



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
(2018–2019)**



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**Prepared by the Environmental Defense Fund
Beijing Representative Office**

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Views Presented Are Those of the Authors

About the report

As an international and high-level policy advisory body approved by the Chinese government, the China Council for International Cooperation on Environment and Development (CCICED) mainly carries out research and proposes corresponding policy recommendations on major issues of environment and development for decision makers. Based on the CCICED policy research report, the CCICED Annual General Meeting (AGM) is a platform for the CCICED Chinese and international members to have policy discussions on major issues of environment and development, reach a broader range of ideological consensus, and finalize the CCICED annual policy recommendations for submission to the State Council and relevant departments of the central government for reference.

Since 2008, the CCICED Chinese and International Chief Advisors' Expert Support Group has been commissioned by the CCICED Secretariat to draft a report on *China's Important Environmental and Development Policy Progress & Impact of the CCICED Policy Recommendations*. The purpose is to better serve the policy discussions, consultations and recommendations of the CCICED Chinese and international members, special advisors and participants through fully understanding the major environmental and development policies promulgated by China in the past year, as well as understanding the inclusion of the main policy recommendations of CCICED in recent years, especially in the previous year, in China's relevant legislation and policies for the past year. This report is not an assessment of the impact of CCICED. The report sorts out and compares China's policy practices to the CCICED policy recommendations to show the relevance of the CCICED policy research subjects and policy recommendations to the policy progress. This report is the 12th report provided by the Chief Advisors' Expert Support Group.

This report focuses on China's policy progress in environment and development from early November last year when the CCICED 2018 AGM was held to the end of May this year. Compared with previous years, the writing style of the report has remained basically unchanged. Each part contains a corresponding summary of the policy recommendations of CCICED and related domestic policies and measures; a comparison of policy recommendations with policy progress is made at the end of this report for reference.

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Progress on Environment and Development Policies in China and Impact of CCICED's Policy Recommendations (2018-2019)

Foreword

In 2019, good development momentum has been witnessed in global economic development due to multiple factors, such as global trade tension, tightening of the financial environment and rising policy uncertainty. The international community has formed the view that we should still be cautiously optimistic about the world's economic development. According to the latest forecast of the International Monetary Fund (IMF), expectations about the growth rates of major economies such as the United States, Eurozone, Japan and India are all to be lowered. China is the only country in the major economies with raised economic growth rate expectations.

For China, 2019 is a crucial year for building a well-off society in an all-round way. At the same time, marking the 70th anniversary of the founding of new China, it is destined to be a year of focus on China's way to a modern strong country. This year has seen the continuous enrichment and development of Chinese President Xi Jinping's thought on ecological civilization. During the deliberation of the Inner Mongolian delegation at the second session of the 13th National People's Congress on March 5, 2019, President Xi proposed to maintain the strategic focus on strengthening ecological civilization and explore new ways of high-quality development oriented to prioritizing ecology and pursuing green development. At the opening ceremony of the "Belt and Road Forum for International Cooperation," Xi proposed to pursue open, green and clean cooperation, promote green development, launch green infrastructure projects, make green investments and provide green financing to protect the Earth that we all call home. He also said at the Beijing International Horticultural Exhibition that building a beautiful home is a common dream of mankind. Facing the challenges of the ecological environment, we are one community with shared glory and loss, and no country can be left alone. Only by working together can we effectively address global environmental issues such as climate change, marine pollution, and biological protection, and achieve the UN 2030 Sustainable Development Goals (SDGs). Only by walking side by side can we promote the green development concept well and take on a steady and far-reaching path to global ecological civilization. Xi's speech not only further consolidated the strategic focus of the whole country at the critical moment of the tough fight against pollution, it also boosted the confidence to build a beautiful China. At the same time, he also paid attention to the international community and called on all countries to work together to jointly tackle climate change, marine pollution, biological protection and other global environmental issues, build the Earth into a beautiful home and follow a road to global ecological civilization.

Over the past six months or so, under the guidance of Xi Jinping's thought on ecological civilization, the central government and local governments, the government sector, the masses, enterprises and public institutions have maintained the strategic focus, firmly stuck to the tough fight against pollution, maintained high-pressure eco-environmental supervision and rectification, accelerated the reform of the ecological civilization system, focused on key area issues and outstanding environmental issues, and increased ecosystem and biodiversity protection. They have carried out strict environmental law enforcement; promoted industrial, energy, transportation, and land use structure adjustments; and strengthened source control, while vigorously developing green finance and promoting eco-environmental protection in the Yangtze River Basin and Xiong'an area. Remarkable achievements have been made, mainly including: coal power ultra-low emission and energy-efficiency renovation targets for the 13th Five-Year Plan period were completed two years in advance, establishing the world's largest clean coal power supply system; the target proposed in the *Convention on Biological Diversity* that the terrestrial area under protection will reach about 17% of land area by 2020 was completed ahead of schedule; the carbon intensity was reduced by about 46% compared with the 2005 level, fulfilling the 40%–45% carbon intensity reduction target for 2020 on the basis of 2005, three years ahead of schedule. At present, green development is overwhelmingly prevailing over the previous development models that pay no attention to eco-environmental protection and sacrifice the ecological environment. In many places, new and old growth drivers are shifting in an accelerated manner, and the model that promotes high-quality development with environmental protection and achieves higher productivity development through eco-environmental conservation is becoming the mainstream. Some enterprises are losing their unequal financial advantage previously obtained at the cost of the environment. More socially responsible enterprises with good product quality and high-level eco-environmental protection have become the main force for high-quality development. The new ways of ecological civilization governance, including the implementation of the river chief system, have made the "public land" a "responsibility field" under the leadership of the government, and the ecological environment that bears social and human civilization, as well as the most inclusive public services, is allowing more and more people to enjoy the beauty of "harmony between man and nature."

As a direct policy shuttle to the Chinese government which also serves as a bond, a bridge and a window for China and the international community to cooperate in environment and development, CCICED has been changing with the times and carrying out reforms and innovations. In response to the typical and prominent environmental and development issues in China in the new era, it has fully mobilized intellectual resources at home and abroad, conducted much innovative and leading policy research in areas like green urbanization, and achieved periodic results and proposed preliminary forward-looking, strategic and early-warning policy recommendations. It continues to contribute its wisdom and strength to China's ecological civilization and sustainable world development.

I. Environmental and Development Plans

(I) The 14th Five-Year Plan for Environment and Development has begun to brew

At the beginning of December 2018, the National Development and Reform Commission (NDRC) held a symposium on the preparation of the 14th Five-Year Plan (FYP) in Beijing. The meeting mainly focused on the mid-term evaluation of the 13th FYP, the connotation and characteristics of the 14th FYP period as a strategic opportunity period, the main theme and thread of development in the 14th FYP period, and the major issues that need to be highlighted in the development of the 14th FYP period as well as the basic ideas of five-year planning.

The relevant research department of the Ministry of Ecology and Environment (MEE) held a symposium on the country's 14th FYP for eco-environmental protection in April 2019, focusing on the strategic positioning of eco-environmental protection in the national economic and social development in the 14th FYP period, investigating how to maintain and implement the concept to "put ecology first and pursue green development," aiming at the 2035 strategic goal to achieve a fundamental improvement in eco-environmental quality and basically build a "beautiful China," actively planning strategic tasks that reflect the improvement of environmental quality so as to make a fundamental breakthrough in phased targets.

The study on the 14th FYP for national economic and social development needs to be linked to the mid-term evaluation of the 13th FYP and also needs to focus on the overall development strategy and new requirements of the country, forming a systematic and strategic layout for 2035. According to the procedures for the formulation and implementation of the 13th FYP, preliminary research should be done for the 14th FYP. The central government will then formulate planning proposals based on which a planning outline will be made and submitted to the National People's Congress for adoption and implementation.

(II) Green development plan for the Greater Bay Area

In order to better promote the overall coordinated development of the Greater Bay Area, in February 2019, the Central Committee of the Communist Party of China and the State Council issued the *Outline of the Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area* (hereinafter referred to as "*Outline*").

The *Outline* aimed to establish and implement a firm belief that green mountains and clear water are valuable assets, treat the ecological environment like we would treat our own lives, and implement the most stringent eco-environmental protection system. It requires adherence to the principle of prioritizing protection and restoring nature, guided by the goal to build a beautiful bay area, focus on improving the quality of the ecological environment, and form a spatial pattern, industrial structure, production mode, and lifestyle that conserves resources and protects the environment, achieves green, low-carbon and circular development, and builds the Greater Bay Area into a place with bluer sky, greener mountains, clearer water and a more beautiful environment. Specifically, the *Outline* deployed the ecological civilization work for the Greater Bay Area from three aspects: building an ecological protection barrier, strengthening environmental protection and governance, and innovating a green and low-

carbon development model.

In terms of building ecological protection barriers, the *Outline* proposed to implement major ecosystem protection and restoration projects; delineate and strictly observe ecological red lines; strengthen the protection of mountains, hills and forest ecosystems around the Pearl River Delta; strengthen coastline protection and pollution control; reinforce the protection and restoration of coastal sea ecosystems; promote the Blue Bay Initiative and protect coastal mangroves; strengthen Guangdong-Hong Kong-Macao eco-environmental cooperation; and strengthen wetland protection and restoration.

In terms of strengthening environmental protection and governance, the *Outline* emphasized water resources protection and water environment management, and proposed to carry out cooperation on water resources, water environment and water-related project management in the Pearl River estuary. It focuses on rectifying pollution on the eastern and western banks of the Pearl River; strengthening the management of land-based source pollution projects, water-related projects, and shoreline and tidal flat; stepping up the protection of marine resources and environment; implementing total pollutants control in Dongjiang River, Xijiang River and the river network area of the Pearl River Delta; and strengthening the protection of the water environment and aquatic resources in important rivers. In addition to strengthening the management of heavily polluted river systems such as the Shenzhen River, it promotes urban black and odorous water body improvement and seeks to connect the Pearl River Delta water network and build a regional green ecology water network.

At the same time, the *Outline* also deployed air, soil and agricultural pollution prevention and control, and proposed to strengthen regional atmospheric pollution joint prevention and control. It implements a more stringent clean shipping policy and multi-pollutants synergistic emission reduction and coordinates the prevention and control of ozone and fine particulate matter (PM_{2.5}) pollution. In terms of waste, the *Outline* strengthens the capacity building for regional coordinated disposal of hazardous waste and cross-border transfer supervision, and improves the recycling, reduction and reuse of solid waste. The *Outline* carries out Guangdong-Hong Kong-Macao exchanges and cooperation on soil improvement and remediation technologies, actively promotes the demonstration of improvement and restoration of contaminated soil, strengthens the safe use of contaminated cultivated land and polluted plots, prevents and controls agricultural non-point source pollution, and ensures the quality of agricultural products and the safety of the living environment. In terms of system security, the *Outline* proposed to establish a “blacklist” system for environmental pollution and improve the systems for environmental credit evaluation, mandatory disclosure of information, and severe punishment.

(III) Beijing-Tianjin-Hebei coordinated development and plan

At the beginning of January 2019, with the approval of the CPC Central Committee and the State Council, the State Council made an official reply on the *Hebei Xiongan New Area Master Plan (2018-2035)*, marking a new stage of large-scale development and construction of Xiongan New Area. As a gathering place that undertakes the non-capital functions of Beijing, Xiongan New Area and the Beijing City Sub-center form two new wings of Beijing, which is beneficial to alleviate Beijing’s “big city disease” and explore new models of

optimized development in densely populated and economically concentrated areas. In accordance with the requirements for high-quality development, Xiongan New Area should closely focus on the advancement of the overall layout for “economic, political, cultural, social, and ecological progress” and the coordinated advancement of the “Four-Pronged Comprehensive Strategy”; create “Xiongan quality”; set a national example in promoting high-quality development; and build a new engine for the modern economic system.

At the beginning of January 2019, the State Council made an official reply to the *Regulatory Plan for the Beijing City Sub-center (Block Level) (2016-2035)*, which is also a master plan for Tongzhou, Beijing’s sub-center, recognized at the national level for the first time. The city’s sub-center will firmly establish the development concept of innovation, coordination, green, openness and sharing. In accordance with the requirements for high-quality development, the supply-side structural reform will be the main line, and a global vision, international standards, Chinese characteristics, and high positioning will be adhered to. With the spirit to create history and pursue art, we should closely focus on these priorities: undertaking the non-capital functions of Beijing; the coordinated development of Beijing, Tianjin and Hebei; and ecological protection and continuing the historical context, while attaching importance to safeguarding and improving people’s livelihood, and the “integration of plans.”

