, together with provinces concerned, have jointly completed delineation of ecological protection red lines for the above-mentioned 15 provinces upon expert demonstration and review by the inter-ministerial coordination leading group, through a combination of top-down and bottom-up methods and with national top-level design guiding local organizations.

A national ecological protection red line monitoring platform has been built and launched. In October 2017, NDRC officially approved the national ecological protection red line monitoring platform project, which, with a total investment of RMB 286 million, covers a total floorage of approximately 10,000 square meters and will be completed by the end of 2020. The design of a national ecological protection red line monitoring database has been completed, which has 67 data entries in four categories, with a total data size of 23.6TB. Some results have been verified and applied in “Green Shield 2017” Special Action for Supervision and Inspection of National Natural Reserves.

Supporting administrative policies have been developed for ecological protection red lines. Guidelines for Drawing Ecological Protection Red Lines and other guiding documents have been issued. Efforts have been made to study and draft measures for administration of ecological protection red lines and define requirements, principles and regulatory framework for administration of ecological protection red lines; so far, an exposure draft has been completed and will be issued to departments concerned and local governments for comment.

Additionally, local governments have been assigned to take main responsibility for drawing and observing ecological protection red lines, and should hold accountable those who break them, so as to ensure that these red lines are well drawn and work well. Delineation and implementation of ecological protection red lines will be incorporated into central environmental inspection.

(II) “Green Shield 2018” provides strong guarantee for ecological protection in the Yangtze River basin

Seven departments, including MEE, MNR, MWR, Ministry of Agriculture and Rural Affairs, National Forestry and Grassland Administration, Chinese Academy of Sciences and SOA, had a video conference in Beijing on March 27 to deploy “Green Shield 2018” Special Action for Supervision and Inspection of Natural Reserves (hereinafter referred to as “Green Shield 2018” Special Action).

“Green Shield 2018” Special Action specifically includes: “reviewing” the rectification of problems identified in “Green Shield 2017” Special Action; resolutely investigating new violations in natural reserves and focusing on failures to well fulfill the responsibility for administration of national natural reserves; strictly supervising and handling identification and rectification of problems with natural reserves; etc.

A sound working mechanism has been established to ensure smooth development of the campaign. Inspection has been carried out against 469 national natural reserves and 847 provincial natural reserves to have a full knowledge of these reverses, with a ledger of problems built and prominent problems precisely solved, so as to promote higher level of administration in local natural reserves at all levels and facilitate healthy and sustainable development of natural reserves.

“Green Shield 2017” Special Action for Supervision and Inspection of National Natural Reserves is a campaign featuring the widest scope of inspection, the most problems identified and handled, the most rigorous rectification and the strictest accountability system since China set up natural reserves. As at the end of 2017, a total of 20,800 clues to problems with 446 national natural reserves have been investigated and handled, with more than 1,100 people held accountable. Over 60% of the problems have been rectified, and a ledger has been built for the rest, which is being rectified.

Firstly, a long-term mechanism for ecological conservation of the Yangtze River should be established to resolutely contain sabotage to the ecological environment of the Yangtze River. Supervision and inspection should be strengthened and based on incorporation of national and provincial natural reserves into “Green Shield 2018” Special Action, city-level and county-level natural reserves at the main stream and tributaries of the Yangtze River and other natural reserves (tourist attractions, forest parks, wetland parks, etc.) at all levels should be included in the scope of supervision and inspection, so as to comprehensively and thoroughly identify violations sabotaging the ecological environment of natural reserves.

Secondly, importance should be attached to identifying problems with natural reserves at the main stream and tributaries of the Yangtze River, such as illegal encroachment on natural reserves, terminal construction, dredging and sand excavation, industrial development, mining, fishing of aquatic wildlife, encroachment on and damage to wetland, tourism development and hydropower development within core and buffer zones of natural reserves, a detailed ledger of problems should be built and the system of filing and cancellation upon rectification should be implemented to ensure thorough rectification.

Thirdly, violations regarding natural reserves should be handled seriously. Responsible units and individuals should be dealt with seriously and urged to rectify those violations timely and thoroughly. In case of ecological destruction resulting from any failure to well fulfill the responsibility for administration of natural reserves, local governments and departments concerned should be held accountable.

(III) Ecological environment protection audit forces green development

On June 19, 2018, State Auditing Administration published findings from ecological audit of the Yangtze River Economic Belt. Fiscal funds of RMB 251,824 million were invested in

ecological environment protection of the Yangtze River Economic Belt in 2016 and 2017. Progress in ecological environment protection is accompanied with some problems. With respect to fund use, eight local government authorities and affiliated units misused ecology-earmarked funds of RMB 25,804,900 from December 2013 to January 2018. With respect to resources exploitation, as at the end of 2017, construction of 930 small hydropower stations in eight provinces began without environmental assessment, and overexploitation dried up 333 rivers, stretching 1,017km in total. With respect to pollution control, 118 municipal wastewater treatment plants in sensitive areas in nine provinces failed to meet Grade 1A standard as at the end of 2017.

This audit is the first of its kind carried out by State Auditing Administration against the Yangtze River Economic Belt, for which a specialized audit report is released. Economically, the audit focuses more on ecological protection and restoration. In order to strengthen supervision through auditing and promote implementation of auditing decisions and rectification by audited units, State Auditing Administration will pay return visits after issuing auditing conclusions under relevant provisions. State Auditing Administration has issued an audit report according to law for problems identified through auditing and requested local governments concerned to publish rectification results after the rectification deadline.

In view of environmental protection audit practice in recent years, such audit is still in its infancy and is basically limited to audit of management and use of funds, without going deeper to further probe into root causes of environmental pollution, prevention and control measures, system establishment and fulfillment.

In the future, ecological environment audit should focus on the following aspects: First, it should combine audit of ecology-earmarked fund use with pollution control results. Secondly, it should focus on construction and monitoring of key ecological environment projects. Thirdly, it should focus on fulfillment of ecological environment responsibilities by different departments. Fourthly, it should focus on direct and main accountability of leaders and cadres for development of “green economy”. Fifthly, it should focus on the overall efficiency of ecology-earmarked funds.

IV. Energy, environment and climate

(I) Optimizing and adjusting the energy structure

As the Outline of the 13th FYP states, China should deepen the energy revolution, energetically promote the reform of ways to produce and use energy, optimize energy supply structure, increase energy utilization efficiency and establish a clean, low-carbon, safe and efficient modern energy system.

2018 National Energy Work Conference put forward the new energy security strategy for the first time. The new strategy sets forth promoting the reform of energy consumption, supply, technology and system, strengthening international cooperation roundly, efficiently utilizing international resources and seeking to realize energy security in an open China. It focuses on accelerating the reform of energy development quality, efficiency and impetus and aims at maintaining high-quality energy development. Great progress has been made in energy work since the first half of 2018:

Firstly, the construction of a green and diversified energy supply system has been expedited. In the first half of 2018, non-fossil energy sources, such as hydropower, nuclear power, wind power and solar power, contributes to 25.2% of the total generating capacity, representing a 0.3% increase over the same period last year. Gas productivity construction has been steadily advanced at home, for example, the western Sichuan shale gas project in Chengdu, and the construction of key CMB development projects has been quickened. Clean coal use is speeding up, the upgrading and demonstration of the coal-based oil and gas industry are steadily advancing and in particular, ultra low emission and energy conservation transformation of coal-fired units set forth in the 13th FYP is expected to be completed ahead of schedule.

Secondly, the supply-side structural reform continues to show positive results. Efforts have been made to orderly develop high-quality coal production capacity in the principle of reduced capacity replacement, force faster exit of inefficient and low-quality production capacity and further increase the proportion of advanced coal production capacity. Total coal yield in Shanxi, Shaanxi and Inner Mongolia has increased to account for 70% of national output, and the number of coal mines nationwide has reduced from 12,000 at the end of the 12th FYP to about 7,000. The sequence of coal-fired power planning and construction continues to be optimized, increase of new production capacity has been strictly controlled and outdated coal-fired power production capacity is being eliminated in a faster manner. Power consumption structure is being constantly optimized.

Thirdly, transformation of old impetus to new one has speeded up. From the perspective of power growth drive, power consumption growth rates in equipment manufacturing sectors in the secondary industry, such as medicine, general equipment, automobile, electric machinery and equipment, and computer/communication, have all exceeded or approached 10%. Power consumption by services such as information transmission/software technology in the tertiary industry has increased by 25.5% on a year-on-year basis, driving a year-on-year increase of 12.4% in total power consumption by emerging industries, which represents a 2.2% increase over the same period last year.

Fourthly, the cultivation of new energy consumption models and formats is accelerating. Power consumption growth in fields such as environmental protection and electric power replacement has become a new drive of power consumption growth in society at large.

(II) Strengthening energy conservation and increasing energy efficiency

In order to enhance energy conservation by key energy consumption units and increase energy use efficiency, seven ministries and commissions, including NDRC, Ministry of Science and Technology (MOST), People's Bank of China (PBC), State-owned Assets Supervision and Administration Commission (SASAC), General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ, now State Administration for Market Regulation), National Bureau of Statistics and China Securities Regulation Commission (CSRC), have jointly revised the *Administrative Measures for Energy Conservation by Key Energy-using Entities* (hereinafter referred to as the *Measures*) and the revised Measures has come into force on May 1, 2018. The new *Measures* consists of 37 articles, 13 ones more than its predecessor, with the document size increasing by 1.5 folds, indicating a major revision.

Content of the revised *Measures*:

Firstly, a sound system of joint incentives for good faith and joint punishments for lack of good faith should be established, and it should be explicitly specified that departments in charge of energy conservation administration in people's governments at the provincial level and above, together with other departments concerned, should give incentives for good faith to key energy-consuming units and individuals that have made remarkable achievements in energy conservation and therefore been commended and rewarded.

Secondly, price policies conducive to energy conservation should be implemented and key energy-using entities should be encouraged to carry out power demand-side management, energy performance contracting (EPC) and voluntary commitment to energy conservation. As many as 11 enterprises in the cement industry, including Handan Jinyu Taihang Cement Co., Ltd., have been included in the List of 100 Energy-consuming Units Voluntarily Committed to Energy Conservation, which has been recently released by NDRC.

Thirdly, either differentiated tariff or step tariff should be applied to key energy-using entities in high energy-consuming industries based on their energy consumption indexes and other conditions. Power consumption by cement manufacturers for production has been subject to the policy of step tariff based on the integrated power consumption level of a comparable clinker (cement) since 2016.

Fourthly, departments in charge of energy conservation administration at all levels, together with other departments concerned, should provide key energy-consuming units included in the List of Energy Efficiency "Leaders" with priority support to improve energy efficiency through energy conservation technology transformation and information-based energy management, popularize advanced experience and drive an overall increase in the energy efficiency throughout the industry. In 2018, MOHURD has deepened the work in promoting the improvement of building energy efficiency and developed medium- and long-term development roadmaps for improvement of building energy efficiency by 2020, 2035 and the middle of this century.