In March 2019, MEE compiled and issued the *2019 Key Work Points in National Atmospheric Pollution Prevention and Control*, and clearly proposed to draft the *Regulations on Atmospheric Pollution Prevention and Control in Beijing-Tianjin-Hebei and Surrounding Areas*. In addition, it sets out goals to study and formulate supporting rules and regulations such as motor vehicle atmospheric pollution supervision in Beijing-Tianjin-Hebei and surrounding areas, and to improve the joint prevention and control work mechanism. It will refine the operational rules of “unified planning, unified standards, unified environmental impact assessment, unified monitoring, and unified law enforcement” and organize implementation; solidly promote the key tasks of clean heating in the northern region; promote ultra-low emission renovation in the steel industry; and adjust the transportation structure.

(IV) Green development of the Yangtze River Economic Belt

In December 2018, MEE and NDRC jointly issued the *Action Plan for the Protection and Restoration of the Yangtze River*, proposing that, by the end of 2020, the proportion of state-controlled sections with excellent water quality (reaching or better than Class III) in the Yangtze River Basin will reach 85%, and the proportion of state-controlled sections with loss of use function (inferior to Class V) will hit less than 2%. It also set goals for the proportion of eliminated black and odorous water bodies in the built-up areas of cities at or above prefecture level in the Yangtze River Economic Belt to rise to over 90%, and the proportion of centralized drinking water supply with excellent water source quality in cities at or above prefecture level be higher than 97%.

The main tasks include strengthening eco-environmental spatial control and strictly observing ecological red lines; investigating and rectifying sewage outlets and promoting unified supervision of land and water; strengthening industrial pollution control and effectively

preventing eco-environmental risks; continuing to improve the rural living environment and curb agricultural non-point source pollution; eliminating environmental infrastructure weaknesses and ensuring the safety of drinking water sources; strengthening the prevention and control of shipping pollution and environmental risks in ship ports; optimizing water resource allocation and effectively meeting ecological water demand; strengthening the management and protection of ecosystems; and cracking down on ecological destruction.

(V) Green urban development plan

The 2018 CCICED Policy Recommendations proposed to change the traditional thinking, fully integrate green standards into green urban planning, fully take into account local realities, and find innovative solutions to problems.

On March 31, 2019, NDRC released the *Key Tasks for New Urbanization Construction in 2019*, which clarified the work requirements in 2019 and proposed that the new urbanization should fully consider the actual carrying capacity of resources and environment. It should also pay attention to coordinated development and make full use of intelligent information technologies for refined management, while collaboratively promoting environmental governance work such as atmospheric pollution control.

The primary task of the new urbanization construction in 2019 is to accelerate the coordinated development of Beijing-Tianjin-Hebei, the integrated development of the Yangtze River Delta region, and the construction of the Guangdong-Hong Kong-Macao Greater Bay Area. The second task is to promote the implementation of the orderly development plans for city clusters, such as Chengdu-Chongqing, Harbin-Changchun, the middle reaches of the Yangtze River, Beibu Gulf, Central Plains, Guanzhong Plain, Lanzhou-Xining, and Hohhot-Baotou-Ordos-Yulin.

Urban spatial layout will be optimized by comprehensively promoting the preparation of urban land and space plans, strengthening the management of “three zones and three lines,”¹ driving the “integration of plans” and promoting urban smart growth. Based on the resource and environmental carrying capacity and the suitability evaluation of land and space development, the national land and space plan will delineate the three control lines for ecological protection, as well as permanent basic farmland and urban development boundaries, and formulate corresponding control rules. Regarding the preparation of urban land and space plans, the plan will guide all regions to take into account factors such as urban open space, atmospheric transport corridors, and change of local diffusion conditions, and jointly promote atmospheric pollution prevention and control.

In strengthening urban infrastructure construction, the urban transportation network system will be optimized, with improvements to non-motor vehicle and pedestrian transportation system and pedestrian crossing facilities, and bicycle lanes encouraged in eligible cities. The plan will implement a policy that develops buses as a priority; promotes the integration of rail

¹ Three zones include urban space, ecological space and agricultural space, and three lines include urban development boundary, permanent basic farmland red line, and ecological red line.

transit, public buses and electric vehicles, and facilitates transfer. It will also continue to promote the construction of water-saving cities and sponge cities; carry out special initiatives for urban black and odorous water remediation and environmental protection; and launch a three-year urban sewage treatment action to improve quality and efficiency. The plan will also urge the northern region to accelerate the promotion of clean heating and focus on the renovation of old residential areas, the improvement of comprehensive service facilities in communities and surrounding areas, and the classification of domestic wastes.

II. Ecosystem and Biodiversity Conservation

(I) New progress in ecological red line delineation and ecological protection

By the end of 2018, the ecological protection red lines of 15 provinces including Beijing-Tianjin-Hebei, Yangtze River Economic Belt and Ningxia Hui Autonomous Region were initially delineated, and 16 provinces including Shanxi basically formed delineation plans. By 2020, the ecological red line delineation will be fully completed. At present, MEE is formulating the *Measures for the Management of Ecological Protection Red Lines*, building a national red line supervision platform, and incorporating red line delineation and implementation into the scope of the central government's environmental supervision. Local Party committees and governments shall be the main force to delineate and safeguard ecological red lines, and hold those who destroy the lines accountable so as to ensure the red lines are well delineated and protected.

Local governments have accelerated the development of ecological red line management methods in line with local conditions. In 2018, Hebei Province promulgated the *Measures for the Management of Ecological Red Lines in Hebei Province*. On November 29, 2018, Ningxia Hui Autonomous Region promulgated the *Regulations on the Management of Ecological Red Lines in Ningxia Hui Autonomous Region*, which was officially implemented on January 1, 2019. Jiangxi Province released the *Measures for the Management of Ecological Red Lines in Jiangxi Province (for Trial Implementation)*; Liaoning Province issued the *Interim Measures for the Management of Ecological Red Lines in Liaoning Province*; Shenyang City issued the *Measures for the Management of Ecological Red Lines in Shenyang City*; and Hubei Province released the *Measures for the Management of Ecological Red Lines in Hubei Province (for Trial Implementation)*.

The construction of a national ecological protection red line supervision platform has been approved and is expected to be completed by the end of 2020. This platform will rely on satellite remote sensing technologies and ground ecosystem monitoring stations to form an air-space-ground integrated monitoring network that can obtain ecological protection red line monitoring data, show the ecosystem composition, distribution and dynamic changes, assess and warn of ecological risks in a timely manner, monitor human interference activities in real time, discover behaviors destroying the ecological protection red line, and handle them according to laws and regulations. With this platform, MEE will gradually establish a red line supervision mechanism to strictly monitor and protect ecological red lines and ensure that ecological functions are not reduced, the area is not decreased and the nature is not changed.

(II) Continuous advancement of the “Green Shield” special action

The “Green Shield 2018” special action on nature reserve supervision and inspection was carried out, and illegal activities involving nature reserves received stringent investigation and handling. Green Shield 2019 continues to deepen eco-environmental protection and governance, and has won the first battle.

Heilongjiang Province will continue to carry out the “Green Shield Action” and the “Green Shield 2019” special action on nature reserve supervision and inspection. It will instruct all cities and counties to form three ledgers based on the “Green Shield 2017” and “Green Shield 2018” special actions, including a general ledger of nature reserves in the Green Shield special action, a ledger of four types of focus issues (quarrying and sand mining, industrial and mining land, tourism facilities and hydropower facilities in the core zone and the buffer zone), and a ledger of problems identified in the inspection. Cities and counties are required to continue to rectify the problems in the ledger to be rectified or under rectification according to the rectification schedule and roadmap, as well as distinguish key points and hold violators accountable. At the same time, the “13 nature reserve issues in need of concentrated improvement” in the *General Plan for Rectifying Outstanding Problems in Natural Ecological Protection in Heilongjiang Province* issued by the General Office of the provincial Party committee and the General Office of the provincial government will be included in the “Green Shield 2019” special action.

Shaanxi Province will continue to carry out the “Green Shield 2019” special action on nature reserve supervision and inspection. According to the special action arrangement, the province’s ecological environment, natural resources and forestry departments will comprehensively investigate the outstanding environmental problems in the 61 nature reserves of the province, fulfill management responsibilities, and resolutely shut down and ban illegal projects such as mining, quarrying, sand mining, and reclamation in nature reserves. It will gradually dismantle all ground facilities such as oil well sites in nature reserves, speed up the withdrawal of mining rights and small hydropower stations from nature reserves, and strictly prohibit tourism facilities in the core zone and the buffer zone of the nature reserve. It will also crack down on illegal activities involving wildlife and protect biodiversity, carry out orderly ecological governance and restoration in nature reserves, and gradually establish a long-term regulatory mechanism.

(III) Preparations for the Conference of the Parties to the *Convention on Biological Diversity*

The 2018 CCICED Policy Recommendations proposed to actively promote the implementation of the *Convention on Biological Diversity* and play a strong leadership role in the development of global biodiversity conservation goals after 2020.

In terms of biodiversity compliance, the Chinese government actively established a national protection network as early as 2015. The terrestrial area under protection accounted for approximately 18% of the land area, fulfilling the 17% target for 2020 proposed in the *Convention on Biological Diversity* five years ahead of schedule. Various provinces and municipalities directly under the central government, such as Chongqing Municipality,

Sichuan, Yunnan, and Guangxi, have introduced action plans to protect biodiversity. Yunnan Province has also introduced the country's first local biodiversity protection regulation.

In recent years, the Chinese government has accelerated the pace of biodiversity conservation, and has launched many initiatives and a number of effective actions. The Chinese government has established the China National Committee for Biodiversity Conservation, implemented biodiversity conservation strategies and action plans, launched the *UN Ten-Year Action on Biodiversity*, and specifically strengthened biodiversity conservation in new relevant policy documents. For example, the revised *Environmental Protection Law* emphasized the delineation of the ecological red line and required all levels of governments to take measures to protect the rare and endangered wildlife conservation areas, and strictly prohibit destruction. The *Opinions on Strengthening the Construction of Ecological Civilization* promulgated by the State Council of China pointed out that one of the main objectives is to basically control the loss speed of biodiversity and significantly increase the nationwide ecological stability. It specified that “implementing major projects of biodiversity conservation,” “actively participating in the negotiation and implementation of international conventions on biodiversity,” and “strengthening the construction and management of nature reserves” should be set as key tasks.

As the host country of the 2020 COP 15 on the implementation of the United Nations *Convention on Biological Diversity*, the Chinese government attaches great importance to strengthening biodiversity work. On April 13, 2019, Vice Premier Han Zheng hosted a meeting of the China National Committee for Biodiversity Conservation. The meeting requested that biodiversity conservation work be further improved. According to the concept that mountains, waters, forests, crops, lakes, and grasses are a community of life, a nature reserve management system with national parks as the main body, nature reserves as the foundation and various natural parks as supplements should be formed. It is necessary to strengthen the supervision and management of wildlife protection and the management and protection of natural genetic resources, as well as crack down on wild animal hunting and investigate and deal with cases of wildlife resource destruction. It is necessary to do a good job in monitoring and investigating biodiversity through actively implementing COP 15 of the Convention on Biological Diversity, fully implementing host country obligations and ensuring a successful and landmark meeting of the Conference of the Parties.

III. Energy and Climate

(I) Clean energy transition helps improve the environment

The 2018 CCICED Policy Recommendations proposed to strengthen coal use control, promote renewable energy, and increase energy efficiency. It also proposed to settle renewable energy subsidies that have not been put in place and build a new renewable energy support policy system.

On January 7, 2019, NDRC and the National Energy Administration (NEA) issued the *Notice on Actively Promoting the Grid Parity of Non-subsidized Wind Power and Photovoltaic Power Generation* (hereinafter referred to as “Notice”). The *Notice* pointed out that, with the large-scale development of wind power and PV power and the rapid advancement of

technology, areas with good resources, low construction costs, and good investment and market conditions basically have the conditions to achieve parity with coal power benchmark tariffs (no state subsidies required).

In interpreting the *Notice*, NEA explained that the promotion of grid parity (low-cost) projects does not mean the immediate cancellation of subsidies to all new wind power and photovoltaic (PV) power projects. At this stage, non-subsidized grid parity (low-cost) projects are mainly carried out in areas with superior resource conditions and secured markets. At the same time, in areas where it is still impossible to achieve non-subsidized grid parity, construction will still be organized in accordance with the policies and management requirements for competitive allocation projects issued by NEA. However, these projects shall also significantly reduce electricity prices through competition to reduce electricity subsidy intensity. In addition, the *Notice* clarified that local energy authorities at all levels may, in conjunction with other relevant departments, issue local subsidy policies for a certain period of time. Projects that only enjoy local subsidy policies are still regarded as grid parity projects.

Regarding the formulation of new renewable energy policies, NEA pointed out that policies for wind power and PV power projects approved (recorded) after the end of 2020 will be re-studied according to the degree of technological progress and cost reduction.

In response to CCICED's 2018 policy recommendations on expanding renewable energy development, China's national energy authority continues to promote a clean, low-carbon, safe and efficient transition of the national energy system. It focuses on the battle against pollution, and continues to promote ultra-low emission renovation in the thermal power industry, PV poverty alleviation, rural grid transformation, oil quality upgrade, winter clean heating in the northern region and other major projects. It boosts the fundamental improvement in the quality of the ecological environment through energy structure adjustment.

In 2019, the utilization rate of renewable energy power in the country should be further improved, and the curtailment amount and rate should be kept at a reasonable level. By 2020, the problem of hydropower, wind power, and PV power curtailment will be basically solved. While promoting the large-scale development of clean energy, we should vigorously develop distributed clean energy; improve relevant policy guarantees, market mechanisms and standard systems; promote the expansion of pilots and demonstrations; and strive to achieve regional energy supply and demand balance. In 2019, the proportion of non-fossil energy consumption shall increase to 14.6%, the national average wind power curtailment rate should be less than 10%, and the figures for PV power and hydropower should be less than 5%.

(II) Strengthen energy conservation and improve energy efficiency

The 2018 CCICED Policy Recommendations proposed to strengthen coal use control and increase energy efficiency.

The March 2019 Chinese government work report clearly stated that the energy efficiency indicator for 2019 is that the energy consumption per unit of GDP drops by about 3%. In 2018, China achieved a 3.1% reduction in energy consumption per unit of GDP.

It should be pointed out that the clean and efficient development of coal power in China has achieved periodic progress: coal power ultra-low emission and energy-efficiency renovation targets for the 13th Five-Year Plan period were completed two years in advance, establishing the world's largest clean coal power supply system. In 2019, we will continue to promote the ultra-low emission and energy-efficiency upgrading and renovation of the coal power industry and accelerate the creation of an “upgraded version” of efficient, clean and sustainable coal power industry. We will continuously improve the energy efficiency of coal power units, reduce air pollutant emissions, urge localities and enterprises to implement the goal of ultra-low emission and energy-efficiency renovation of coal power, and increase the efforts on ultra-low emission and energy-efficiency renovation of coal power in western China. Further, we will reduce the impact of power plants on the ecological environment and promote the application of advanced technologies for ultra-low emission and energy conservation in coal power to other coal-fired industries to promote the clean and efficient use of coal.

In addition, with the acceleration of energy transition and the continuous deepening of power system reform, the relationship among energy, electricity and user has become increasingly close. The State Grid Corporation of China proposed to build “three-type and two-network” enterprises² and accelerate the construction of world-class energy Internet enterprises. Carrying out comprehensive energy services to meet the diversified needs of energy production and consumption is its key content. This new energy service mode will break the traditional mode of separate planning, separate design and separate operation of different energy varieties. It will realize horizontal synergy among “electricity, thermal energy, cooling energy, gas, and water” and vertical synergy among the energy supply links of “source, network, load, storage, and use.” It will oversee interaction between the production side and the consumption side, thereby improving the comprehensive energy efficiency of the society.

In terms of energy conservation, the National Government Offices Administration held the 2019 key work promotion meeting of central state organs in energy resource conservation and eco-environmental protection in March 2019. At the meeting, they proposed to further improve the energy conservation network, complete the preparation of energy consumption quota standard by central state organ, and push energy consumption quota target management to a higher level. The energy conservation supervision system will be used to improve refined and information-based energy conservation management, and they will continue to cultivate energy conservation and environmental awareness and habits, and carry out waste classification volunteer actions and other encouraging activities. In April 2019, the 2019 key work promotion meeting of national public institutions in energy resources conservation and eco-environmental protection was held. Before the end of December 2019, 200 public institutions will be selected as energy-efficiency pacesetters; before the end of October 2020, 1,500 public institutions will be built into conservation demonstration models.

² Three types mean hub type, platform type and sharing type, and two networks indicate strong smart grid and ubiquitous electric Internet of Things.

(III) Actively promote the coordinated control of greenhouse gases and atmospheric pollutants

The 2018 CCICED Policy Recommendations proposed to strengthen collaborative management in addressing climate change and improve environmental air quality; strengthen the coordination of tackling climate change and other environmental issues in the formulation of laws and regulations and the design of systems for data disclosure, monitoring, law enforcement, supervision, and accountability.

Better coordination of relevant policies and actions will better facilitate synergy in tackling atmospheric pollution control and climate change targets and measures. According to estimates, for every tonne of CO₂ emissions reduced, 3.2 kg of SO₂ and 2.8 kg of NO_x emissions will be reduced accordingly. Over-fulfilling the carbon intensity reduction target is also contributing to atmospheric pollution control. China's energy consumption is dominated by coal, and coal consumption is the most important source of air pollution. The air pollution control action plan formulated and implemented in the past few years has adopted measures such as controlling new production capacity in energy-intensive and high-pollution industries, promoting clean production, accelerating adjustment of energy structure, and strengthening energy conservation and environmental protection constraints. These are also measures to address climate change. Air quality has improved significantly through the implementation of the air pollution control action plan. According to statistics, the implementation of the action plan has achieved an emission reduction of 175 million tonnes of CO₂ equivalent (CO₂e) in the past few years. Actions to improve air quality have played a positive role in achieving climate change goals.

In the next step in fighting climate change, controlling greenhouse gas emissions and air pollution control, and broader eco-environmental protection, further efforts shall be made to coordinate and integrate monitoring and observation, goal setting, policy action plan formulation, and supervision and inspection of the implementation of policy objectives. Coping with climate change will render a synergistic effect on air pollution control in China. At the same time, we must, get ready to launch a national carbon market first in the power-generation industry, implement the *National Climate Change Adaptation Strategy*, and carry out various low-carbon pilots and demonstrations.

(IV) Solidly push forward carbon market construction

At the beginning of April 2019, MEE officially issued the *Interim Measures for the Administration of Carbon Emission Permit Trading* for comments. The measures are currently a basic legal framework for the construction and operation of a national carbon market. At the same time, supporting management systems, including carbon market management, corporate carbon emission reporting management, and verification agency management, will be introduced in due course. Seen from the experience of pilot provinces and cities in China, the legal effect of the rules of local governments is far from reaching the purpose of effective supervision. There must be a legal basis at the national level to ensure the sound operation of the national carbon market.

For more than half a year, the pilot carbon markets have made useful explorations in different

dimensions, and for example, have accumulated valuable practical experience in including industry coverage and standards, the initial allowance allocation method with “free allocation as the main method, paid allocation as a supplement and reserved allowance for regulation,” greenhouse gas emission verification standard and other aspects. However, due to the large differences among the pilots, there is no ready-made experience in the national market. The process from pilot to unified market is full of challenges. For example, the carbon price varies greatly from place to place. For example, in 2017, the average transaction price of the Beijing pilot was higher than 50 yuan/tonne; Shanghai, Shenzhen, and Hubei were between 30-40 yuan/tonne; Guangdong and Tianjin were around 15 yuan/tonne; and in Chongqing, the price can be as low as 1 yuan/tonne. In low-priced regions, even if enterprises are not doing well in reducing carbon emissions, they can still buy allowances at a low price, which inevitably leads to unfairness. The national carbon market needs a top-level design and various supporting systems in place on the basis of examining the different development levels of various regions and industries across the country.

The *National Carbon Emissions Trading Market Construction Plan (Power Generation Sector)* clarified that carbon market work will start from the power generation sector. A lot of work around the power generation sector has been done, including mobilization, training, allowance allocation technical guidelines, scientific allocation, allowance testing, and capacity building. After completing the relevant technical preparations and building the infrastructure, it will take a period of testing to test the entire system and all procedures of market trading to verify the system stability and reliability. Actual trading will only be possible on this basis. Seen from the actual situation of local pilots and international practical experience, it takes a process from launching the system to realizing transaction.

IV. Pollution Control and Marine Governance

(I) Atmospheric pollution prevention and control

In December 2018, 11 bodies, including MEE, NDRC and the Ministry of Transport, jointly issued a notice on the *Action Plan for Pollution Control of Diesel Trucks*, proposing that by 2020, the diesel truck emission compliance rate will significantly increase; diesel and vehicle urea quality will significantly improve; total NO_x and PM_{2.5} emissions from diesel trucks will significantly decrease, concentration of NO₂ in urban areas of key regions will gradually decline; regulation capacity and level for motor vehicle emissions will greatly improve; nationwide railway freight volume will significantly rise; and a green, low-carbon, clean and efficient transportation system will take form. The plan also proposed to carry out initiatives on clean diesel vehicles and strengthen supervision and law enforcement for vehicles in use.

In February 2019, MEE issued the *2019 Key Work Points in National Atmospheric Pollution Prevention and Control* and proposed the overall atmospheric environment targets. In 2019, the annual average concentration of fine particulate matter (PM_{2.5}) in the country's substandard cities should decrease by 2% year on year, the proportion of days with good air quality in cities at or above prefecture level should reach an average of 79.4%, and the total emissions of SO₂ and N_{ox} in the country should be reduced by 3% year on year. The document provides comprehensive management measures in four aspects, including organizing assessment and evaluation, and strengthening supervision and inspection. The

document has put forward focused and targeted guiding opinions in industrial structure, energy structure, transportation structure (diesel truck pollution control), non-point source control, as well as joint prevention and control in key areas, coping with heavy pollution weather and other aspects, which is of great significance for the prevention and control of atmospheric pollution in various regions.

In 2019, the focus of air pollution control will be on the deep-level improvement of the steel industry. The environmental problems in the steel industry have always been a focus of attention in society. Environmental compliance has become an important factor influencing the production and operation of steel plants. In the new round of blue sky defense war, key areas are subject to strengthened inspection, and steel enterprises' air pollution problems are included as key inspection content. On May 5, 2019, MEE, NDRC, the Ministry of Industry and Information Technology, the Ministry of Finance and the Ministry of Transport jointly issued the *Opinions on Promoting Ultra-Low Emissions in the Steel Industry* (hereinafter referred to as "*Opinions*"), which identified the overall ideas, basic principles, main objectives, indicators and requirements, key tasks, policies and measures, and implementation guarantee for advancing ultra-low emission work in the steel industry. The second focus of atmospheric pollution control is to promote the implementation of special emission limits for atmospheric pollutants in key areas, and the third focus is to control volatile organic compounds (VOCs). The work of VOC control is heavy and covers a broad range. The relevant 2019 emission standards will be released one after another, and the relevant rectification and consolidation work will be vigorously promoted.

Local governments' efforts on atmospheric pollution control continue to increase. On February 20, 2019, Beijing issued the *2019 Action Plan for Pollution Prevention and Control in Beijing*, and proposed more refined and deeper-level promotion measures, including promoting the low emission of mobile sources, as well as proposing measures of replacement, limitation, inspection and efficiency enhancing, such as speeding up the elimination of the National Phase III high-emission diesel vehicles and promoting the use of new energy vehicles. Clean energy consumption is promoted. On the basis of consolidating the "coal elimination" results in the plain area, the operation and maintenance service mechanism will be improved to prevent the rebound of bulk coal. The focus will be on the villages surrounding the Winter Olympic Games venue and the International Horticultural Exhibition venue to continue to carry out coal-to-clean energy work. The energy-efficiency renovation of public buildings will be accelerated, and the renovation of existing residential buildings that fail to meet energy-saving standards will be continued. On March 6, 2019, Sichuan Province announced the further expansion of the No. 1 Project on air pollution control, and included the improvement of air quality in Chengdu Plain and southern Sichuan in the No. 1 Project, highlighting key points and mobilizing the whole region, striving to add four new cities that meet standards. In 2019, Hebei Province will focus on PM_{2.5} control, and continue to fight the "six tough battles" of industrial structure, energy structure, transportation structure and land structure optimization and adjustment, striving to reduce the average concentration of PM_{2.5} in the province by more than 5% compared with the 2018 level.