Provinces and autonomous regions should promote energy conservation and energy efficiency improvement based on their respective conditions. For example, Beijing Municipal Commission of Development and Reform has released the *Notice on Creating Energy Efficiency Leaders of 2018*, which helps further raise the level of energy efficiency and energy conservation administration in Beijing, and organized the creation of Energy Efficiency Leaders of 2018.

Take Shanxi, a major province of energy, for another example. In 2018, energy consumption per unit of gross regional product (GRP) there has decreased by 3.2% over 2017, and the total energy consumed is less than 211.83 million tons of standard coal; energy consumption per unit of industrial added value of enterprises above a designated scale has decreased by 3.9% over 2017. A batch of key energy conservation projects should be implemented. Actions on evaluation and assessment of target responsibilities of the Top 100, Top 1000 and other key energy-consuming units should be implemented. An energy efficiency leader system should be established for high energy-consuming industries. In key energy-consuming industries such as

steel, power, non-ferrous metals, coking and cement industries, an implementation plan for the energy efficiency leader system should be developed based on the reality of these industries to establish a benchmark of energy efficiency, guide key energy-consuming units to be aligned to advanced units and promote continuous improvement of industrial energy efficiency. An online energy consumption monitoring system should be built for key energy-consuming units and the construction of the system should be promoted.

(III) Coordinating national efforts to cope with and adapt to climate change

China has been actively engaging in negotiations under the *United Nations Framework Convention on Climate Change* (UNFCCC), and has first proposed the scheme of intended nationally determined contributions (INDCs) to addressing climate change, guided and promoted the conclusion of key outcome documents such as the *Paris Agreement* and *Fiji Momentum for Implementation*. China has creatively established a multilateral ministerial negotiation platform, established the “BASIC” ministerial negotiation and coordination mechanism with India, Brazil and South Africa, set up the LMDC (the Like Minded Group of Developing Countries) coordination mechanism with developing countries and initiated the mechanism of ministerial conference on climate actions with Canada and the EU. Meanwhile, China has been actively participating in negotiations outside the UNFCCC and has mobilized and brought into play synergy of multiple channels, which helps further build up the image of China as a responsible world power. Negotiations on rules for implementation of the Paris Agreement will be completed in 2018, in which we should continue to play an active and constructive role. We will also energetically promote the South-South cooperation and support other developing countries in coping with climate change.

China has set up a national leading group on climate change, energy conservation and emission reduction, which is led by Premier of the State Council and consists of leaders of more than 20 ministries and commissions. Different provinces, municipalities and autonomous regions have accordingly set up leading groups on climate change and established their own departmental labor division coordination mechanisms, thus forming a working system on climate change where the national leading group on climate change is responsible for overall planning and coordination, departments in charge of climate change are responsible for implementation, different departments cooperate with each other and the linkage between central and local authorities is guaranteed.

China has included carbon intensity reduction and other climate change targets in the 12th and 13th FYPs, established a responsibility system and strengthened decomposition, implementation and assessment of targets. China has organized capacity building and personnel training for better combating climate change and constantly raised the level of work of departments concerned at all levels on climate change. China has established a national panel on climate change and continuously enhanced the construction of national supporting teams against climate change, so that the research level and capacity of national and local supporting institutions continue to improve, providing strong support for policy making at all levels.

China will further strengthen work coordination and policy synergy against climate change, promote the construction of local working teams combating climate change, continue to coordinate and deepen the low-carbon pilot project and advance the work on adaptation to

climate change. At present, we are studying and implementing the implementation plan for goals to be achieved by 2030, and exploring a low-carbon development strategy suitable for China by the middle of this century.

(IV) Promote the construction of a national carbon market

Establishing a national carbon emission permit trading market is a key task of the ecological civilization system reform and an important policy tool to control greenhouse gas emissions. The *Plan for the Construction of a National Carbon Emission Permit Trading Market (for the Power Generation Industry)* was released and enacted in December 2017, establishing a national carbon emission permit trading system first in the power generation industry. Statistics show that there are more than 1,700 enterprises in the power generation industry, emitting over 3 billion tons of carbon dioxide equivalence (at present, the world's largest EU carbon market emits approximately 2 billion tons of carbon dioxide equivalence).

Next, China should strengthen carbon market administration system construction, infrastructure construction and capacity building. It should promote the enactment of the *Interim Regulations on Administration of National Carbon Emission Permit Trading* and relevant supporting systems like allowance allocation. It should accelerate the construction of a data reporting system, registration system, trading system and settlement system. Also, it should organize capacity building activities for all kinds of market players.

V. Pollution prevention and control

(I) Air pollution prevention and control

Since 2018, in order to ensure the victory in defending the blue sky, the State Council promulgated the *Three-Year Action Plan on Defending the Blue Sky* on June 27, injecting strength into further enhancing air pollution control. Meanwhile, MEE has released the implementation plan for air pollution prevention and control in key area such as Beijing-Tianjin-Hebei region and surrounding areas, the Yangtze River Delta and Fenhe and Weihe Plains, providing effective guidance for air pollution prevention and control in 2018.

From June 11 to July 8, MEE carried out two rounds of strengthened inspection of “2+26” cities in Beijing-Tianjin-Hebei region and surrounding areas. Despite remarkable achievements made by these cities in air pollution control, 5,204 problems with atmospheric environment were identified. The most problems were found in Quyang County, Hebei, followed by Tongzhou District, Beijing; a rebound in the number of problems was noted in the second round of inspection of Zhaoxian County, Hebei and the urban area of Jincheng, Shanxi, while Huixian, Henan was identified to failure to rigorously carry out pollution control. 119 problems with atmospheric environment were identified in Quyang County, Hebei. 34 small coal-fired boilers in 28 enterprises (units) were not eliminated as required; some enterprises run no pollution control facilities or had prominent unorganized emissions.

2018-2019 strengthened inspection of key areas of the Blue Sky Protection Campaign continued on August 7 and 200 inspection teams examined 208 counties (prefectures and districts) in Beijing-Tianjin-Hebei region and surrounding areas as required and found 103 air pollution-related environmental problems. See Table 1. for specific information on inspection.

1. They inspected 1,320 air pollution-related “poorly managed and polluting small” enterprises in the list and found inadequate rectification in two of them, accounting for 0.2%; they also found an unlisted “poorly managed and polluting small” enterprise.

Inspection teams found inappropriate rectification in two air pollution-related “poorly managed and polluting small” enterprises in the list, one located in Zhengding County, Shijiazhuang, Hebei and the other in Pingyuan County, Dezhou, Shandong.

Inspection teams found that Wang Fang Xin Furniture Factory (formerly Hebei Huazhong General Furniture Co., Ltd.), located in Nangong, Xingtai, Hebei, was an unlisted air pollution-related “poorly managed and polluting small” enterprise.

2. 403 coal-fired boiler enterprises in the list should be eliminated, but a coal-fired boiler was founded not torn down, accounting for 0.2%; five more unlisted boilers that should be eliminated were found.

Inspection teams found that a listed boiler (less than 1 steam ton) at Huayuan Hotel in Dacheng County, Langfang, Hebei, which should be eliminated, was not torn down.

Inspection teams found five more unlisted boilers that should be eliminated, including one (0.2 steam ton) at Yujingzhou Car Dealer in Zhuozhou, Baoding, Hebei, one (less than 0.1 steam ton) at Changsheng Hardware Co., Ltd. in Yunhe District, Cangzhou, one (0.15 steam ton) at Qinghe No.3 Gas Station of Xingtai Qinghe Branch of Sinopec, one (0.1 steam ton) at Tongda Hotel in Qinghe County and one (0.1 steam ton) at Dongdong Restaurant in Ningjin County.

3. 13 industrial enterprises were found have no air pollution prevention and control facilities.

Among these enterprises, two were found in Beijing, one in Shunyi District and the other in Mentougou District; five were found in Hebei, one in Luquan District and one in Yuanshi County, Shijiazhuang, one in Langfang Development Zone and one in Xianghe County, Langfang, and one in Xinhua District, Cangzhou; two were found in Shanxi, one in Gujiao, Taiyuan and the other in the urban area of Yangquan; and four were found in Henan, one in Fuxiang District, Kaifeng, one in Anyang County, Anyang City, one in Wuzhi County, Jiaozuo and one in Mengzhou.

4. 13 industrial enterprises were found fail to run air pollution prevention and control facilities normally.

Among these enterprises, one was found in Shunyi District, Beijing; two were found in Dongli District, Tianjin; four were found in Hebei, one in Langfang Development Zone, Langfang, one in Boye County, Baoding, one in Yunhe District, Cangzhou and one in Jizhou District, Hengshui; one was found in Gaoping, Jincheng, Shanxi; and five were found in Henan, one in Jinshui District, Zhengzhou, one in Xinmi, one in Huang County, Anyang and two in Urban-Rural Integration Demonstration Zone, Hebi City.

5. Inadequate VOCs control was found in 11 enterprises.

Among these enterprises, one was found in Pinggu District, Beijing; seven were found in Hebei, one in Wuji County, Shijiazhuang, one in Lutai Economic Development Zone, Tangshan, one in Anci District, Langfang, one in Nanpi County, Cangzhou, one in Botou City and two in Pingxiang County, Xingtai; and three were found in Henan, two in Jinshui District, Zhengzhou and one in Shunhe Hui District, Kaifeng.

6. Unorganized industrial dust emission was found in 15 enterprises.

Among these enterprises, one was found in Tongzhou District, Beijing; 10 were found in Hebei, one in Luquan District, one in Luancheng District, one in Wuji County, one in Yuanshi County and one in Xingtang County, Shijiazhuang, one in Guangyang District, Langfang,

one in Yunhe District, one in Qing County, one in Dongguang County and one in Botou Prefecture, Cangzhou; one was found in Changzhi County, Changzhi City, Shanxi; and three were found in Henan, one in Huang County, Anyang, one in Muye District, Xinxiang and one in Changyuan County.

7. An enterprise was found fail to take dust reduction measures for open-pit mines.

Fubao Mining Co., Ltd. in Laishui County, Baoding, Hebei had no dust reduction measures for open-pit mines.

8. 26 enterprises were found with poor dust management at construction sites.

Among these enterprises, three were found in Beijing, one in Shunyi District, one in Chaoyang District and one in Mentougou District; two were found in Tianjin, one in Jinghai District and the other in Wuqing District; 11 were found in Hebei, one in Luancheng District, one in Jinzhou and one in Xinji, Shijiazhuang, two in Yunhe District and one in Xinhua District, Cangzhou, two in Qiaoxi District, one in Ningjin County, one in Nangong and one in Wei County, Xingtai; three were found in Shanxi, one in Gujiao, Taiyuan, one in Changzhi County and one in Qinyuan County, Changzhi City; one was found in Dongchangfu District, Liaocheng, Shandong; and six were found in Henan, one in Jinshui District and one in Guangcheng Hui District, Zhengzhou, one in Linzhou, Anyang, two in Huojia County, Xinxiang and one in Taiqian County, Puyang.