(II) Water pollution prevention and control

2019 is a crucial year for water pollution prevention and control. The newly established MEE will promote the unified supervision of water eco-environmental protection by connecting the ground and underground, shore and water, land and sea, and city and village.

In 2019, the national water pollution control work will focus on improving the quality of the water ecological environment, with a focus on the Yangtze River Economic Belt and the Bohai Rim region. It will comprehensively fight the battle against water pollution, and do a good job at “preventing black and odorous water bodies, improving inferior water quality, controlling pollution, protecting sources and establishing systems,” that is, to win the city’s battle against black and odorous water bodies, by basically eliminating state-controlled sections with a quality inferior to Class V in key regions, strengthening pollution source rectification, protecting drinking water sources, and improving long-term management mechanisms. According to the *Key Basin Water Pollution Prevention and Control Plan (2016-2020)*, by 2020, the country’s surface water environment quality should be improved as a periodic result, and the proportion of water bodies with excellent water quality (at or above Class III) in seven key river basins such as the Yangtze River, the Yellow River and the Pearl River should be over 70%.

On March 28, 2019, MEE, together with the Ministry of Natural Resources, Ministry of Housing and Urban-Rural Development, Ministry of Water Resources, and Ministry of Agriculture and Rural Affairs jointly issued the *Notice on Issuing the Implementation Plan for Groundwater Pollution Prevention and Control*, and proposed to, by 2020, preliminarily establish a groundwater pollution control law and regulation standard system and a national groundwater environment monitoring system; control the country’s groundwater ratio with extremely poor quality at about 15%; preliminarily monitor typical groundwater pollution sources and curb the exacerbation of groundwater pollution. The document proposed to, by 2025, establish a groundwater pollution control law and regulation standard system and a national groundwater environment monitoring system; increase the ratio of centralized groundwater-based drinking water with a water source quality at or above Class III in cities at or above prefecture level to about 85%; effectively monitor typical groundwater pollution sources and curb the exacerbation of groundwater pollution. By 2035, we will strive to improve the overall quality of the country’s groundwater environment and basically restore ecosystem functions.

In 2019, the water pollution control action plan is continuously promoted, and the river chief system is also implemented. Water eco-environmental protection in key river basins is strengthened. The protection and restoration of the Yangtze River is under solid operation, the *Opinions on Strengthening the Protection of Aquatic Organisms in the Yangtze River* is issued, and the “three lines and one list” for the Yangtze River Economic Belt (ecological red line, environmental quality baseline, resource utilization upper line and eco-environment access list) is formulated to guide and optimize the industrial layout along the Yangtze River. The environmental improvement in centralized drinking water source areas is driven forward, and the rectification completion rate of 6,251 problems in 1,586 water source areas has reached 99.9%. Special investigations are done to improve black and odorous water bodies.

Among the 1,062 black and odorous water bodies in 36 key cities, 1,009 of them have been well improved or basically improved, accounting for 95%. 97.8% of the country's industrial agglomeration areas at or above provincial level have built centralized sewage treatment facilities and installed automatic online monitoring devices. The regulation of sewage outlets into the river and the sea is reinforced to promote pollution control in key sea areas such as the Bohai Sea. The full coverage of environmental improvement in administrative villages is promoted and in 2018, 25,000 administrative villages completed integrated environmental improvement.

Locally, on February 18, 2019, Shenzhen City issued the *Work Plan for the Year of Decisive Battle against Water Pollution in Shenzhen*. In 2019, the city plans to complete nearly 50 billion yuan of water pollution control investment. By 2020, the city will complete a total water pollution control investment of nearly 120 billion yuan to ensure the complete elimination of black and odorous water bodies by the end of 2019. In February, Shandong Province rectified environmental problems in drinking water source areas. In addition, Hubei Province is exploring the establishment of a water ecological compensation mechanism, piloting in 20 counties and cities across the province, and relevant regulations will be introduced. It is planned that by 2020, Hubei Province will achieve full coverage of ecological compensation in key river basins.

(III) Soil pollution prevention and control

According to the plan of MEE, in the first half of 2019, the pilot cities should steadily promote the clean land defense war, fully implement the action plan for soil pollution prevention and control, carry out detailed investigation of the soil pollution status of agricultural land, and complete the collection, analysis and testing of all 700,000 agricultural land investigation samples; carry out the investigation and rectification of the risk of cultivated land contamination by heavy metal-related industries, and promote the control of soil pollution risk of construction land.

According to the schedule of the Ministry of Housing and Urban-Rural Development for the classification of domestic wastes, starting from 2019, cities in the country at or above prefecture level should fully start the classification of domestic wastes. By the end of 2020, 46 key cities should basically complete the waste classification and disposal system; before the end of 2025, cities in the country at or above prefecture level should basically complete the waste classification and disposal system.

At the end of December 2018, the General Office of the State Council issued the *Work Plan for Piloting "No Waste Cities,"* proposing that by 2020, an indicator system for the construction of "no-waste cities" will be established. Through the deepening of the solid waste integrated management reform in pilot cities, a number of "no-waste cities" demonstration models that can be replicated and promoted will be formed. Based on the principle of combining pilots with overall coordinated progress, putting the easy task first and advancing things in a step-by-step manner, about 10 cities with the right conditions, foundations and sizes will be chosen across the country as pilot "no-waste cities." At the same time, the reduction and reuse of solid waste from the source is under continuous operation, cracking down on the illegal transfer and dumping of solid waste and hazardous waste, and

the rectification rate of 1,308 outstanding problems under supervision has reached 99.7%. The ban on the entry of foreign garbage is maintained, and special rectification is carried out in phases against environmental violations of enterprises processing and utilizing imported solid waste. In 2018, the country's solid waste import volume decreased by 46.5% year on year, of which the import volume of prohibited solid waste was reduced by 51.5% year on year. The waste incineration power generation industry is driven to meet the emission standard, and the waste incineration power plants with problems have all been rectified.

2019 is the first year of the implementation of the *Law on Soil Pollution Prevention and Control*. A three-year action plan for clean land defense war formulated by Hebei Province proposed that by 2020, the soil environment quality of the province will be stable and improving, and the exacerbation of soil pollution in key areas will be controlled. The pilot and demonstration of soil pollution control and restoration will achieve remarkable results, and a provincial soil pollution control system led by government, driven by market, borne by enterprise and participated by the public will be established. At the same time, Hebei Province has further strengthened the supervision of cross-province transfer of solid (hazardous) waste to strictly control the transfer of hazardous waste from other provinces. In 2019, Hunan Province will promote the construction of provincial-level soil pollution integrated control pilot areas and heavy metal pollution control projects to ensure the safety of the living environment and agricultural production.

Through the "Waste Elimination Action 2018," the problem of dirty and messy areas along the Yangtze River and the environmental hazards of illegal dumping and piling of solid waste along the river were basically eliminated. The total investment is nearly 1.898 billion yuan, and more than 37.99 million tonnes of solid waste were removed, and nearly 72 new standardized landfills were built. As an important part of the Yangtze River protection and rehabilitation battle, the "Waste Elimination Action 2019" is expanded to 126 cities in the Yangtze River Economic Belt, achieving full coverage of major river systems such as the main stream, tributaries and key lakes of the Yangtze River.

(IV) Marine eco-environmental protection

The 2018 CCICED Policy Recommendations proposed to strengthen legal protection of marine and coastal ecosystems; establish high-tech monitoring systems; and develop national plans to restore the functions and services of the marine ecosystem.

On November 30, 2018, MEE announced at its press conference that it will improve the domestic marine eco-environmental protection laws and regulations system and standard system; take the improvement of eco-environmental quality as the basic goal of measuring marine eco-environmental work, accelerate integrated management of sea areas, speed up the improvement of the basic monitoring and evaluation capability; strengthen government supervision and accountability system, and effectively use powerful tools such as the "five-step method" to strengthen supervision; accelerate the promotion of innovative regulation methods such as random inspection and pollutant discharge permits, and further drive enterprises to fulfill their responsibility for both production and environmental protection.

MEE will also revise the *Marine Environment Protection Law* and strengthen its connection with the *Environmental Protection Law* and the *Water Pollution Prevention and Control Law*. On this basis, it will promote the revision of the regulations on sea dumping management, the prevention and control of marine environment pollution and destruction by marine projects and other relevant laws, regulations and regulatory documents, and form a legal system compatible with new duties, new positioning and new institutions as soon as possible; promote the rectification of international new marine environmental issues and the preparation of the *National Marine Litter Prevention and Control Action Plan*.

On December 11, 2018, MEE, NDRC and the Ministry of Natural Resources jointly released the *Action Plan for the Integrated Management of the Bohai Sea*, and proposed a timetable and a roadmap for this tough battle. The *Action Plan* proposed that through three years of integrated management, by 2020, the proportion of coastal waters of the Bohai Sea with excellent water quality (Class I and Class II) will reach about 73%, the natural shoreline retention rate will maintain at around 35%, the scale of coastal wetland remediation will be no less than 6,900 hectares, and the shoreline restoration will increase by about 70 kilometers.

The *Action Plan* identified four major actions: (1) Land-based pollution control action. Implement pollution control of state-controlled rivers flowing into the sea, and promote the pollution control of other rivers entering the sea; investigate the source of the outlet into the sea to achieve stable and compliant direct discharge of industrial pollutants into the sea, and remove illegal and unreasonable outlets into the sea; eliminate and control scattered, unregistered and polluting industrial enterprises, and control agricultural and rural pollution and urban domestic pollution; reduce land-based pollutants into the sea through integrated management of land-source pollution. (2) Marine pollution control action. Implement mariculture pollution control, and clean up illegal mariculture; implement ship and port pollution control, strictly implement the *Discharge Standard for Water Pollutants from Ships*, drive ports to build ship pollutants receiving and disposal facilities to realize good connections among ship, port and city facilities, and carry out comprehensive improvement of the fishing port environment; fully implement the bay chief system. (3) Ecological protection and restoration action. Implement ecological protection in coastal zones, delineate and strictly safeguard the red line for marine ecology protection in the Bohai Sea, ensure the proportion of the red line area in the sea area governed by the three provinces and one city reaches about 37%, implement the most stringent management of sea reclamation and shoreline development, and strengthen the selection and demarcation of protected areas and the protection of coastal wetlands; implement ecological restoration, strengthen integrated management and improvement of estuary, bay, shoreline and beach; implement conservation of marine biological resources, and gradually restore the fishery resources in the Bohai Sea. (4) Environmental risk prevention action. Prevent the risk of sudden land-source environmental incidents, and conduct risk assessment of sudden environmental incidents in the Bohai Rim region; prevent the risk of marine oil spill, and complete special risk inspections of offshore oil platforms, oil and gas pipelines, and land terminals; establish a marine red tide (green tide) disaster monitoring, early warning, emergency response and information release system in the high-risk areas of marine ecological disasters, key bathing beaches and coastal tourist areas.

At the same time, MEE will strengthen ecological supervision, accelerate the establishment of a marine ecology supervision system based on satellite remote sensing and other technologies, and focus on strengthening the supervision of three types of areas (marine protected areas, marine ecological protection red line areas, and marine ecological restoration implementation areas); step up land-source supervision and introduce *Measures for the Management of Pollutant Discharge Outlets into the Sea* and other regulatory documents as soon as possible, and strengthen interim and ex-post supervision of the outlets; reinforce offshore supervision, build a whole-process supervision system including ex-ante, interim and ex-post supervision, and accelerate the cancellation and power delegation for items subject to government approval; strengthen supervision by Party committees and governments, strengthen the supervision of marine eco-environmental protection, and drive local Party committees and governments to fulfill the responsibility for marine eco-environmental protection; reinforce enterprise regulation and build a supervision system with pollution permit and “the oversight model of random inspection and public release” at the core.

V. Environmental governance and rule of law

(I) Major changes in the property right system for natural resource assets

In April 2019, the General Office of the Central Committee of the Communist Party of China and the General Office of the State Council printed and issued the *Guiding Opinions on Promoting the Coordinated Reform of the Property Right System for Natural Resource Assets* (the “*Opinions*”) with a view to solving long-standing problems such as unclear inventory of natural resource assets, omission of owners, ambiguous rights and duties, failure to implement rights and interests, and imperfect regulatory and protection systems, which have led to frequent property right disputes, inefficient resource conservation, extensive exploitation and utilization and serious ecological degradation. In order to further promote ecological progress, the property right system for natural resource assets must be perfected.

The basic idea underlying the reform of the property right system for natural resource assets is to perfect the property right system for natural resource assets and the realization forms of all-people and collective ownership of such assets. The overall goal is that by 2020, a property right system for natural resource assets featuring clear ownership, explicit rights and duties, strict protection, smooth transfer and effective regulation will be basically established, with the efficiency of exploiting and utilizing natural resources and the intensity of conservation significantly enhanced, thus providing strong support for improving the system for promoting ecological progress, safeguarding national ecological security and resource security, and promoting the formation of a new pattern of modernization featured by harmonious development of human and nature.

—The property right system for natural resource assets should be perfected. The system should fit in with different attributes of natural resources and meet the needs of national economic and social development, dovetail land space planning and use control and facilitate the separation between the ownership of and the right to use natural resource assets. A scientifically classified property right system for natural resource assets should be built at a quicker pace to solve problems such as rights crossing and absence. The relationship between the ownership of and the right to use natural resource assets should be properly dealt with, and new ground should be broken in the realization forms of all-people

and collective ownership of natural resource assets.

—The subject of property rights of natural resource assets should be clearly defined. This is the key to the reform. In consideration of problems such as absence of explicit provisions on the subject of property rights of natural resource assets, omission of owners, failure to implement owners' rights and interests, "tragedy of the commons" due to ambiguity in the subject of property rights and unreasonable income distribution mechanism, the *Opinions* proposes to study and establish a resource inventory and management system where the competent authority of natural resources under the State Council shall exercise the ownership of natural resource assets owned by all people.

—Unified survey, monitoring and evaluation of natural resources should be carried out. This is a fundamental part of the reform. For a long time, unclear inventory and even crossed statistics of some natural resources exist for reasons such as management of natural resources by several departments and differences in the definition, classification, standards for survey and evaluation and cycle of various natural resources. To solve these problems, the *Opinions* puts forward "three-pronged unity" for natural resources, namely unity of classification standards, survey, monitoring and evaluation system as well as implementation of national survey.

—Unified registration of the ownership of natural resources should be quickened. This is another fundamental part of the reform. Given the absence of unified standards, unclear inventory and subject of resources, obscure boundary and unclear ownership, the *Opinions* sets forth perfection of ownership registration measures and rules based on a summary of the experience in pilot unified registration of the ownership of natural resources.

—Overall conservation of natural resources should be strengthened. This is an important goal of the reform. In consideration of uncoordinated planning, weak planning and control, decentralized ecological restoration and protection, imperfect ecological protection compensation mechanism and other problems arising from management by several departments in the past, the *Opinions* proposes to formulate and implement land space planning, delimit and observe red lines for ecological protection and control lines for permanent basic farmland and urban development boundary, establish and improve the land space use control system, management specifications and technical standards, control land space in a unified manner and strengthen overall protection of mountains, rivers, forests, farmland, lakes and grass.

—Intensive exploitation and utilization of natural resource assets should be pushed forward. This is another important goal of the reform. With regard to problems such as imperfect pricing mechanism for natural resource assets, failure to bring into full play the decisive role of the market in allocation of resources, unsound system for paid use of some natural resource assets and unsmooth transfer of natural resource assets in the market, the *Opinions* proposes to expand competition-based transfer by means of improved pricing mechanism, give play to the decisive role of the market in allocation of resources and better exert the control role of the government through total amount control and intensity control.

—Restoration of and reasonable compensation for the natural ecosystem should be promoted. This is also an important goal of the reform. In view of problems such as a lack of ecological restoration planning, insufficient systematicness and comprehensiveness of restoration and imperfect ecological and environmental damage compensation system, the *Opinions* presents formulation and implementation of ecological restoration planning for national land space, and establishment of a sound mechanism for restoration and comprehensive treatment of mountain, river, forest, farmland, lake and grass systems.

—The regulatory system for natural resource assets should be perfected. This is an important way to accomplish the reform. In view of imperfect regulatory system for property rights of natural resource assets, absence of relevant management, appraisal and

evaluation system and underplaying of social supervision, the *Opinions* proposes to exert the supervisory role of the people's congresses, administrative, judicial and auditing agencies and the public, break new ground in management methods and make concerted regulatory efforts.

—The legal system concerning property rights of natural resource assets should be perfected. This is an important guarantee for the reform. Given existing problems such as imperfect legal system for natural resource assets, insufficient coordination by the property right dispute resolution mechanism and failure to meet the needs of economic and social development, ecological progress and rule of law, the *Opinions* proposes to fully check up laws and regulations concerning the property right system for natural resource assets, put forward specific opinions on abolishing or amending provisions against ecological progress and the protection of property rights of natural resource assets and promote the enactment, amendment, abolishment and interpretation of various laws and regulations on natural resource assets according to the progress in the reform of the property right system for natural resource assets.

Note: The above is abridged due to space limitations.

Table 1. List of Major Tasks

(II) Abstention from the one-size-fits-all approach in environmental governance

In September 2018, MEE issued the *Guiding Opinions on Further Deepening the Reform to Delegate Power, Streamline Administration and Optimize Government Services in Ecology and Environment and Promote High-Quality Economic Development*, a document with respect to the one-size-fits-all approach, which sets forth relevant requirements for banning the approach and instructs local governments to abstain from the approach in environmental protection. Meanwhile, environmental inspection and enhanced supervision should target two aspects, namely omissions and delays as well as abuses of power. Omissions and delays mean failures to do whatever should and can be done; and abuses of power mean conducting raids instead of regular inspections and acting incorrectly. Each case should be investigated and corrected immediately after it is known or reported and then disclosed to the media and the public, so that it can serve as a warning. Additionally, in the course of central ecological and environmental inspection and enhanced supervision, if an enterprise is found to have any problems, the competent local government should take over the job and the local environmental authority should consult with the enterprise and allow reasonable rectification time for the enterprise based on the reality. The government should actively provide services for enterprises. For example, in the reform of the discharge permit system, permits may be issued to projects built before approval or those failing to meet relevant discharge standards for the time being, but such permits should indicate a rectification period according to actual conditions. Enterprises will not be punished unless they fail to obtain the approval or meet relevant standards when such rectification period expires. The government should prevent problems caused by the one-size-fits-all approach in 2019 by “calling upon rectification,” “standardizing and investigating the acts of the government” and “setting an example.”

In 2019, MEE should manage the following two jobs: firstly, standardizing environmental administrative law enforcement, especially the application and supervision of discretion; secondly, strengthening the awareness and level of services, providing assistance whilst supervising, excluding difficulties for enterprises by standing in their shoes, solving

environmental problems faced by enterprises in the production and strengthening the awareness in this regard. It should listen to individual and differentiated demands of enterprises when serving enterprises and balance strict regulation and active services in its work. Also, it should have due regard to how to deal with the relationship between the government and businesses; and how to establish a clean and fresh government-business relationship remains a problem to be solved by environmental authorities with attention.

In January 2019, the *Opinions of the Ministry of Ecology and Environment and All-China Federation of Industry and Commerce on Supporting and Serving Green Development of Private Enterprises* was officially printed and issued. The document proposes to encourage private enterprises to actively participate in the critical battle of pollution prevention and control, help private enterprises solve difficulties in environmental governance, improve green development capacity, create a market environment of fair competition, upgrade service guarantee, improve economic policies and measures, and form a long-acting mechanism supporting green development of private enterprises. Private enterprises should also be guided to push transformation and upgrading through ecological and environmental protection, and be actively benchmarked against high-quality development.

On April 18, 2019, MEE issued a notice on soliciting public opinions on the *Opinions on Effectively Guiding Enterprises to Observe Environmental Laws (Exposure Draft)*, which proposes to further enhance regulation and law enforcement for ecological and environmental protection, optimize ways of regulation and law enforcement, implement enterprises' primary responsibility for ecological and environmental protection, guide self-discipline among enterprises and push law-abiding to be a normal.

(III) Ecological and environmental inspection and its transformation

The Central Environmental Inspection Group, established under the leadership of the Ministry of Environmental Protection (MEP) and composed of leaders of the Organization Department of the CPC Central Committee, inspects environmental protection carried out by Party committees and governments at the provincial (autonomous region and municipality) level and departments concerned on behalf of the CPC Central Committee and the State Council. Over the three years or so since its establishment, the Central Environmental Inspection Group has been carefully performing its duties, acting pragmatically and efficiently to play hardball and crack the hardnuts; within less than two years, it completed a full inspection of the ecological and environmental problems in the 31 provinces, autonomous regions and municipalities nationwide. Central environmental inspection has proven effective in that a number of long-standing ecological and environmental problems have been solved and quite a lot of things that should have been done have been put into practice, and has promoted the improvement of local ecology and environment. After the completion of the first round of inspection, the Group organized a "review." Central ecological and environmental inspection which is part of the central strategic five-sphere integrated plan, is gradually shifting from the stage with the main task of urging local authorities to strengthen the awareness of redlines for ecological and environmental protection, foster the concept of green development, bolster weaknesses in ecological and environmental protection, and firmly resist violations of ecological and environmental laws to the one with main tasks such as stressing consolidation

of the ecological and environmental foundation, improving green development capacity and obtaining room for sustainable development. As the systems become increasingly perfect and its implementation gets deepened, the key role of central ecological and environmental inspection is increasingly recognized. The central ecological and environmental inspection system is an important part of the socialist ecological and environmental rule-of-law system.

In early 2019, the second round of the four-year central ecological and environmental inspection was launched to inspect provincial (autonomous regional and municipal) Party committees and governments, departments concerned under the State Council and central enterprises, and every effort will be made to complete this round of inspection nationwide and a “review” within four years. This round of inspection includes the following tasks: field inspection of ecology and environment; inspection of groundwater pollution; supervision of wastewater pollution control; field inspection of sources of noise pollution; inspection of waste gas pollution; field inspection of environmental inspection and corresponding emergency plans; field inspection of sources of solid waste pollution; supervision of the investigation into environmental violations by environmental authorities, among others.

VI. Regional and international engagement

(I) Practices of greening the “Belt and Road” Initiative

The 2018 CCICED Policy Recommendations states that as the “Belt and Road” Initiative (BRI) focuses on infrastructure construction, ecological, environmental and climate impacts of BRI projects must be considered carefully.

Under the *Belt and Road Initiative: Progress, Contributions and Prospects* released on April 22, 2019, China has taken a number of mutually accepted measures to increase financial support for relevant countries and expand the channels of diversified financing. Specifically, China and relevant countries have endorsed the guiding principles on financing for the BRI to jointly promote the establishment of a long-term, stable, sustainable and risk-controllable financing system. Asian Financial Cooperation Association (AFCA) already has more than 100 members, and its earmarked loans equivalent to RMB 380 billion has provided strong support for infrastructure, capacity and financial cooperation within the framework of jointly building the BRI, while the Silk Road Fund has received new capital of RMB 100 billion.

The 2018 CCICED Policy Recommendations also states that the BRI should be aligned to the Paris Agreement, the 2020 Global Biodiversity Targets and the 2030 UN Sustainable Development Goals. An international coalition for green development on the Belt and Road should be founded.

Six categories of 283 deliverables have been made during the 2nd Belt and Road Forum for International Cooperation on April 25-27, 2019. Among them, those concerning green BRI include are listed below:

1. China and leading financial institutions in the UK, France, Singapore, Pakistan, the UAE, Hong Kong and other relevant countries and regions which are members of BRI International Green Development Coalition, have endorsed the *Green Investment Principles for the Belt and Road Initiative*.