9. 15 enterprises were found fail to take dust control measures for material yards.

Among these enterprises, one was found in Tongzhou District, Beijing; six were found in Hebei, one in Xingtang County, Shijiazhuang, one in Sanhe, Langfang, one in Laishui County, Baoding, one in Gaobeidian City, one in Ningjin County, Xingtai and one in Handan Economic and Technological Development Zone; three were found in the suburb of Yangquan, Shanxi; and five were found in Henan, one in Zhongmu County, Zhengzhou, two in Hebi Economic and Technological Development Zone, one in Yuanyang County, Xinxiang and one in Puyang County, Puyang City.

Table 1. Strengthened Inspection of Key Areas of the Blue Sky Protection Campaign 2018-2019.

As time goes on, the autumn and winter approach, so MEE has developed the *Action Plan for Comprehensive Control of Air Pollution in Beijing-Tianjin-Hebei Region and Surrounding Areas in the Autumn and Winter of 2018-2019* and solicited comments from all parties. Then, MEE will, together with local authorities and departments concerned, steadily promote clean energy heating in northern China, accelerate elimination of small coal-fired boilers, constantly facilitate bulk coal pollution control, focus on upgrading and reform of key industries, expedite motor vehicle pollution control and strengthen joint pollution prevention and control in key areas.

Additionally, advanced technologies have effectively supported air pollution control. By launching a “clairvoyance project” in 2018, MEE has divided all administrative regions in the “2+26” cities in Beijing-Tianjin-Hebei region and surrounding areas into grid units measuring 3km×3km, and screened out through satellite remote sensing 3,600 grid units with relatively high annual average concentration of PM2.5 as hot spot areas to watch, so as to timely identify and precisely solve air problems. With satellite remote sensing, this project can calculate the average PM2.5 intensity in each grid unit in the previous year based on meteorological data and air quality monitoring data, and then work out the level of emissions under stagnant weather conditions without regard to the impact of factors such as meteorological transmission,

precipitation and topographic countercheck, thus completing the screening. For grid hot spots warned for three consecutive times within a year or for six times in total, MEE will urge local authorities to improve the environment by means of notification, sending working groups and publicly interviewing heads of local governments.

(II) Water pollution prevention and control

In April 2018, the first meeting of the Central Financial and Economic Affairs Commission was held to deliberate ideas and measures for a victory in the three tough battles. According to the meeting, to win the tough battle of pollution prevention and control, we should make clear the objective and task, i.e., to remarkably reduce total key pollutant emissions and improve the overall quality of ecological environment by 2020. We should fight in several symbolic key battles, secure the victory in the Blue Sky Protection Campaign, win tough battles such as control of pollution caused by diesel trucks, control of urban black and odorous water bodies, comprehensive control of the Bohai Sea, conservation and restoration of the Yangtze River, protection of water sources and control of agricultural and rural pollution, and ensure that obvious effects will be achieved in three years. We should make major measures to win the tough battle of pollution prevention and control as detailed as possible, respect rules and insist on the bottom line thinking. Party committees at all levels and Party leadership groups (Party committees) of different departments should give priority to pollution prevention and control, urge lower levels to implement the work and mobilize all segment of society to engage in pollution prevention and control. We should stick to prevention and control from the source, adjust the “four structures” and ensure “four decreases and four increases”. Firstly, we should adjust the industrial structure by decreasing excess and outdated production capacity and increasing new drives of growth. Secondly, we should adjust the energy structure by decreasing coal consumption and increasing the use of clean energy. Thirdly, we should adjust the transportation structure by decreasing highway transportation and increasing railway transportation. Fourthly, we should adjust the agricultural input structure by decreasing the use of chemical fertilizers and pesticides and increasing the use of organic fertilizers. We should insist on overall consideration and systematic planning, reflect differentiation and the system of reward and punishment, and avoid affecting people’s life.

Among the five “water battles”, we should start with the control of black and odorous water bodies. MEE, together with MOHURD, has launched a special campaign on control of black and odorous water bodies, which covers 36 key cities and some other prefecture-level cities nationwide, and will carry out a special inspection of the first batch of eight provinces, autonomous regions and municipalities, including Guangdong, Guangxi and Hainan, which will start in September and October. Those failing to effectively rectify problems identified will be held accountable by central environmental inspectors.

In recent years, comprehensive control of ecological environment around the Bohai Sea has aroused public concern. Great pressure has been posed on the ecological environment around the Bohai Sea due to its poor self-purification capability and large-scale land reclamation from sea by the government, overexploitation of marine resources and large-scale mariculture over the past years. Following this round of organizational reform, the duty of marine environment governance has been transferred from SOA to MEE. MEE will insist on balanced development

of land and sea, advance pollution control and ecological protection at the same time, and work with departments, provinces and cities concerned to develop an action plan on comprehensive control of the Bohai Sea as soon as possible. In other words, MEE will intensify efforts to inspect and rectify sewage outlets to the sea, clean up illegal and unreasonable outlets, and focus on the control of ship and port pollution as well as the construction of refuse transfer and disposal facilities.

Besides, water bodies as sources of drinking water will top the list of the “four water bodies” subject to water pollution prevention and control. MEE and MWR have jointly launched a special campaign on environmental protection of centralized drinking water sources nationwide. They have set up the following milestones: to complete cleanup and rectification of county-level surface water sources along the Yangtze River Economic Belt and those at the prefecture level and above in other areas by the end of 2018; and to complete cleanup and rectification of county-level surface water sources in all other areas by the end of 2019. According to statistics, as many as 2,466 surface water sources are covered by this campaign, including 1,161 county-level water sources along the Yangtze River Economic Belt. From the perspective of the type of problems, illegal discharge of sewage by industrial enterprises is prominent.

(III) Soil pollution prevention and control

With respect to soil pollution prevention and control, MEE will steadily advance the “Clean Soil Campaign”. Specific measures mainly include: comprehensively implement the *Soil Pollution Prevention and Control Action Plan* (the *Action Plan*), strengthen soil pollution risk control; deeply advance detailed surveys on soil pollution and safeguard the safety of agricultural land and construction land; accelerate the construction of pilot zones for comprehensive prevention and control of soil pollution and pilot application of soil pollution control and remediation technology; enhance prevention and control of solid waste pollution and expedite classified disposal of refuse.

In 2018, MEE developed the Provisions on Evaluation and Examination of the Implementation of the Soil Pollution Prevention and Control Action Plan, guiding annual assessment and mid-term examination of the implementation of the *Action Plan* by provincial, autonomous regional and municipal people’s governments during 2018-2020. From 2019 to 2021, MEE will evaluate the implementation of the *Action Plan* by local governments over the previous year and the completion of priorities in soil pollution prevention and control at the beginning of each year.

The evaluation and examination cover the completion of soil pollution prevention and control objectives and the completion of priorities in soil pollution prevention and control. Specifically, annual evaluation covers the completion of priorities in soil pollution prevention and control; while the mid-term examination covers the completion of soil pollution prevention and control objectives and the completion of priorities in soil pollution prevention and control.

Priorities in soil pollution prevention and control include: detailed surveys on soil pollution, prevention from the source, classified management of agricultural land, construction land access management, pilot demonstration, fulfillment of responsibilities of all parties and public engagement. Soil pollution prevention and control objectives include safe utilization ratio of polluted farmland and safe utilization ratio of polluted plots.

In order to guide local governments to entrust third parties to evaluate pollution control and remediation results, implement the Action Plan, complete soil pollution control and remediation objectives and tasks, and safeguard the quality of agricultural products and the safety of the living environment, MEP printed and released the *Guidelines for Technical Evaluation of Soil Pollution Control and Remediation Results (for Trial Implementation)* in December 2017. The *Guidelines* plays an important guiding role in regulating the evaluation of soil pollution control results by third parties entrusted by provincial (autonomous regional and municipal) people's governments or departments concerned. Meanwhile, it lays a foundation for China to evaluation the results of actions against soil pollution taken by different provinces, autonomous regions and municipalities.

VI. Governance and rule of law

(I) Major organizational reform in ecology and environmental protection

Article 2 of the 2017 CCICED Policy Recommendations proposes to build Ecological Civilization co-management systems to improve ecological and other services in nature reserves, parks, ecological redline areas, and in other public lands that sometimes are considered to be of low value. As CCICED's second policy recommendation in 2017 states, "a collaborative management system for ecological civilization should be established".

A large-scale reform of national and local government organizations was carried out in March 2018, with even radical adjustments in some fields, which is unprecedented in intensity, depth and breadth. Functions of MEP are further upgraded and expanded, which fully reflect an "integration of pollution governance and ecological regulation". The newly established MEE will act as a component department of the State Council that undertakes MEP's all duties, NDRC's duties of tackling climate change and reducing emissions, MLR's duties of supervising and preventing groundwater pollution, MWR's duties of formulating water functional zoning, managing sewage outlet setting and protecting watershed environment, MOA's duties of supervising and guiding agricultural non-point source pollution control, SOA's duty of marine conservation and the duty of Office of South-to-North Water Diversion Project Commission, the State Council of environmental protection in the South-to-North Water Diversion Project area.

It should be noted that the incorporation of NDRC Department of Climate Change into MEE is actually a specific move to synergize work such as pollutant emission reduction and greenhouse gas emission reduction, combating climate change, etc. Combating climate change involves energy utilization and carbon dioxide emission, which go beyond pollution control as carbon dioxide itself is not a pollutant, but a matter causing changes to greenhouse gases. Now carbon dioxide emission is being regulated by MEE, making the regulation over emissions more comprehensive and making it easier to achieve the overall effect of ecological civilization construction.

At the level of ministerial comprehensive coordination for energy conservation and emission reduction, the State Council decided to adjust units and personnel composing the National Leading Group to Address Climate Change and Energy Conservation & Pollutant Discharge Reduction based on its organizational structuring, staff turnover and work needs. The head of

the Leading Group is Li Keqiang, Premier of the State Council, and deputy heads are Han Zheng, Vice Premier of the State Council, and Wang Yi, State Councilor. Following such adjustment, members include Ding Xuedong, Deputy Secretary-General of the State Council and leaders of departments such as Ministry of Foreign Affairs, NDRC, Ministry of Education, MOST, Ministry of Industry and Information Technology, Ministry of Civil Affairs, Ministry of Justice, Ministry of Finance, MNR, MEE, MOHURD, Ministry of Transport, MWR, Ministry of Agriculture and Rural Affairs, Ministry of Commerce, Ministry of Culture and Tourism, National Health Commission, PBC, SASAC, State Administration Taxation, State Administration of Market Regulation, National Bureau of Statistics, International Development Cooperation Agency, National Government Offices Administration, Chinese Academy of Sciences, China Meteorological Administration, NEA, National Forestry and Grassland Administration, National Railway Administration and Civil Aviation Administration of China. The specific work of the Leading Group is undertaken by MEE and NDRC according to their respective duties.

(II) Emission permits

Implementing the permit system for controlling pollutants emission is an important part of the ecological civilization system reform and a central task of reforming and improving the stationary pollution source management system. Since the State Council printed and released the *Implementation Plan for the Permit System for Controlling Pollutants Emission* in 2016, MEP issued the *Interim Measures for Pollutants Emission Permit* in early 2018, and will promulgate the Catalog of Classified Management of Pollutant Emission Permits, print and release the general principles of the *Technical Specifications for Application for and Issuance of Pollutant Emission Permits in Thermal Power and Paper-making Industries* and *Technical Guidelines for Self-Monitoring by Pollutant Emission Units*, thus preliminarily building a relatively complete system of regulations and technical specifications to fully support the application for and issuance of pollutant emission permits.

A national pollutant emission permit management information platform has been basically built and put into operation, which undertakes application for and issuance of pollutant emission permits for enterprises in thermal power and paper-making industries, basically realizing a convenient, precise and efficient information-based management model.

At present, the work on application for and issuance of pollutant emission permits for thermal power and paper-making industries has been fully launched, for which local environmental authorities are actively deploying and organizing the implementation. As of May 18, 6,073 enterprises have registered on the national pollutant emission permit management information platform, pollutant emission permits applied for by more than 1500 are awaiting approval and environmental authorities have issued 68 permits subject to national unified coding.

Generally, the issuance of pollutant emission permits is advancing orderly, but problems such as failure to pay enough attention ideologically or transfer the pressure in time and inadequate technical force still exist in some areas. Meanwhile, some local governments are perplexed by the heavy task of systems linking, which partly affects the work progress.

(III) Thoroughly implementing environmental economic policies

Xi's report at the 19th CPC National Congress suggests that we should 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. Green finance will be an important aspect of financial reform in China.

CCICED has played a leading role in the introduction, propelling and demonstration of green finance. In 2014, it set up a Green Finance Task Force. Thus the year of 2014 saw the beginning of green finance in China. On August 30, 2016, the Central Leading Group for Comprehensively Deepening Reforms convened a meeting, and deliberated and adopted the Guiding Opinions on Building a Green Financial System. The Opinions gave a comprehensive plan for green finance reform and firstly proposed to include green finance into G20 Agenda. It was at 2016 G20 Hangzhou Summit, green finance was on the agenda as one of key topics, setting of an upsurge of green finance. The Opinions clearly specifies that we should gradually establish and improve mandatory environmental information disclosure systems of listed companies and bond issuers.

Since this year, green finance has shown a good trend of full-scale acceleration: on the one hand, top-level design and fundamental institutional arrangements are increasingly improved. The Guiding Opinions of the People's Bank of China and Other Six Ministries and Commissions on Building a Green Financial System steadily advances various basic work, for example, making uniform standard for defining green projects and for green finance. National green finance reform and innovation pilot zones are established in Zhejiang, Guangdong and other five provinces and regions to explore replicable and generalizable experiences. On the other hand, more and more green investment and financing instruments further optimizes the financial eco-environment, with fruitful results gained in international cooperation.

1. Green liability insurance

On May 7, 2018, the Ministry of Ecology and Environment of the People's Republic of China adopted in principle the Administrative Measures for the Compulsory Liability Insurance for Environmental Pollution (hereinafter referred to as the Measures) which proposed to establish compulsory liability insurance system for environmental pollution in sectors that are highly exposed to environmental risks. It is a strong measure and a concrete action to carry out the spirit of the 19th CPC National Congress, and it is necessary and important for establishing a sound green finance system.

By summing up pilot experiences, the Measures further standardizes compulsory liability insurance system for environmental pollution, and enriches market-based means for eco-environment protection, which is of positive significance to fight a tough battle against environmental pollution and make up for the deficiency of eco-environment in building a moderately well-off society in an all-round way.

As indicated by relevant data, in 2014, about 5,000 enterprises insured against environmental pollution liability; in 2015, 14,000 policies of insurance against environmental pollution liability were reported, with the premium of RMB 280 million and offering risk securities of RMB 24.421 billion; in 2016, the premium income from the insurance against environmental

pollution liability was close to RMB 300 billion, offering risk securities more than RMB 26 billion; in 2017, the insurance against environmental pollution liability offered risk securities of RMB 30.6 billion for more than 16,000 enterprises. The Measures will, on the basis of the pattern of “Further Environmental Protection”, well develop and practice the system of compulsory environmental pollution liability insurance, introduce market-oriented professional forces and “evaluate and price” environmental risk, to realize internalization of external cost and improve effects of environmental risk regulation and compensation for damages. The Ministry of Ecology and Environmental will work together with relevant departments to properly carry out mechanism building, and enhance works to map out corresponding codes on intensifying “pre-event” prevention, “in-event” control and “post-event” handling, so as to further improve the pertinence and operability and ensure effective implementation of relevant measures.

2. Green bond

The green bond policies introduced in the first half of 2018 are as follows: the People’s Bank of China and China Securities Regulatory Commission jointly issued *Guideline on Green Bond Assessment and Certification* to standardize green bond assessment and certificate; Shanghai Stock Exchange proposes new policy requirements on corporation green bonds; and two preferential policies on green bond were put into implementation.

As substantive preferential policies such as financial discount, tax reduction and exemption have not yet been implemented in 2018, consumers’ enthusiasm for green bond market goes down. Thus it is urgent to put substantive preferential policies into implementation. But from the perspective of regulatory dynamics, regulators are actively pushing on the implementation of preferential policies.

A total of 49 green bonds (excluding additional bonds and Green ABS) are issued in the first half of 2018, with the issuing scale up to RMB 590.56 billion, an increase of 48.48% and 812.91% y-o-y respectively. It is mainly attributed to the large increase in the issuing scale of financial bonds. While the issuance of corporation green bonds is scaled down on a y-o-y basis, showing that the green bond market is less attractive to consumers. Green bonds for energy conservation projects are most widely issued and money is raised to invest in industrial energy conservation and sustainable construction. Iron and steel enterprises and coal enterprises have also issued green bonds. In addition to financial bonds, Guangdong reports the largest issuance scale of green bonds. By June 30, 2018, 12 green bonds have been issued overseas by domestic entities, mainly by banks. Other entities have AAA credit qualifications, most of which are companies engaging in green industry.

3. About green credit

Green credit, referring to loans that are invested in green projects and environmental improvement, boasts a long loan period, low interest rates as well as reduction and exemption of fees, and focuses on providing medium and long-term financing services for sustainable infrastructure projects. China has gradually issued relevant policies to support the healthy development of green credit, and taken actions, such as expanding the scale of funds with fiscal discounts and establishing professional guarantee institutions, to boost the rapid development

of green loans. Policy banks, including China Development Bank, New Development Bank of BRICS Countries and Asian Infrastructure Investment Bank, are among the most important providers of green credit, who mainly aim at programs in green fields, such as environmental governance and clean energy. In China, the fiscal discount rate of green loans is based on the benchmark lending rate of the People's Bank of China in most cases, and the actual interest rate in some cases, but the upper limit is 3%. This means green credit has obvious advantages financing costs, and will become a financing mode favored by relevant enterprises.

China has witnessed the rapid growth of the size of the green financial market in recent years. Statistics show that the overall balance of various types of green financing had reached nearly RMB 9 trillion by the end of 2017, of which green credit accounted for over 95%, making it a major driver for the construction of ecological civilization and transformation of green development. China's total scale of green credit has grown steadily in recent years, according to the China Banking Regulatory Commission (CBRC). The green credit balance of 21 Chinese banks rose from RMB 5.20 trillion in 2013 to RMB 8.22 trillion in June 2017, with an annual growth rate of 13.98%. Notably, the defect rate of green credit is only 0.37%, far lower than the average defect rate of 1.69% of other loans during the same period, showing that the asset quality of green credit is high.

4. About green price

The National Development and Reform Commission (NDRC) issued *Opinions on Innovating and Optimizing the Price Mechanism on the Promotion of Green Development* (hereinafter referred to as *Opinions*) in June 2018. The *Opinions* pointed out that market-oriented means should be fully used to advance the marketization of ecological and environmental protection, continuously optimize the price mechanism on resources and the environment, bring price leverage into better play in guiding the optimal allocation of resources, achieving ecological and environmental cost internalization, promoting society-wide conservation, and accelerating the development of green environmental protection industry, thus mobilizing the whole society to jointly facilitate green development and ecological civilization building. The *Opinions* put forward that: by 2020, the price mechanism and the price policy system beneficial to green development will be basically formed, so as to significantly boost resource conservation and ecological and environmental cost internalization. By 2025, the price mechanism satisfying the requirements of green development will be further improved,

The *Opinions* proposed 15 specific guiding opinions in four aspects, such as optimizing the water treatment charging policy, improving the charging mechanism on solid waste treatment, establishing the water-saving price mechanism, and optimizing the electricity price mechanism on the promotion of energy conservation and environmental protection. These guiding opinions include implementing the differentiated charging mechanism for enterprises, and encouraging local governments to formulate classified and differentiated charging standards according to the type, density and environmental credit rating of major pollutants in sewage discharged by enterprises, so as to help enterprises promote sewage pre-treatment and pollutant emission reduction. Other guiding opinions also include optimizing the differentiated electricity price policy. China should comprehensively clear up and cancel preferential electricity prices for high energy-consuming industries as well as other various unreasonable favorable price policies.

The government should also strictly implement the differentiated electricity price policy in seven sectors, including iron alloy, carbide, caustic soda, cement, steel, yellow phosphorus and zinc smelting, and formulate higher prices for electricity consumption (including electricity capacity through market-oriented transactions) of obsolete and restricted enterprises. Local governments should promptly evaluate the implementation effect of differentiated and tiered electricity price policies, expand the scope of sectors in implementing differentiated and tiered policies according to the actual needs, raise the standard for price makeup, and help related industries strengthen technical transformation, improve the energy efficiency level, and step up eliminating backward production capacity.

5. About green finance project demonstration

To better push forward the green finance work, the China Council for International Cooperation on Environment and Development (CCICED) established a green finance demonstration project, i.e. the “environmental information disclosure system for listed companies”. It aims to combine the actual situation of China’s capital market through the research and summarization of international experience in implementing environmental information disclosure systems, and put forward policies and suggestions to improve the environmental information disclosure system for listed companies in China.

The environmental information disclosure work should be an obligation of all listed companies. China plans to establish a mandatory environmental information disclosure system for listed companies step by step, according to the plan for division of work given in the Guiding Opinions on Establishing the Green Finance System, which was jointly issued by seven ministries and commissions, including the People's Bank of China, in 2016. The optimization of this system is facing many challenges, such as low willingness to environmental information disclosure from some major pollutant discharging units and disclosure without obeying regulations. Besides, stock exchanges, as a key execution unit of the system, while urging listed companies to disclose environmental information, fail to establish explicit index systems and achieve the efficiency and significance of information disclosure. The advancement of this demonstration project will resolve some short boards or difficulties that restrict environmental information disclosure of listed companies through such measures as establishing an appropriate reward and punishment mechanism, linking information disclosure to corporate refinancing, etc. The project demonstration result will provide an institutional basis for the comprehensive implementation of environmental information disclosure among listed companies for the next step. Since April this year, several listed companies, such as Gansu Shangfeng Cement, Shanxi Sanwei Group and Yancheng Huifeng Joint-stock, have been punished over serious environmental violation issues, attracting much attention to environmental violation issues of listed companies from the China Securities Regulatory Committee (CSRC) and the Ministry of Ecology and Environment (MEE) of China. On June 22, the CSRC issued an announcement that it will seriously rectify environmental information disclosure violations of listed companies.