2. Chinese Academy of Sciences has launched the “Silk Road Environmental Project” and jointly studied the path and scheme to build a green Silk Road with scientists from countries along the Silk Road.
3. The Chinese government will continue to implement the Green Silk Road Envoys Program, which will train 1,500 environmental officials from BRI countries over the next three years. The website of the BRI Environmental Big Data Platform has been officially launched. MEE has set up the Belt and Road Environmental Technology Exchange and Transfer Center.
4. NDRC has launched the Belt and Road Green Lighting Initiative jointly with the United Nations Development Programme (UNDP), the United Nations Industrial Development Organization (UNIDO) and the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), and launched the Belt and Road Green Cooling Initiative with the UNIDO, ESCAP and the Energy Foundation.
5. Industrial and Commercial Bank of China Limited (ICBC) has issued the first green bond of the Belt & Road Inter-bank Regular Cooperation Mechanism (BRBR) and jointly released the BRI Green Finance Index together with BRBR members such as European Bank for Reconstruction and Development (EBRD), Calyon Bank and Mizuho Corporate Bank to deepen the BRI green finance cooperation.
6. China and leading financial institutions in the UK, France, Singapore, Pakistan, the UAE, Hong Kong and other relevant countries and regions have endorsed the *Green Investment Principles for the Belt and Road Initiative*.
7. China Everbright Group and financial institutes in relevant countries have jointly initiated and set up the “Belt and Road” Green Investment Fund.

Table 2: List of Deliverables in Promoting the Greening of the “Belt and Road” Initiative

The 2018 CCICED Policy Recommendations proposes to create a network of partnerships among countries along the Maritime Silk Road to promote sustainable ocean governance.

In recent years, China has been actively carrying out exchanges and cooperation in marine spatial planning with Bangladesh, Pakistan, Madagascar, Malaysia and other countries along the “21st Century Maritime Silk Road,” contributing Chinese wisdom to ocean governance and planning, and promoting the BRI construction. As the first marine spatial planning prepared by China for another country along the “21st Century Maritime Silk Road,” China-Cambodia Marine Spatial Planning has been highly recognized by Cambodia. Through the cooperation with Cambodia, China has found a new pattern of international cooperation in marine spatial planning. On this basis, substantial progress has been made in China-Thailand cooperation in this regard.

With respect to responsible investment, the Third Meeting of the UK-China Green Finance Taskforce was held in London on November 30, 2018, during which the Green Finance Committee (GFC) of the China Society for Finance and the City of London’s Green Finance Initiative (GFI) jointly issued the *Green Investment Principles for the Belt and Road Initiative*.

On April 16, 2019, ICBC successfully issued the world’s first green Belt & Road Inter-bank Regular Cooperation bonds (“BRBR bonds”). This issue, made in renminbi, dollars and euros and with an equivalent amount of USD 2.2 billion, consists of both 3-year and 5-year options,

and the funds raised will be used to support the construction of green BRI projects. Following international and Chinese principles for green bonds, the bonds are issued by Singapore Branch of ICBC and underwritten by 22 financial institutes from more than 10 countries and regions along the “Belt and Road,” of which about 80% are BRBR members. The issue of bonds is popular in the international bond market. To break it down, offshore renminbi bonds have a size of RMB 1 billion and non-banking investors account for 33%, showing high market recognition; two-year dollar bonds have a size of USD 1.5 billion, showing favorable scale and prices; euro bonds have a size of EUR 500 million, the largest ever issued by Singaporean financial institutions since the beginning of 2019. This issue is also popular among central banks and sovereign fund investors, which account for 48% and 40% respectively among those buying three-year floating-rate dollar bonds and three-year fixed-rate euro bonds.

In Adama, Ethiopia, the African second largest wind farm has been completed and put into operation. As the first of its kind in Ethiopia, the wind farm has supplied 2.6 billion kWh of electricity to power grids since it was brought into operation, which equals reduction of 810,000 tonnes of standard coal and of 2,158 tonnes of dust, SO₂ and NO_x emissions. It is China’s largest overseas wind power project in terms of overall export of Chinese capital, technology, standards and equipment.

Over the past five years, key BRI regions have witnessed a remarkable decrease in ecological and environmental problems and an increase of the mine environmental governance and ecological restoration rate from 50% to more than 85%; the reclamation rate of the land for temporary use damaged by infrastructure construction has reached nearly 100% and China has established meteorological, resource, environmental, marine, Gaofen and other earth observation satellites and application systems, built 31 ecological and environmental remote sensing databases regarding land cover, vegetation growth, agriculture, marine environment and other aspects of the countries participating in the BRI. China has been leading and participating in the preparation of an increasing number of international norms and standards.

(II) Firm leadership of international collaboration on addressing climate change

The United Nations Climate Change Conference Katowice (COP24) was held on December 2, 2018. Participants have endorsed rules for the implementation of the Paris Agreement upon negotiation. The international community should further intensify its efforts to promote global green and low-carbon transformation.

With the vision of building a community of shared future for mankind, China has undertaken the responsibility for promoting green, clean and sustainable development of all humans, practically showed Chinese contributions to fighting climate change and fulfilled its solemn commitments to protecting the Paris Agreement and other global multilateral governance frameworks. China has been gradually fulfilling the responsibility a great power should fulfill in terms of policy announcement and implementation. China has also made substantial headway in energy conservation and emission reduction and has become the world’s largest consumer of new and renewable energy resources, and ranks No.1 in terms of clean energy investment for nine consecutive years. Moreover, China actively makes contributions to boosting international climate cooperation, with a large number of new energy cooperation

projects gradually settled in BRI countries. China is also energetically pushing innovations in economic development featuring energy conservation and emission reduction, exploring development ideas and paths of green finance and establishing the world's largest carbon trading market. The *Action Plan for Promoting the Implementation of the Paris Agreement via Global Energy Interconnection* jointly released by the China-initiated Global Energy Interconnection Development and Cooperation Organization and the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) is intended to guide the integration of global energy interconnection into the course of energy conservation and emission reduction. During the COP24, China was also actively promoting joint efforts to enhance exchanges and interconnection of energy conservation and emission reduction, hosted 25 side events with different themes, enriched the connotation of the COP24, and made substantial contributions to building a consensus and exploring ways of cooperation.

During the Second Belt and Road Forum for International Cooperation in Beijing on April 25-27, 2019, China announced that it would work with relevant countries to jointly implement the Belt and Road South-South Cooperation Initiative on Climate Change. As a responsible country, China successfully lowered the carbon intensity by about 46% in 2017 compared with that of 2005, attaining the goal of reducing the carbon intensity by 40%-45% by 2020 over 2005 three years ahead of schedule. China is both thinking and acting as a great power does.

(III) Active participation in global ocean governance

The 2018 CCICED Policy Recommendations states that studies should be strengthened on emerging marine environmental problems of global concern. Priorities include ocean acidification, ocean plastics and microplastics, oxygen deficit in hot spots and other emerging marine environmental problems of global concern.

As a major plastics producer and consumer, China witnesses a large number of ocean microplastics in offshore, estuarine and marine organisms. According to related survey results in recent years, China's ocean microplastic pollution is medium. China sees rapid progress in marine microplastic studies, especially the project of "Research on Marine Microplastic Monitoring and Ecological and Environmental Effect Assessment Technologies," a national key research and development program launched by Ministry of Science and Technology in 2016, which is one of the earliest heavily invested research projects regarding microplastic pollution in the world. China is an international leader in marine microplastic studies.

Meanwhile, China has also been actively participating in international cooperation and actions to deal with marine plastic waste pollution within the UN and regional cooperation frameworks and leading regional international cooperation. Although China has no specific laws and regulations on the control of marine plastic pollution, legislation on plastic wastes has a long history. At present, China is advancing amendment and enactment of laws on plastic wastes and vigorously promoting urban and rural garbage classification and environmental governance. All these measures will lead to a significant fall in the quantity of future plastic wastes.

The 2018 CCICED Policy Recommendations also proposes to make full use of partnerships and unite relevant countries and regions to cope with plastic pollution. The Chinese government has also established international cooperation with relevant countries in the control of marine plastic pollution. On November 14, 2018, Premier Li Keqiang and Canadian Prime Minister Justin Trudeau jointly issued the *Joint Statement of the Government of the People's Republic of China and the Government of Canada Marine Litter and Plastics* during the third annual dialogue between the Chinese and Canadian Prime Ministers. The two sides agreed to adopt a more resource-efficient approach to the full lifecycle management of plastics, improve efficiency and reduce environmental impact.

On December 4-5, 2018, the First UK-China Symposium on Marine Plastic Pollution and Control was held in Guangzhou and Shandong. A number of policy makers, experts and representatives of the plastic industry and the plastic disposal industry as well as representatives of non-governmental organizations from both China and the UK attended the Symposium and discussed relevant issues, including the situation of plastic pollution and protection of marine environment. After the symposium, British experts and Chinese organizations such as MEE, MOHURD and plastic industry associations held a policy discussion.

In the *Joint Statement of the People's Republic of China and the Republic of France on Upholding Multilateralism and Improving Global Governance* released on March 26, 2019, China and France have reached 37 consensuses, among which those regarding international cooperation in marine pollution prevention and control involve the following: firstly, the two promise to strengthen communication and cooperation with respect to marine biodiversity conservation and sustainability beyond their respective jurisdictions within the UN framework and make positive contributions to reaching relevant agreements. Secondly, the two agree to maintain exchanges on the conservation and sustainable use of marine biological resources in the South Pole, including the establishment of an Antarctic marine reserve. The two are strong proponents of international actions against marine and land plastic pollution by strengthening existing mechanisms, especially the Basel Convention.

VII. Conclusions

Since the 2018 CCICED Annual General Meeting held in early November last year, China has been advancing its ecological construction and environmental governance in depth under the guidance of Xi Jinping's thought on ecological progress, resulting in profound changes in governance methods, working methods and the intensity of efforts and further improvements in governance effectiveness. However, environmental governance is increasingly challenging. The pace at which environmental quality is improved is lower than expected and the administrative governance system has to gradually shift to a phase featuring a combination of market-oriented and administrative governance. How to achieve more economical and efficient ecological restoration and environmental improvement when ecological and environmental protection is a rigid constraint becomes a task to be studied and solved in the new stage. Advanced, applicable, efficient and low-cost environmental technologies and services appear to be more urgently needed.

Over the past six months or more, many CCICED policy recommendations continue to be

highly valued by the Chinese government and incorporated into policy practice and exploration in varying degrees in the new year. Some prospective policy recommendations have important implications on future efforts to promote ecological progress. A review of the environmental and development policies of the Chinese government over the past half year indicates that mechanisms and management systems centered on ecological progress and targeting a “Beautiful China and Clean World” are taking shape rapidly. China’s ecological and environmental protection work is comprehensive, unified and coordinated, and the broad coalition for green development established by the government, the public, and responsible enterprises is maintaining the strongest ever cohesion to overwhelmingly boost green and high-quality development in China. At the same time, China continues to see the high-level development of international environmental cooperation, including in its ecological and environmental cooperation with countries along the “Belt and Road” and with African countries. New measures have been taken to solve problems of global concern, such as protection of marine ecology and environment, response to global climate change, and biodiversity conservation. China’s ecological progress is becoming firm and there is strong support for global sustainable development. Innovations in systems, mechanisms, measures, and means that promote ecological progress have enriched the UN 2030 Toolkit for Sustainable Development and represent new contributions made by China to world ecological conservation and environmental governance—even fighting climate change in the new era.

As indicated by the experience of the developed world, outstanding ecological and environmental debts over the past decades cannot be paid off overnight, and it may even take several decades of continuous efforts to fundamentally improve some environmental problems. This means that solving problems with ecological construction and environmental governance requires dozens of years of unflagging efforts, more social input and more time given to the “fight against pollution,” which China should guarantee by establishing and constantly improving laws, regulations, systems, and mechanisms within the “framework of ecological progress” and by resolutely curbing new ecological destruction and environmental pollution. Also, China should establish rigid ecological and environmental constraints, so that “law-abiding” becomes the **conscientious willingness** of enterprises, green lifestyle become preferred by the public and the concept of green development goes deep into the hearts of the people. All these require unremitting work over a long period. The second half of 2019 is expected to be an arduous transitional period of “protracted seesaw battles” for ecological protection and environmental governance. The improvement of deeper-level environmental problems rests still with creative ideas, methods, and solutions.

A country characterized by an underdeveloped economy; uncoordinated development of eastern, central and western regions; insufficient wealth accumulation; a large poverty-stricken population; and intensified aging is faced with unprecedented pressure and challenges to put forward and explore ways to promote “ecological progress.”

CCICED, which undertakes a special mission, should lay more stress on grassroots work in future policy research and put forward policy recommendations that remain predictive and strategic whilst containing more “innovative” and “inspiring” research results and findings. On the other hand, as a two-way international cooperation platform, CCICED should set up a BRI-oriented international communication and exchange platform, and sum up systems,

mechanisms and arrangements into which China has been probing for “ecological progress.” It should embody system and policy designs of “Beautiful China” construction, legal systems, policy orientations, public opinions, institutional arrangements like central environmental inspection, and the innovative green finance and taxation policies of fiscal and financial departments. These environmental governance systems based on China’s actual conditions might be conducive to the construction of a beautiful homelands in other countries and regions.

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

Field	Time of Release of Policy	Policy Progress (2018-2019)	Content
Planning for Environment and Development	December 2018	NDRC held a symposium on the preparation of the 14 th FYP. The symposium mainly discusses the mid-term evaluation of the 13 th FYP, the connotation and characteristics of the 14 th FYP strategic opportunity period, development theme and main line during the 14 th FYP period, major issues that need to be highlighted during the 14 th FYP period and the basic idea of the 14 th FYP.	The 2018 CCICED Policy Recommendations proposes to coordinate and unify actions against climate change and attain strategic goals in different areas in a balanced manner by formulating and implementing short-term plans (e.g., the 14 th FYP), mid-term plans (e.g., the revised 2030 China's Intended Nationally Determined Contributions and Beautiful China 2035) and long-term plans (e.g., the "Mid-21 st Century Strategy" by 2050).
	April 2019	A workshop on the national 14 th FYP for ecological and environmental protection was held to probe into how to maintain and implement the concept of "ecology first and green development" based on the strategic positioning of ecological and environmental protection in national economic and social development during the 14 th FYP period; by 2035, ecological and environmental quality should be fundamentally improved and the "Beautiful China" strategic goal should be basically attained; efforts should be made to actively plan strategic tasks reflecting environmental quality improvement.	
	January 2019	The State Council officially approved the <i>Master Plan for Xiongan New Area in Hebei Province (2018-2035)</i> . Xiongan New Area, as the bearer of Beijing's non-capital functions, forms, together with the sub-center of Beijing, the new two wings of Beijing, which can offer an effective solution to "big city malaise" and represents a new attempt of optimized development in densely populated	The 2012 CCICED Policy Recommendations proposes to establish a regional green coordination and cooperation mechanism.

		developed areas.	
	January 2019	The State Council approved the <i>Detailed Regulatory Plan for the Sub-Center of Beijing (for Blocks) (2016-2035)</i> , which sets forth focus on coordinated development of Beijing, Tianjin and Hebei and emphasis on ecological protection, continuation of the historical context, safeguard and improvement of people's wellbeing and integration of multiple plans.	
	March 2019	NDRC promulgated the <i>Key Tasks of New Urbanization 2019</i> , which sets forth working requirements in 2019. It also puts forward that new urbanization should take into full consideration of the actual bearing capacity of resources and the environment, stress coordinated development, make full use of intelligent IT means, conduct lean management and coordinate with the control of air pollution and other environmental problems.	The 2018 CCICED Policy Recommendations proposes to shift traditional thinking, fully integrate green standards into green urban planning and bring forward innovative solutions in combination with local realities.
	December 2018	The Central Economic Work Conference proposes to be serious with the critical battle against pollution, hold fast to the position and consolidate the achievements, focus on the fight to keep our skies blue, increase efforts and input, take a holistic approach and prevent handling things in a simplistic and crude way. The government should strengthen its service awareness and assist enterprises in making environmental solutions.	The issue regarding how environmental authorities actively serve enterprises is not covered by CCICED policy research.
	March 2019	The Report on the Work of the Government reads that “we will continue the critical battle of pollution prevention and control and produce more effective results in our work to prevent and control	Specific tasks of the critical battle of pollution prevention and control are not included in CCICED

		<p>pollution” and the main task of pollution prevention and control in 2019 is to consolidate the gains made in the fight to keep our skies blue. This year, sulfur dioxide and nitrogen oxide emissions will be cut by 3%, and there will be a continuous decline in fine particle (PM2.5) concentrations in key areas. Upgrading in steel and other industries will be promoted to achieve ultra-low emissions. Stricter emission standards will be applied and standard compliance within a definite time will be pursued. Dynamic development clean energy will be promoted. A special campaign will be organized to control unregulated emissions from diesel trucks and ships, and continuous efforts will be made to eliminate old vehicles. Water and soil pollution prevention and control will be deepened. Comprehensive measures will be taken to improve the environment in key river basins and sea areas and to clean up black, malodorous water bodies. The construction of sewage disposal facilities will be enhanced and charge policies will be improved.</p>	macro research.
	December 2018	<p><i>The Action Plan for the Critical Battle of Conservation and Restoration of the Yangtze River</i>, which sets forth the following main tasks: (1) strengthening management and control of ecological and environmental space, strictly observe the red lines for ecological protection. Lean management of the river basin by control units will be implemented. Efforts should be made to adhere to systematic governance of mountains, waters, forests, farmland, lakes and grass, advance water ecological and environmental protection by river basin, strengthen the management of water quality targets in water function zones, break down control units, define assessment sections, designate responsibilities for ecological and environmental protection in the river basin to administrative divisions at different levels, implement the river (lake) chief system and establish a control unit management system mainly intended to improve ecological and</p>	<p>The 2004 CCICED Policy Recommendations suggests adopting comprehensive measures to manage river basins, determining and preserving ecological service functions by starting with the Yangtze River.</p>

		environmental quality. By the end of 2020, 11 provinces and municipalities along the Yangtze River should complete the division of control units and determine assessment sections of control units and objectives of ecological and environmental control.	
Ecosystem and Biodiversity Conservation	2018-2019	As of the end of 2018, 15 provinces have preliminarily delimited the red lines for ecological protection, including Beijing-Tianjin-Hebei Region, the Yangtze River Economic Belt and Ningxia Hui Autonomous Region, and Shanxi and other 15 provinces have basically finalized a delimitation scheme. Delimitation of the red lines for ecological protection should be fully completed by 2020. At present, MEE is preparing the <i>Measures for Administration of the Red Lines for Ecological Protection</i> , building a national monitoring platform for such red lines and including the delimitation and implementation of the red lines for ecological protection into central environmental inspection. Local Party committees and governments should take primary responsibility for delimiting and strictly observing the red lines for ecological protection and should hold any violators accountable, so as to ensure the effectiveness of such red lines.	The 2014 CCICED Policy Recommendations states that the State Council should enact the <i>Measures for Administration of the Red Lines for Ecological Protection</i> as early as possible, which should contain provisions on the definition and connotation of red lines for ecological protection, method of delimitation and management system.
	2018-2019	“Green Shield 2019” carries on and continues to deepen ecological and environmental protection and governance, which has proven successful in the first stage.	
	June 2018	The Chinese government is actively fulfilling its commitments to biodiversity conservation. The national conservation network has been basically established as early as 2015 and the area of various land reserves accounts for about 18% of China’s total landmass, indicating that China has attained the target of 17% by 2020 as set	The 2018 CCICED Policy Recommendations proposes to actively promote the performance of the Convention on Biological Diversity and play a strong leading role in the preparation of global biodiversity conservation targets following 2020.

		forth in the Convention on Biological Diversity five years ahead of schedule. Provinces and municipalities nationwide, including Chongqing, Sichuan, Yunnan and Guangxi, have unveiled action plans for biodiversity conservation. Yunnan has even enacted the national first local regulations for biodiversity conservation.	
Energy and Climate	January 2019	NDRC and NEA released the <i>Notice on Actively Promoting the Work Concerning Grid Parity of Wind Power and Photovoltaic Power Without Subsidies</i> (the <i>Notice</i>). The <i>Notice</i> suggests that areas with high-quality resources, low-cost construction and favorable investment and market conditions have basically witnessed conditions for grid parity with coal-fired benchmark feed-in tariffs (without subsidies from the state). With respect to the establishment of new policies for renewable energy, NEA indicates that new policies will be developed for wind power and PV power projects approved after the end of 2020 based on technological progress and cost reduction then.	The 2018 CCICED Policy Recommendations proposes to enhance coal use control, promote the penetration of renewable energy and expand the increase in energy efficiency. Outstanding subsidies for renewable energy should be paid off and a new supportive policy system should be established for renewable energy.
	March 2019	As clearly indicated in the Report on the Work of the Government in March 2019, the energy efficiency index of 2019 is an about 3% cut in energy consumption per unit of GDP. In 2018, China saw a 3.1% cut.	The 2018 CCICED Policy Recommendations proposes to enhance coal use control and expand the increase in energy efficiency.
	March 2019	National Government Offices Administration suggested at the Conference of Central State Organs on Promoting the Key Work for Energy and Resource Conservation and Ecological and Environmental Protection in March 2019 that efforts should be made to further improve the network of energy conservation work by taking advantage of the reform of organizations; complete the formulation of energy consumption quota norms for central state organs and push the management of energy consumption quota	

		management towards a higher level; make good use of the energy conservation monitoring system, and make energy conservation management leaner and IT-based; continue to develop the awareness and habit of energy conservation and environmental protection, organize inspirational activities like garbage classification volunteers.	
	April 2019	The 2019 Conference of National Public Institutions on Promoting the Key Work for Energy and Resource Conservation and Ecological and Environmental Protection proposes to complete the selection of 200 leading public institutions in energy efficiency by the end of 2019 and complete the establishment of 1,500 energy conservation-oriented demonstration public institutions by the end of October 2020. Pilot formulation and management of energy consumption quotas should be carried out in Tianjin, Shandong, Jiangxi, Ningxia Hui Autonomous Region and Guangdong, and pilot energy performance contracting project (EPCP) should be organized and carried out in 29 counties (districts) in a unified manner.	
	April 2019	Public opinions have been solicited for the <i>Interim Regulations on the Administration of Carbon Emission Permit Trading</i>	The 2018 CCICED Policy Recommendations proposes to enhance coordinated management of tackling climate change and improving ambient air quality. The coordination between tackling climate change and solving other environmental problems should be strengthened in system designs such as enactment of laws and regulations and information disclosure, monitoring, law enforcement, regulation and accountability.
Pollution	December 2018	Air pollution prevention and control. MEE and other 11 ministries	The 2013 CCICED Policy Recommendations

		<p><i>Groundwater Pollution Prevention and Control</i>, which states that by 2020, a system of regulations and standards on groundwater pollution prevention and control and national groundwater environmental monitoring system should be preliminarily established; the rate of extremely poor groundwater quality nationwide should be controlled at around 15%; typical groundwater pollution sources should be preliminarily monitored and the aggravation of groundwater pollution should be preliminarily controlled. By 2025, the system of regulations and standards on groundwater pollution prevention and control and national groundwater environmental monitoring system should be established; the overall rate of centralized groundwater sources of drinking water whose quality reaches Class □ or above in cities at the prefecture level and above should reach approximately 85%; typical groundwater pollution sources should be effectively monitored and the aggravation of groundwater pollution should be effectively curbed. By 2035, the nationwide groundwater environmental quality should be generally improved and ecosystem functions should be basically restored.</p>	
	2018	<p>Water pollution prevention and control. According to the requirements of the <i>Plan for Water Pollution Prevention and Control in Key River Basins (2016-2020)</i>, by 2020, the national surface water environmental quality should be periodically improved and the overall rate of good water quality (reaching Class III or above) in seven key river basins, including the Yangtze River, the Yellow River and the Pearl River should reach over 70%. “As the time node for the acceptance of water pollution prevention and control in 2020 approaches, the year of 2019 will be a critical year for attaining the planned targets of water pollution control.”</p>	