According to the arrangements, step 1, CSRC requires listed companies to revise the content and format criteria of regular reports and implement voluntary disclosure by the end of 2017; step 2, it raises semi-mandatory disclosure requirements to all listed companies: key pollutant

discharging units must disclose environmental information, and units without disclosing information must make explanations (before March 2018); step 3, all listed companies must implement environmental information disclosure (before December 2020).

(IV) Judicial reform drives ecological civilization governance

For environmental departments, forming joint forces through organizational function integration are undoubtedly important, but they expect more improvements in the environmental law enforcement in the whole society and an all-around way. These improvements include following up environmental legislation, optimizing the punishment mechanism, strengthening environmental judicial enforcement, improving environmental monitoring capabilities, changing the performance assessment of governmental officials, etc.

In 2018, the judicial authority issued the latest version of the *General Provisions of the Civil Law*. According to Article 9 of Basic Provisions of the law, the parties to civil legal relations shall conduct civil activities contributing to the conservation of resources and protection of environment. This is the first time that the General Provisions of the Civil Law has stipulated that civil activities should be consistent with resource conservation and environmental protection, which has become the green principle. This exactly coincides with the development of green lifestyle proposed at the 19th National Congress of the Communist Party of China (CPC).

On June 4, 2018, the Supreme People's Court of China (SPC) issued the *Opinions on Deeply Studying and Implementing the Xi Jinping Thought on Ecological Civilization and Providing Judicial Services and Guarantee for Ecological and Environmental Protection in a New Era* (hereinafter referred to as *Opinions*), urging local courts to bring the judicial function of environmental resources into better play, and strengthen judicial services and guarantee through ecological civilization construction. The *Opinions* pointed out that more attention should be paid to develop innovative trial implementation modes, and promote the overall protection, system recovery, regional overall planning and comprehensive management of the ecology and environment. The *Opinions* stressed that more efforts should be made to solve outstanding ecological and environmental problems, and serve and guarantee pollution prevention and control and eco-security protection. To help win the tough battle against pollution prevention and control, SPC should judge cases relating to air, water, soil, solid waste, garbage disposal, noise and vibration pollution according to law, and strengthen the hearing of air pollution dispute cases in key regions, including Beijing-Tianjin-Hebei and neighboring areas, the Yangtze River Delta, the Fen-Wei Plain, etc., so as to provide strong judicial support for the blue sky defending war. Besides, more efforts should be made to hear water pollution dispute cases in key waters, such as Yangtze River, Yellow River, Poyang Lake, Dongting Lake and Taihu Lake, and promote treatment of black and odorous water bodies, thus practically safeguarding people's rights to live in a quiet and beautiful ecological environment where there are the blue sky, clear water and clean soil. SPC should protect marine natural resources and the environment and judge cases relating to the pollution and damage of the marine ecology according to law. SPC should make all-out efforts to serve the construction of beautiful countryside, implement the requirements of the rural rejuvenation strategy, and hear various types of cases relating to rural natural resource exploitation and utilization, the comprehensive

management of rural living environment, agricultural ecological products and services, in an effort to promote the sustainable development of agriculture and rural affairs and the building of ecologically livable beautiful countryside. SPC should constantly improve its biodiversity protection capability, judge cases about the damage of biodiversity according to law, maintain the diversity of species and the ecosystem, and help improve the legal system of the biodiversity protection. SPC should rigorously guarantee the layout of the ecological security strategy, strictly stick to the red line of ecological protection, the bottom line of environmental quality and upper limits of resource utilization, hear cases involving key ecological function areas and ecological environment sensitive and vulnerable areas according to law, focus on ecological protection and recovery, and build an barrier for ecological security.

VII. Regional and international engagement

(I) Greening Belt and Road Initiative

Article 5 of the 2017 CCICED Policy Recommendations states as follows: China's green development approach, the UN SDG2030 goals, the Paris Climate Agreement, Biodiversity and Desertification global accords, and ecological civilization should become central features in the Belt and Road Initiative...Also, a Belt and Road Green Governance Mechanism including information disclosure, public participation and access to arbitration, should be established.

In order to advance the progress of greening the BRI, China, as the initiator of the initiative, took the lead in carrying out much fruitful work, such as the BRI eco-environment big data service platform for information sharing, the establishment of the BRI international coalition for green development together with the UNEP, the issuance of the *Guiding Opinions on Promoting a Green Belt and Road Initiative* and the *BRIE co-environment Protection Cooperation Plan*, the holding of themed exchange activities such as the International High-Level Dialogue on Ecological and Environmental Protection under the Framework of the Belt and Road Initiative, the founding of the Belt and Road Environmental Technology Exchange and Transfer Center (Shenzhen) and China-ASEAN Environmental Technology and Industry Cooperation and Exchange Demonstration Base (Yixing), and the promotion of the launch of the initiative on *Performing Corporate Environmental Responsibility and Building a Green Belt and Road Initiative* by related Chinese enterprises. At the same time, as Chinese companies are increasingly "going global", China's "green solutions" are also "carried around". China's several import and export chambers of commerce have established social responsibility indicators for foreign investment to guide enterprises to follow the principle of sustainable development. The China Textile and Apparel Association is a good example. At the same time, China has also promoted the environmental standards on the development of cobalt mine and rare earth to ensure the sustainability of mining activities at home and abroad.

Integrating the concept of green development into the Belt and Road Initiative, and promoting BRI projects to bring about sustainable development effects both economically and environmentally have provided new impetus for the implementation of the 2030 Sustainable Development Goals. At present, 15 UN agencies and relevant Chinese institutions have signed agreements related to the Belt and Road Initiative. The core of these agreements is to create synergies between the 2030 Agenda for Sustainable Development and the green Belt and Road Initiative.

As the focus of the Belt and Road Initiative, the connectivity of infrastructure is a priority area for greening Belt and Road Initiative. After the Belt and Road Initiative was released, China has strengthened cooperation with countries and regions along the route in highway, railway, aviation, shipping, energy, information infrastructure and other areas of infrastructure.

(II) Making new progress in tackling climate change with active efforts

Article 5 of the 2017 CCICED Policy Recommendations states as follows: Strengthen global and regional green governance. It proposes that “China needs to start early to develop its own Mid-Century Climate Strategy and link it with others”.

Climate change is a major global challenge facing humanity in the 21st century. Actively coping with climate change is not only an inherent requirement of China’s own sustainable development and an important part of building a socialist modern strong power, it is also China’s responsibility as it participates in and leads global climate governance and promoting the building of a community of shared destiny for mankind.

China has integrated climate change into its medium and long-term national economic and social development plan. It puts mitigation and adaptation to climate change at equal positions and pushes forward through all possible means such as law, administration, technology, and market. At present, China’s renewable energy installed capacity accounts for 24% of the global total, and newly installed capacity accounts for 42% of the global increase. It is the world’s largest country in energy saving and new and renewable energy utilization.

On December 19, 2017, the National Development and Reform Commission (NDRC) organized a video teleconference on the launch of a national carbon emissions trading system, mobilizing and deploying the comprehensive implementation of the tasks and requirements in the *Scheme* and the construction of a national carbon emissions trading market.

The *Scheme* clearly states that the power generation industry (including cogeneration) is the first industry to launch a national carbon emissions trading system. The main participants are enterprises with annual emissions of 26,000 tons of carbon dioxide equivalent or more in the power generation industry or other economic organizations including other industry-owned power plants. The first batch of more than 1,700 companies involved in carbon trading, the total emissions exceeded 3 billion tons of carbon dioxide equivalent.

The *Scheme* pointed out that the ultimate goal of carbon market construction is to establish a carbon market with clear ownership, strict protection, smooth circulation, effective supervision, and transparency, and promote the transformation and upgrading of enterprises to achieve the goal of controlling greenhouse gas emissions. In the future, we will promote the construction work in three steps. The first step is the basic construction period which completes the national unified data reporting system, registration system and trading system construction in a year or so, and carry out the construction of the carbon market management system. The second step is to carry out the quota simulation transaction of the power generation industry, comprehensively test the effectiveness and reliability of various factors in the market, strengthen the market risk early warning and prevention and control mechanism. The last step is to deepen the improvement period which will carry out quotas among the trading entities in the power generation industry Spot trading, under the premise of stable operation of the carbon

market in the power generation industry, gradually expand the market coverage and enrich the trading varieties and trading methods.

(III) Promoting South-South cooperation

The 2017 CCICED Policy Recommendations points out that the green “Belt and Road” concept and mechanism should also be reflected in South-South cooperation. Under the frameworks of South-South cooperation, “Belt and Road” initiative, and “BRICS plus”, we should help other developing countries accelerate development through green transformation.

As one of the developing countries, China is an active advocate and supporter of South-South cooperation, and has always been combining its own interests with that of developing countries and providing assistance to South-South cooperation within its capacity. For more than 60 years, it has provided nearly 400 billion yuan of assistance for 166 countries, trained more than 12 million person-times of talents of various types for developing countries, and dispatched more than 600,000 assistance workers, of which more than 700 have sacrificed their lives for the development of other countries. It has set up the Assistance Fund for South-South Cooperation, the South-South Climate Cooperation Fund, the China-UN Peace and Development Fund, the Academy of South-South Cooperation and Development, the Center for International Knowledge on Development, and the South-South cooperation poverty reduction knowledge sharing website.

In January this year, in promoting the cooperation of the BRICS, the China Council for BRICS Think-tank Cooperation, Chinese coordinator of the BRICS think tank cooperation, held the 2018 Annual Meeting of the China Council and the Wanshou Forum. It has played an important role as a bridge and bond for promoting exchanges and cooperation of the BRICS think tanks and enhancing mutual understanding and trust.

At the beginning of September this year, the Beijing Summit of the Forum on China-Africa Cooperation was held. The theme of this summit is “China and Africa: Toward an Even Stronger Community with a Shared Future through Win-Win Cooperation”. The conference made two major achievements. First, it adopted the *Beijing Declaration-Toward an Even Stronger China-Africa Community with a Shared Future*, which pushed the China-Africa comprehensive strategic partnership to an even higher level, that is, a closer community with a shared destiny. Second, it adopted the *Beijing Action Plan*. The *Plan* covers the period from 2019 to 2021, and reflects the specific contents of cooperation between China and Africa in the next three years or even longer, especially the specific implementation of the “eight major initiatives” proposed by China. The Beijing Summit provided new ideas for South-South cooperation. It is noteworthy that in 2018, in a new round of institutional adjustment and reform, the China International Development Cooperation Agency was set up directly under the State Council to integrate the foreign aid duties of the Ministry of Commerce and the Ministry of Foreign Affairs. Its main responsibilities include formulating foreign aid strategic guidelines, plans, policies, coordinating major foreign aid issues and making recommendations, promoting foreign aid reform, preparing foreign aid programs and plans, determining foreign aid projects, and supervising and assessing their implementation. The specific implementation of foreign aid is still assigned to relevant departments. The establishment of the China International Development Cooperation Agency opened a new chapter in South-South cooperation for China.

As socialism with Chinese characteristics enters a new era, the relationship between China and the rest of the world is undergoing historic changes. Compared with any time in the past, China is more capable and confident to help developing countries improve their domestic development capabilities, shape the international development environment, improve mutual cooperation mechanisms, and inject greater vitality, create stronger momentum, and provide better pathways and broader space for South-South cooperation.

(IV) Participating in global ocean governance

According to the 2017 CCICED Policy Recommendations, China should formulate a national marine strategy to promote the development of the “Blue Economy” in a green direction. Due to the global character of China’s Blue Economy, China can play an important role in the modernization of global ocean governance. The 2012 CCICED Policy Recommendations points out that a “national marine emergency response planning system for major environmental incidents” should be established, and relevant departments should co-develop emergency response plans for super and major marine environmental incidents as national marine emergency response special plans.

In February 2018, the State Oceanic Administration issued the *National Marine Ecological Environment Protection Plan (2017~2020)* (hereinafter referred to as “*Plan*”), systematically planning the timetable and roadmap for marine ecological environment protection in the following period of time. The *Plan* requires all relevant departments and units to take the implementation of the *Plan* as an important measure for implementing the spirit of the 19th CPC National Congress and deepening the construction of marine ecological civilization, refine the division of tasks, decompose responsibilities and objectives, clarify implementation pathways, and well guarantee organizational support so as to ensure the work items listed in the *Plan* render actual results.

The *Plan* identifies the principles of “green development, sea protection from the source”, “compliance with nature, ecology-based sea management”, “quality improvement, clean sea through cooperation”, “reform and innovation, law-based sea governance”, and “extensive mobilization, marine development through joint efforts”. The marine ecological civilization system is basically complete, the marine ecological environment quality is steadily changing for the better, the green development level of marine economy is effectively improved, the marine environment monitoring and risk prevention and handling capacities are significantly improved. Goals are set for 4 aspects, and 8 indicators are proposed, such as the ratio of areas with good water quality in offshore areas, and the retention rate of land natural shorelines.

The *Plan* puts forward related work from the 6 aspects of “governance, use, protection, monitoring, control, and prevention”, including promoting the governance and restoration of marine environment, carrying out systematic restoration and comprehensive governance in key areas, and improving the quality of marine ecological environment; establishing a green oceanic development pattern, and accelerating the establishment and improvement of a modern economic system with green, low-carbon and cyclic development; strengthening marine ecological protection, comprehensively safeguarding the stability of marine ecosystems and marine ecological functions, and building a marine ecological security barrier; adhering to “optimization of overall layout, strengthening of operation management, and improvement of

overall capacity”, and promoting marine ecological environment monitoring to enhance capacity and efficiency; strengthening land-sea pollution joint prevention and control, and implementing comprehensive prevention and control of pollution in river basin environment and coastal waters; preventing and controlling marine ecological environment risks, and building a whole-process and multi-level risk prevention system containing prevention, control, and handling before, during, and after the occurrence of risks.

In 2018, after the reform of state institutions, the Ministry of Ecology and Environment will undertake and fulfill the functions of marine ecological environment protection, mainly including the supervision of the national marine ecological environment, the supervision of the discharge of land-sourced pollutants into oceans, the protection of ecological environment by controlling marine pollution and damage caused by coastal and marine construction projects, marine oil and gas exploration and development, and dumping of wastes into oceans, and the organization and demarcation of marine dumping areas.

On March 8th of 2018, the *National Emergency Response Plan for Major Oil Spill at Sea* (hereinafter referred to as “*Response Plan*”) was issued upon the review and approval by an inter-ministerial joint meeting for responding to national major oil spill at sea. The *Response Plan* established and improved the national major oil spill response procedures, and clarified the standards for national major oil spill incidents. It adheres to unified leadership, resource sharing, and efforts coordination, and reflects policy and guidance. After emergency response is initiated in a major oil spill, according to the *Response Plan*, the inter-ministerial joint meeting shall organize the implementation of national response measures, including: guiding the on-site command unit to formulate a scientific oil spill response plan and dispatch working groups to direct the on-site work; coordinating member units and other relevant forces in participating in oil spill response work such as monitoring and pollution removal; coordinating emergency response resources such as transportation, medical and health rescue, communication, emergency funds, technical equipment, human resources, and decision support; releasing or authorizing a relevant unit to release information on the oil spill, collecting and analyzing public opinions, and carrying out publicizing and reporting. Letting the inter-ministerial joint meeting play a commanding role in an emergency and coordinate the work of different departments and units can promote an orderly management of emergency resources.

VIII. Conclusions

In the past year, the Chinese government has made several greater breakthroughs in many aspects. In May of this year, the National Ecological Environmental Protection Conference established Xi Jinping's ecological civilization thought, emphasizing that a good ecological environment is the most inclusive benefit of the people, and that the lucid waters and lush mountains are invaluable assets.

China’s eco-environment management system and mechanism have undergone major changes, and the reforms have been unprecedented. Eco-environment protection and supervision have achieved initial unification. At the same time, the high-level coordination mechanism at the State Council level has become more rational, and is moving toward a direction more conducive to unified supervision and coordinated development of ecological environment. China’s eco-environment protection work has shown a good momentum and is actively moving toward the

goals of 2035.

Over the past year, many policy recommendations put forward by CCICED continued to receive great attention. Many of them have been reflected in policy practice to different degrees. In particular, as the year 2018 is the initial period and critical period during the three-year battle on pollution prevention and control, China has successively issued several guidance documents to vigorously promote the implementation of eco-environment protection work, especially the prevention and control of air pollution. At the same time, the functions of environment protection departments were further optimized and expanded, the eco-environment supervision and governance mechanisms were rationalized, and the high-level coordination mechanism was smoother.

At present, all aspects of work are in a transitional period of coordination and rationalization. China's eco-environment protection work has been forging ahead, and the country continues to address outstanding environmental issues such as air, water, and soil pollution, advance environmental economic policies, promote public-private cooperation in environmental protection, and establish a pluralistic system of environmental governance. With the deepening of the ecological civilization system and the implementation of the Amendment to the *Environmental Protection Law*, all aspects of work have been promoted unprecedentedly. This will lay a good foundation for future environmental policy formulation and environmental governance improvement. At the same time, international environmental cooperation continues to show high-level development, including the cooperation on eco-environment between China and its neighboring Southeast Asian countries, and between China and African countries. Also, new layouts and work adjustments have been made on global concerns such as marine eco-environment protection.

Looking back at the environmental and development policies of the Chinese government in the past year, we can find that an institutional mechanism and a management system with "ecological civilization" at the core and "beautiful China and clean world" as the objective is rapidly forming. The overwhelming situation of China's eco-environment protection is helping China transform to the high-quality development goal. The top-level design and pluralistic governance system for China's ecological civilization have initially taken shape. China's ecological civilization and eco-environment protection are crucial to the realization of the UN 2030 Sustainable Development Goals. Its connection with the rest of the world regarding sustainable development issues has never been so close.

Appendix: Overview on the Relevance of China’s Environmental and Development Policies and CCICED Policy Recommendations over the Past Year

Field	Time of Release of Policy	Policy Progress (2017-2018)	Content
Top-level Design for Ecological Civilization	May, 2017	The 8 th National Eco-Environment Protection Conference put forward Xi Jinping thought on ecological civilization, mainly including the profound historic view that “ecological development is civilization development”, the scientific natural view of “harmony between man and nature”, the green development view that “green mountain and clear water are valuable assets”, the basic livelihood view that “a good ecological environment is the most inclusive benefit for people’s livelihood”, the overall systematic view that “mountains, waters, forests, crops, lakes, and grasses are a community of life”, the strict legal view of “implementation of the most stringent eco-environment protection system”, the all-people action view of “co-building a beautiful China”, and the win-win global view of “co-planning global ecological civilization pathways”.	According to the 2017 CCICED Policy Recommendations, China’s voice and experiences in building an Ecological Civilization can be very powerful and inspirational for other countries. Domestically, it is important to build a strong linkage between SDGs and China’s five year plans and to use the SDGs as a framework and basis for improving government policies and the efforts of business and communities.
Planning for Environment and Development	July 2017	The <i>Ecological Environment Protection Plan for the Yangtze River Economic Belt</i> : The <i>Plan</i> proposes to delineate the upper line for water resources utilization, delineate ecological protection red line, adhere to the bottom line of environmental quality, comprehensively promote environmental pollution control, and strengthen the prevention and response of sudden environmental incidents, making a comprehensive plan for the Yangtze River basin. As for implementation, the <i>Plan</i> puts forward an innovative measure of “innovating eco-environment protection mechanism policy and promoting regional coordination and connection”. Relevant provinces and cities of the Yangtze River basin should firmly establish the concept of ecological community, strengthen overall, professional and coordinated regional cooperation, professional and coordinated, accelerate reform and innovation of institutional mechanisms, create a policy environment conducive to ecological priority and green development, and comprehensively enhance the level of coordinated protection of the ecological environment of the Yangtze River Economic Belt.	According to the 2017 CCICED Policy Recommendations, fragmentation of decision-making remains a serious problem. At a fundamental level, integrated efforts for addressing land and water use on a regional scale are necessary, including better information sharing among regulatory agencies. Definition of responsibility for preservation and restoration of ecosystems can still be improved.