	March 25, 2019	Water pollution prevention and control. The First Plenary Meeting of the Water Pollution Prevention and Control Law Enforcement Inspection Group under the Standing Committee of the National People's Congress was successfully held. The meeting officially launched the inspection of the enforcement of the Water Pollution Prevention and Control Law and stressed that the rigid constraints of the legal system should be brought into play to push fundamental control of water pollution and promote continuous improvement of ecological and environmental quality.	
	March 28, 2019	Water pollution prevention and control. Five ministries, including MEE and MNR, jointly printed and issued the <i>Notice on Printing and Issuing the Implementation Plan for Groundwater Pollution Prevention and Control</i> . The <i>Notice</i> sets forth technical requirements for groundwater pollution prevention and control zoning, requirements for verification of seepage-proofing gas stations construction, technical requirements for release of the list of groundwater pollution sites and the implementation plan for groundwater pollution prevention and control. Under the <i>Notice</i> , by 2020, a system of regulations and standards on groundwater pollution prevention and control and a national groundwater environmental monitoring system should be preliminarily established, the rate of extremely poor groundwater quality nationwide should be controlled at around 15%, typical groundwater pollution sources should be preliminarily monitored and the aggravation of groundwater pollution should be preliminarily controlled. By 2025, the system of regulations and standards on groundwater pollution prevention and control and national groundwater environmental monitoring system should be established; the overall rate of centralized groundwater sources of drinking water whose quality reaches Class □ or above in cities at	

		the prefecture level and above should reach approximately 85%; typical groundwater pollution sources should be effectively monitored and the aggravation of groundwater pollution should be effectively curbed. By 2035, the nationwide groundwater environmental quality should be generally improved and ecosystem functions should be basically restored.	
	December 2018	The State Council printed and issued the <i>Work Program for Construction of Pilot “Zero-Waste Cities.”</i>	The solid waste problem is not covered by CCICED policy research in 2018.
	2019	<p>The first year of enforcement of the Soil Pollution Prevention and Control Law. The Law defines enterprises’ primary responsibility for protecting soil from pollution, strengthens polluters’ responsibility for pollution control, makes clear regulatory responsibilities of the government and departments concerned, establishes systems for agricultural land classification management and construction land access management and increases punishments on environmental violations, thus providing strong rule-of-law guarantee for firmly advancing the “campaign to protect soil from pollution.”</p> <p>MEE will accelerate the enactment of supporting policies, urge local governments to perform the responsibility for regulating prevention and control of soil pollution and safe use of soil, assist departments concerned to implement the systems for agricultural land classification management and construction land access management, so as to control soil pollution risks.</p>	The 2010 CCICED Policy Recommendations proposes to fully promote soil environmental protection and safeguard public health and ecological and environmental safety. A specific law for soil pollution prevention and control and soil conservation should be made.
	2019	Solid waste. The Waste Cleanup Action 2019 is carried out. And 126 cities within the Yangtze River Economic Belt are covered.	The solid waste problem is not covered by CCICED policy research in 2018.

	November 2018	Marine environmental protection. According to the MEE press conference, MEE will improve and perfect the system of domestic laws, regulations, standards and norms on marine ecological and environmental protection; carry out the work on marine ecology and environment towards the basic goal of ecological and environmental quality improvement, quicken comprehensive governance of sea areas and accelerate the improvement of basic monitoring and evaluation capacity; enhance environmental supervision and accountability, and make full use of “five steps” to enhance environmental supervision and other effective tools; expedite the application of innovative regulatory means such as random check and pollutant discharge permit, and further facilitate enterprises to fulfill the primary responsibility for “both production and environmental protection.”	The 2018 CCICED Policy Recommendations proposes to strengthen legal protection for marine and coastal ecosystems; establish a high-tech monitoring system; and restore the national plan for marine ecosystem functions and services.
	December 2018	MEE, NDRC and MNR jointly printed and issued the <i>Action Plan for the Critical Battle of Comprehensive Environmental Governance in Bohai</i> , which sets forth that, through three years of comprehensive environmental governance, the rate of excellent and good offshore water quality (Class I and II) should reach around 73%, the retention rate of natural coastlines should stay at 35% or so, the scale of remediated and restored coastal wetland should be no less than 6,900 hectares and the length of newly remediated and restored coastlines should reach approximately 70 km by 2020.	
Environmental Governance and Rule of Law	April 2019	The General Office of the Central Committee of the Communist Party of China and the General Office of the State Council printed and issued the <i>Guiding Opinions on Promoting the Coordinated Reform of the Property Right System for Natural Resource Assets</i> (the “ <i>Opinions</i> ”) with a view to solving long-standing problems such as unclear inventory of natural resource assets, omission of	The 2016 CCICED Policy Recommendations proposes to deepen the reform of the system to promote ecological progress, remove the administrative contradictions in resource and environmental management, and incorporate the concept of ecological civilization in urbanization,

		owners, ambiguous rights and duties, failure to implement rights and interests, and imperfect regulatory and protection systems, which have led to frequent property right disputes, inefficient resource conservation, extensive exploitation and utilization and serious ecological degradation. In order to further promote ecological progress, the property right system for natural resource assets must be perfected.	rural land management and exploitation and utilization of water resources.
	January 2018	MEE printed and issued the <i>Guiding Opinions on Further Deepening the Reform to Delegate Power, Streamline Administration and Optimize Government Services in Ecology and Environment and Promote High-Quality Economic Development</i> , which resolutely opposes formalism and bureaucratism and proposes to make and implement management and control measures in a scientific manner based on key fields, regions and periods of time for pollution prevention and control and in light of the actual needs of pollutant discharge/emission performance and environmental management, so as to effectively reduce pollutant discharge/emission, promote green business development and industrial transformation and upgrading, and abstain from the one-size-fits-all approach.	Not covered by CCICED policy research in 2018
	January 2019	The <i>Opinions of the Ministry of Ecology and Environment and All-China Federation of Industry and Commerce on Supporting and Serving Green Development of Private Enterprises</i> was officially printed and issued, which proposes to encourage private enterprises to actively participate in the critical battle of pollution prevention and control, help private enterprises solve difficulties in environmental governance, improve green development capacity, create a market environment of fair competition, upgrade service guarantee, improve economic policies and measures, and form a long-acting mechanism supporting green development of private	

		enterprises. Private enterprises should also be guided to push transformation and upgrading through ecological and environmental protection, and be actively benchmarked against high-quality development.	
	April 2019	MEE released a notice on soliciting public opinions on the <i>Opinions on Effectively Guiding Enterprises to Observe Environmental Laws (Exposure Draft)</i> , which proposes to further enhance regulation and law enforcement for ecological and environmental protection, optimize ways of regulation and law enforcement, implement enterprises' primary responsibility for ecological and environmental protection, guide self-discipline among enterprises and push law-abiding to be a normal.	
	Early 2019	The second round of the four-year central ecological and environmental inspection was launched to inspect provincial (autonomous regional and municipal) Party committees and governments, departments concerned under the State Council and central enterprises, and every effort will be made to complete this round of inspection nationwide and a "review" within four years. Ecological and environmental inspection is a key system to promote ecological progress and a major measure of the reform. The first round of central environmental inspection has proven effective in that a number of long-standing ecological and environmental problems have been solved and quite a lot of things that should have been done have been put into practice, and has promoted the improvement of local ecology and environment. After the completion of the first round of inspection, the Group organized a "review." With the improvement of the work, environmental inspection has also transformed.	The 2014 CCICED Policy Recommendations proposes to accelerate the construction of the system to promote ecological progress and the reform of the ecological and environmental protection system, and improve environmental governance capacity.

Regional and International Engagement	April 2019	The <i>Belt and Road Initiative: Progress, Contributions and Prospects</i> , under which the Chinese government has taken a number of mutually accepted measures to increase financial support for relevant countries and expand the channels of diversified financing. Specifically, China and relevant countries have endorsed the guiding principles on financing for the BRI to jointly promote the establishment of a long-term, stable, sustainable and risk-controllable financing system. AFCA already has more than 100 members, and its earmarked loans equivalent to RMB 380 billion has provided strong support for infrastructure, capacity and financial cooperation within the framework of jointly building the BRI, while the Silk Road Fund has received new capital of RMB 100 billion.	The 2018 CCICED Policy Recommendations states that as the BRI focuses on infrastructure construction, long-term ecological and environmental impacts and climatic impacts of BRI projects must be considered carefully.
	April 2019	The 2 nd Belt and Road Forum for International Cooperation was held, with six categories of 283 deliverables made, including, among others, the establishment of the International Coalition for Green Development on the Belt and Road and launch of the BRI Environmental Big Data Platform and the Belt and Road Environmental Technology Exchange and Transfer Center.	The 2018 CCICED Policy Recommendations states that the BRI should be aligned to the Paris Agreement, the 2020 Global Biodiversity Targets and the 2030 UN Sustainable Development Goals.
	September 2018	ICBC successfully issued the world's first green Belt & Road Inter-bank Regular Cooperation bonds ("BRBR bonds"). This issue, made in renminbi, dollars and euros and with an equivalent amount of USD 2.2 billion, consists of both 3-year and 5-year options, and the funds raised will be used to support the construction of green BRI projects. Following international and Chinese principles for green bonds, these bonds are issued by Singapore Branch of ICBC and underwritten by 22 financial institutes from more than 10 countries and regions along the "Belt and Road," of which about	The 2015 CCICED Policy Recommendations proposes to pay high attention to environmental risks posed by "Going Out" and jointly build green "Belt and Road" through consultation. Efforts should be made to include green finance in the financing mechanism for the BRI, propel investment enterprises "Going Out" to lay emphasis on ecological and environmental protection and actively perform their social and

		80% are BRBR members.	environmental responsibilities.
	November 2018	The Third Meeting of the UK-China Green Finance Taskforce was held in London, during which GFC and GFI jointly issued the <i>Green Investment Principles for the Belt and Road Initiative</i> .	
	2017-2019	In recent years, China has been actively carrying out exchanges and cooperation in marine spatial planning with Bangladesh, Pakistan, Madagascar, Malaysia and other countries along the “21 st Century Maritime Silk Road,” contributing Chinese wisdom to ocean governance and planning, and promoting the BRI construction. As the first marine spatial planning prepared by China for another country along the “21 st Century Maritime Silk Road,” China-Cambodia Marine Spatial Planning has been highly recognized by Cambodia. Through the cooperation with Cambodia, China has found a new pattern of international cooperation in marine spatial planning. On this basis, substantial progress has been made in China-Thailand cooperation in this regard.	The 2018 CCICED Policy Recommendations proposes to accelerate the construction of cooperation platforms, including International Coalition for Green Development on the Belt and Road. A network of partnerships should be created among countries along the Maritime Silk Road to promote sustainable ocean governance.
	December 2018	The Katowice Climate Change Conference was held. China is unwaveringly committed to tackling climate change. China is fully complementing the concept of innovative, coordinated, green, open and shared development, accelerating green and low-carbon development and promoting ecological progress. China ranks No.1	The 2018 CCICED Policy Recommendations proposes to strengthen actions to mitigate climate change and increase China’s contributions to global climate governance.

		in terms of renewable investment. As a responsible country, China successfully lowered the carbon intensity by about 46% in 2017 compared with that of 2005, attaining the goal of reducing the carbon intensity by 40%-45% by 2020 over 2005 three years ahead of schedule. China is both thinking and acting as a great power does.	
	December 2018	The First UK-China Symposium on Marine Plastic Pollution and Control was held in Guangzhou and Shandong. A number of policy makers, experts and representatives of the plastic industry and the plastic disposal industry as well as representatives of non-governmental organizations from both China and the UK attended the Symposium and discussed relevant issues, including the situation of plastic pollution and protection of marine environment. After the Symposium, British experts and relevant Chinese organizations such as MEE, MOHURD and plastic industry associations held a policy discussion.	The 2018 CCICED Policy Recommendations proposes to make full use of partnerships and unite relevant countries and regions to fight against plastic pollution.
	March 2019	The <i>Joint Statement of the People's Republic of China and the Republic of France on Upholding Multilateralism and Improving Global Governance</i> : firstly, the two countries promise to strengthen communication and cooperation with respect to marine biodiversity conservation and sustainability beyond their respective jurisdictions within the UN framework and make positive contributions to reaching relevant agreements; secondly, the two agree to maintain exchanges on the conservation and sustainable use of marine biological resources in the South Pole, including the establishment of an Antarctic marine reserve. China and France are strong proponents of international actions against marine and land plastic pollution by strengthening existing mechanisms, especially the Basel Convention.	