	December 2017	<p>Focusing on the development goals and strategies for 2035 and 2050, the National Energy Administration began to compile an energy development strategy outline that meets two phased goals. The initial design is as follows: First, for 2020-2035, actively promote market-oriented reform and institutional mechanism innovation, promote scale development and technological progress in the renewable energy industry, and promote the formation of development cost advantage of renewable energy over fossil energy. By 2035, the increase in China's energy demand can be met by clean energy, and renewable energy development enters an incremental replacement stage. Second, for 2035~ this mid-century, comprehensively build a modern energy system with renewable energy as the main part, and renewable energy enters the stage of full stock replacement of fossil energy. By 2050, its proportion in primary energy consumption reaches 60%, and its proportion in power consumption reaches 80%. Renewable energy becomes the main force of energy supply. Before this, we should ensure that China fully completes energy transformation.</p>	<p>According to the 2017 CCICED Policy Recommendations, clean coal and synthetic natural gas for power generation should be transient technologies, bridging from old to new during China's green transition. Large-scale deployment of 'clean coal' needs an exit plan and an exit budget to protect China from being locked into a path of prolonged fossil fuel use. Green adaptive planning should be part of the strategy.</p>
	April 2018	<p>The <i>Planning Outline for the Xiong'an New Area in Hebei Province</i> proposes to build a scientific and rational spatial layout, create a beautiful natural ecological environment, improve industrial space layout, develop a green and intelligent new city, and build a high-standard green development featured Xiong'an New Area; adhere to green and low-carbon development, build a green municipal infrastructure system, promote eco-environment restoration, carry out environmental governance, build a green and intelligent transportation system, promote green and low-carbon production and lifestyle, and build a clean and environment-friendly heating system; scientifically use geothermal resources, coordinate natural gas, electricity, geotherm, biomass and other energy sources, and form a clean heating system with multiple energy sources; pay attention to the coordinated development of various systems, and take the <i>Plan</i> as the guidance, detailed control plans as the focus, and special plans as the support to form a planning system with universal coverage, hierarchical management, classified guidance, and integrated planning; carefully plan for each inch of land before starting construction, consider construction time sequence, deepen and</p>	<p>The 2017 CCICED Policy Recommendations proposes to build a comprehensive eco-reform process for green development and ecological civilization. It states that today's rapid urbanization must become green urbanization, including ecologically sensitive planning with improved utilization of resources like space, soil and waste.</p>

		refine detailed control plan, construction plan and various special plans so as to get ready for the comprehensive construction of the new area.	
June 2018		The <i>Opinions on Comprehensively Strengthening Ecological Environmental Protection and Securing a Decisive Victory in Pollution Prevention and Control</i> proposes that by 2020, the overall quality of ecological environment shall be improved, the total discharge of major pollutants shall be greatly reduced, environmental risks shall be effectively controlled, and the level of eco-environment protection shall adapt to the goal of building a moderately prosperous society. At the same time, it proposes to accelerate the construction of an ecological civilization system to ensure the overall formation of a spatial layout, industrial structure, production mode, and lifestyle that conserve resources and protect ecological environment by 2035, the quality of the eco-environment is fundamentally improved, and the goal of building a beautiful China is basically realized. By the middle of this century, ecological civilization is comprehensively upgraded, and modern national governance system and capability in the eco-environmental field are achieved.	According to the 2017 CCICED Policy Recommendations, while the Air Action Plan is the first to come up for renewal, it would be helpful to develop an overall plan that incorporates all three categories (water, air, and soil), plus one other—marine pollution. Ideally, an integrated rollout should be ready by 2020 with targets up to 2035, the pivot point when China expects to be a “basic modern country”.
June2018		The <i>Three-year Action Plan for Winning the Blue Sky War</i> proposes to, with 3 years of efforts, greatly reduce the total emissions of major air pollutants, work together to reduce greenhouse gas emissions, further significantly reduce the concentration PM2.5 and heavy pollution days, greatly improve ambient air quality, and greatly enhance people’s sense of happiness with the blue sky. By 2020, the total emissions of sulfur dioxide and nitrogen oxides are reduced by more than 15% compared with 2015; cities of and above the prefecture level with excess PM2.5 concentrations shall cut the concentrations by over 18% compared to 2015, the proportion of days with superior air quality in cities of and above the prefecture level shall reach 80%, and the proportion of days with severe pollution and above shall decrease by over 25% compared to 2015; provinces that have completed the targets and tasks for the 13th “Five-Year Plan” period shall maintain and consolidate the improvement results; provinces that have not completed them shall ensure the full realization of the binding targets for the 13th “Five-Year Plan” period; Beijing’s ambient air quality improvement target should be further enhanced on the basis of the 13th “Five-	

		Year Plan” period.	
Ecosystem and Biodiversity Conservation	2017-2018	Positive progress has been made in the delineation and protection of ecological red lines. Beijing City, Tianjin City, and Hebei Province, the 11 provinces (cities) in the Yangtze River Economic Belt, and the Ningxia Hui Autonomous Region, a total of 15 provinces, have had their ecological protection red line delineation plans approved by the State Council, and Shanxi Province and the other 15 provinces have initially formed their delineation plans. The construction of a national ecological protection red line supervision platform is started. In October 2017, the National Development and Reform Commission officially approved the project on national ecological protection red line supervision platform with a total investment of 286 million yuan. Study and formulate supporting management policies for ecological protection red line. Issue guidance documents such as the Guidelines for Delineating Ecological Protection Red Lines. Study and draft ecological protection red line management measures, and clarify the control requirements, management principles and regulatory framework for ecological protection red line. At present, a draft for comments has been formed, and relevant departments and local governments will be consulted.	The 2014 CCICED Policy Recommendations proposes to implement a National Ecological Protection Red Line System (EPRL System): set into law the National Ecological Protection Red Line (EPRL) System and relevant systems; improve spatial land use planning and marine use planning system with clear identification of EPRLs; establish a new national coordinating mechanism for ecological conservation and for monitoring and enforcement; improve the nature protection area system; improve eco-compensation and incentive mechanism based on EPRLs.
	March 2018	The “Green Shield 2018” nature reserve supervision and inspection special action. Retrospect and review the rectification of problems in the “Green Shield 2017” special action; resolutely investigate and deal with new violations in nature reserves, focus on inspecting the inadequate implementation of management responsibilities in state-level nature reserves; strictly supervise problem identification and rectification in nature reserves.	
	June 2018	According to the auditing results released by the National Audit Office on eco-environment protection of the Yangtze River Economic Belt, in 2016 and 2017, a total of 251.824 billion yuan of financial funding was invested in the eco-environment protection of the Economic Belt. While eco-environment protection has achieved certain results, there are also some problems. Among them: First, in terms of the use of funding, from December 2013 to January 2018, 8 local government departments and affiliated units illegally used 25.8049 million yuan of eco-environment protection fund. Second, in terms of resource	

		development, as of the end of 2017, 930 small hydropower stations in 8 provinces started construction without environmental impact assessment. Over-exploitation caused 333 rivers to be cut off, with a total cutoff length of 1,017 kilometers. Third, in terms of pollution control, as of the end of 2017, 118 urban sewage treatment plants in sensitive areas of 9 provinces did not meet the class 1A discharge standards.	
Energy, Environment and Climate	2018	Energy structure optimization and adjustment. A green and diversified energy supply system was accelerated. In the first half of the year, hydropower, nuclear power, wind power and solar energy accounted for 25.2% of the total power generation, an increase of 0.3 percentage points over the same period last year. In terms of coal, adopt the principle of replacement at a reduced amount to develop high-quality coal production capacity in an orderly manner, force inefficient and low-quality production capacity to exit as soon, and increase the proportion of advanced coal production capacity. The power consumption structure was further optimized. In the first half of the year, the proportion of electricity consumption by the secondary industry was 69.2%, down by 1.8 percentage points from the same period of last year. The proportion of total electricity consumption by the four energy-intensive industries was 28.5%, down by 1.3 percentage points over the same period of last year; the proportion of electricity consumption by the tertiary industry and by households was 29.8% in total, up by 2.6 percentage points over the same period of last year. The contribution rate of secondary industry electricity use to the growth of electricity use by the whole society was 56.5%, which was 12.2 percentage points lower than the same period of last year; the contribution rate of tertiary industry electricity use and residential electricity use to the whole society's electricity consumption growth was 42.4% in total, up by 13.0 percentage points compared with the same period of last year. The power consumption structure underwent constant optimization.	The 2017 CCICED Policy Recommendations states that through co-benefits, China's pollution reduction plans can contribute to a steady transition for meeting the Paris targets of staying within a global 1.5 or 2 °C increase.
	May 2018	Strengthen energy conservation and improve energy efficiency. Revise the <i>Administrative Measures for Energy Conservation in Key Energy-using Units</i> , and establish and improve joint incentive system for integrity and joint punishing system for loss of integrity so as to accelerate social integrity building.	The 2017 CCICED Policy Recommendations states that through co-benefits, China's pollution reduction plans can contribute to a steady

			transition for meeting the Paris targets of staying within a global 1.5 or 2 °C increase.
	2018	Coordinate national efforts to respond to and adapt to climate change. Establish a National Leading Group to Address Climate Change, Energy Conservation and Emission Reduction headed by the Premier of the State Council, including main officers from more than 20 ministries and commissions as group members. All provinces, municipalities and autonomous regions have set up corresponding climate change leading groups and mechanisms for work division and coordination among departments. A climate change response system is formed, with coordination work done by the National Leading Group and implementation work headed by competent departments in collaboration.	The 2017 CCICED Policy Recommendations states that through co-benefits, China's pollution reduction plans can contribute to a steady transition for meeting the Paris targets of staying within a global 1.5 or 2 °C increase.
	2018	Continue to explore the construction of a national carbon market. Strengthen the carbon market management system, infrastructure and capacity building. Promote the issuance of an <i>Interim Regulations on the Management of National Carbon Emissions Trading</i> and related supporting systems such as quota allocation. Accelerate the construction of the data reporting system, registration system, trading system, and settlement system. Organize capacity building activities for various market players.	The 2017 CCICED Policy Recommendations states that through co-benefits, China's pollution reduction plans can contribute to a steady transition for meeting the Paris targets of staying within a global 1.5 or 2 °C increase.
Pollution Prevention and Control	2018	Air pollution prevention and control. The Ministry of Ecology and Environment implemented two rounds of intensive supervision of the "2+26" cities in the Beijing-Tianjin-Hebei region and surrounding areas. Despite remarkable results in air pollution control, 5,204 atmospheric environment problems were identified.	According to the 2013 CCICED Policy Recommendations, concerning implementation of the <i>Air Pollution Control Action Plan</i> , the central government should focus its supervision and coordination efforts on strengthening overall action implementation by local governments and step up review and accountability.
	Throughout 2018	Water pollution prevention and control. The Ministry of Ecology and Environment and the Ministry of Housing and Urban-Rural Development launched a special rectification action for black and odorous water bodies, and	The 2015 CCICED Policy Recommendations proposes to establish an environmental risk assessment and

		initiated inspections. Inadequate rectification of identified problems will be held accountable by the Central Environmental Inspection Group. The water body in drinking water source regions will rank the first among the “four types of water bodies” in water pollution prevention and control. The Ministry of Ecology and Environment and the Ministry of Water Resources have launched a special action on environmental protection of centralized drinking water sources throughout the country.	prevention system for major national strategies, conduct risk assessments for macro strategies such as the “Belt and Road” initiative, the integration of the Beijing-Tianjin-Hebei region, and the development of the Yangtze River economic belt to form an integrated environmental risk prevention system. The <i>Notice on Guiding Opinions on Strengthening Yangtze River Environmental Pollution Prevention and Control</i> puts the restoration of the eco-environment of the river at a dominant position. With water environment quality improvement at the core, it will strengthen spatial management, optimize industrial structure, consolidate pollution control from the source, and pay attention to risk prevention so as to fully advance Yangtze River water pollution control and ecological protection and restoration.
	2018	Soil pollution prevention and control. The Ministry of Ecology and Environment comprehensively promoted the <i>10-Chapter Soil Pollution Action Plan</i> , and formulated the <i>Regulations on the Assessment of the Implementation of the Soil Pollution Prevention and Control Action Plan</i> , prescribing the annual assessment and mid-term assessment of the implementation of the <i>Action Plan</i> by provinces, municipalities, and autonomous regions from 2018 to 2020.	Regardless of promoting ecological civilization or building the relationship between green and harmonious environment and social development, the Chinese government must well address outstanding issues affecting public health and living, including air, water and soil pollution and the decrease of ecological functions.
Environmental Governance	March 2018	The newly formed Ministry of Ecology and Environment will serve as a department of the State Council, integrating the responsibilities of the Ministry	Article 2 of the 2017 CCICED Policy Recommendations proposes to “build

and Rule of Law		of Environmental Protection, the responsibilities of the National Development and Reform Commission for addressing climate change and emission reduction, that of the Ministry of Land and Resources for supervising and preventing groundwater pollution, that of the Ministry of Water Resources for preparing water function zoning, managing drainage outlets settings, and protecting watershed water environment, that of the Ministry of Agriculture for supervising and guiding agricultural non-point source pollution control, that of the State Oceanic Administration for marine environmental protection, and that for environmental protection in the project area of the South-to-North Water Diversion Project under the Office of the State Council’s South-to-North Water Diversion Project Construction Committee.	Ecological Civilization co-management systems”. The 2013 CCICED Policy Recommendations proposes to speed up institutional reform for eco-environmental protection management; establish an environmental governance system for unified supervision of all pollutants, all emission sources, all environmental components, and all ecosystems.
	Early 2018	The Ministry of Ecology and Environment promulgated the <i>Interim Measures for Pollution Permits</i> in early 2018, and a classified management list of pollution permits will be released. It Issued the general rules for the thermal power and paper making industries, such as the <i>Technical Specification for the Application and Issuance of Pollution Permits for Thermal Power and Paper Industry</i> and the <i>Self-monitoring Technology Guidelines for Pollution Sources</i> , and initially established a relatively complete system of regulations and technical specifications to fully support the application and issuance of pollution permits. A national unified pollution permit management information platform has been basically built and put into operation. The permit application and issuance of the two industries of thermal power and paper making are all carried out on the information platform, basically achieving a simple, accurate and efficient information management mode.	The 2015 CCICED Policy Recommendations proposes to draft an Emission Permits Law to integrate the emission 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; enhance the legal status of the emission permit system, and ensure this system forms the core of environmental management.
	May 2018	On May 7, 2018, the Ministry of Ecology and Environment, in principle, adopted the <i>Administrative Measures for Compulsory Liability Insurance for Environmental Pollution</i> and established an “environmental pollution compulsory liability insurance system” in areas with high environmental risks. The People’s Bank of China and the China Securities Regulatory Commission	The 2015 CCICED Policy Recommendations proposes to promote green credit and develop a market for green bonds and green insurance through innovative means; in high environmental

		jointly issued guidelines to standardize the evaluation and certification of green bonds.	risk areas, implement a compulsory environmental liability insurance system; support and encourage financial institutions and enterprises to issue green bonds.
First half of 2018		The People's Bank of China and the China Securities Regulatory Commission jointly issued guidelines to standardize the evaluation and certification of green bonds.	
June 2018		The China Securities Regulatory Commission issued an announcement, proposing to seriously rectify the illegal behavior of listed companies in disclosing environmental information, continue to maintain the high pressure of law enforcement on major environmental pollution information disclosure violations, comprehensively and strictly enforce administrative penalties in accordance with the law, urge listed companies to effectively fulfill their eco-environment protection obligations, guide them to practice their corporate social responsibility, and strive to secure a decisive victory in capital market pollution prevention and control and in the construction of ecological civilization for a long period of time.	
June 2018		The National Development and Reform Commission issued the <i>Opinions on Innovating and Improving a Price Mechanism Promoting Green Development</i> in June 2018. The <i>Opinions</i> points out that given the new situation and new requirements of ecological civilization construction and eco-environment protection in a new era, it is necessary to fully utilize market-based means to promote the marketization of eco-environment protection, continuously improve the resource and environment price mechanism, and better utilize the positive functions of price lever in guiding the rational allocation of resources, realizing the internalization of eco-environmental costs, promoting whole-society conservation, and accelerating the development of green and environmental protection industries, thus stimulating the whole society to jointly promote green development and ecological civilization. The <i>Opinions</i> proposes that by 2020, a price mechanism and price policy system conducive to green development shall be basically formed, with a significantly enhanced role in promoting resource conservation and internalization of eco-environmental	The 2015 CCICED Policy Recommendations proposes to reform the pricing mechanism for critical resources, and use fossil fuels (such as coal and oil) as entry points to internalize environmental costs into a 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-saving and environmental industries.

		costs; by 2025, a price mechanism that meets the requirements of green development shall be more complete and implemented in all aspects of the whole society.	
	2018	<p>In 2018, the judicial department issued the latest <i>Full Text of the General Rules of the Civil Law</i>. Regarding the provisions on principles, article 9 proposes that civil subjects engaged in civil activities shall facilitate resource conservation and eco-environment protection. This is the first principle in the general rules of the civil law to require consistency between civil acts and resource conservation and eco-environment protection, and has become a green principle. This is a close echo with the formation of green lifestyles proposed at the 19th CPC National Congress.</p> <p>On June 4, 2018, the Supreme People’s Court issued the <i>Opinions on Studying and Implementing Xi Jinping Thought on Ecological Civilization to Provide Judicial Service and Guarantee for Ecological Environment Protection in the New Era</i>, requiring courts at all levels to give better play to their judicial functions in environment and resources and strengthen judicial service and guarantee for ecological civilization.</p>	The 2014 CCICED Policy Recommendations proposes to improve environment and health related institutions; include environmental health risk assessment in the making of policies and standards; improve the environmental public interest litigation system and the ecological environment damage compensation and accountability systems; strengthen responsibility and capacity of the judicial system to investigate environmental violations that result in injury to people.
Regional and International Engagement	2018	Integrating the concept of green development into the “Belt and Road” initiative, and promoting “Belt and Road” projects to bring about sustainable development effects both economically and environmentally have provided new impetus for the implementation of the 2030 Sustainable Development Goals. At present, 15 UN agencies and relevant Chinese institutions have signed agreements related	Article 5 of the 2017 CCICED Policy Recommendations states as follows: China’s green development approach, the UN SDG2030 goals, the Paris Climate Agreement, Biodiversity and

	to the “Belt and Road” initiative. The core of these agreements is to create synergies between the 2030 Agenda for Sustainable Development and the green “Belt and Road” initiative.	Desertification global accords, and ecological civilization should become central features in the Belt and Road Initiative...Also, a Belt and Road Green Governance Mechanism including information disclosure, public participation and access to arbitration, should be established.
2018	Since the beginning of 2018, the focus of the work on carbon market has shifted from pilot demonstration to building a unified national market. Carbon trading pilot areas should further deepen pilot work, improve the design of the pilot carbon market system, summarize piloting experience, and gradually transit to a national market after conditions are mature, on the basis of maintaining the stable operation of the pilot carbon market.	Article 5 of the 2017 CCICED Policy Recommendations states as follows: Strengthen global and regional green governance. It proposes that “China needs to start early to develop its own Mid-Century Climate Strategy and link it with others”.
March 2018	The China International Development Cooperation Agency was set up directly under the State Council to integrate the duties of the Ministry of Commerce for foreign aid and the duties of the Ministry of Foreign Affairs for foreign aid coordination. Its main responsibilities include formulating foreign aid strategic guidelines, plans, policies, coordinating major foreign aid issues and making recommendations, promoting foreign aid reform, preparing foreign aid programs and plans, determining foreign aid projects, and supervising and assessing their implementation. The specific implementation of foreign aid is still assigned to relevant departments. The establishment of the China International Development Cooperation Agency opened a new chapter in South-South cooperation for China.	According to the 2017 CCICED Policy Recommendations, the green “Belt and Road” concept and mechanism should also be reflected in South-South cooperation. Under the frameworks of South-South cooperation, “Belt and Road” initiative, and “BRICS plus”, we should help other developing countries accelerate development through green transformation.
September 2018	The Beijing Summit of the Forum on China-Africa Cooperation made two major achievements. First, it adopted the <i>Beijing Declaration-Toward an Even Stronger China-Africa Community with a Shared Future</i> , which pushed the China-Africa comprehensive strategic partnership to an even higher level, that is, a closer community with a shared destiny. Second, it adopted the <i>Beijing Action Plan</i> . The <i>Plan</i> covers the period from 2019 to 2021, and reflects the	

		specific contents of cooperation between China and Africa in the next three years or even longer, especially the specific implementation of the “eight major initiatives” proposed by China. The “eight major initiatives” cover a variety of contents, which enables China-Africa cooperation to build on the existing foundation and achieve a higher strategic level. The Beijing Summit provided new ideas for South-South cooperation.	
February 2018		The State Oceanic Administration issued the <i>National Marine Ecological Environment Protection Plan (2017~2020)</i> (hereinafter referred to as “ <i>Plan</i> ”), systematically planning the timetable and roadmap for marine ecological environment protection in the following period of time. The <i>Plan</i> requires all relevant departments and units to take the implementation of the <i>Plan</i> as an important measure for implementing the spirit of the 19th CPC National Congress and deepening the construction of marine ecological civilization, refine the division of tasks, decompose responsibilities and objectives, clarify implementation pathways, and well guarantee organizational support so as to ensure the work items listed in the <i>Plan</i> render actual results.	According to the 2017 CCICED Policy Recommendations, China should formulate a national marine strategy to promote the development of the “Blue Economy” in a green direction. Due to the global character of China’s Blue Economy, China can play an important role in the modernization of global ocean governance.
March 2018		The <i>National Emergency Response Plan for Major Oil Spill at Sea</i> (hereinafter referred to as “ <i>Response Plan</i> ”) was issued upon the review and approval by an inter-ministerial joint meeting for responding to national major oil spill at sea. The <i>Response Plan</i> established and improved the national major oil spill response procedures, and clarified the standards for national major oil spill incidents. It adheres to unified leadership, resource sharing, and efforts coordination, and reflects policy and guidance. After emergency response is initiated in a major oil spill, according to the <i>Response Plan</i> , the inter-ministerial joint meeting shall organize the implementation of national response measures, including: guiding the on-site command unit to formulate a scientific oil spill response plan and dispatch working groups to direct the on-site work; coordinating member units and other relevant forces in participating in oil spill response work such as monitoring and pollution removal; coordinating emergency response resources such as transportation, medical and health rescue, communication, emergency funds, technical equipment, human resources, and decision support; releasing or authorizing a relevant unit to release information	According to the 2012 CCICED Policy Recommendations, a “national marine emergency response planning system for major environmental incidents” should be established, and relevant departments should co-develop emergency response plans for super and major marine environmental incidents as national marine emergency response special plans.

		on the oil spill, collecting and analyzing public opinions, and carrying out publicizing and reporting. Letting the inter-ministerial joint meeting play a commanding role in an emergency and coordinate the work of different departments and units can promote an orderly management of emergency resources.	
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