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Research Report

Study on Rule of Law and Ecological Civilization

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Major Research Findings

The Task Force (TF) on Rule of Law and Ecological Civilization comes to the following major research findings after in-depth and painstaking research taking into consideration of China's actualities and new requirements of The 2030 Agenda for Sustainable Development of the United Nations (hereafter referred to as "the Agenda") and with a view to provide sound legal guarantee for China 's ecological progress:

I. It is imperative to put in place the Legal Guarantee Scheme for China's Sustainable Development (hereafter referred to as the "Legal Guarantee Scheme") that adapts to the Agenda.

The Legal Guarantee Scheme has been formulated on the following grounds: a) the sustainable development in the economic, social and environmental fields has risen as a core issue of global concern; b) in the process of post-development with large population and per capita resource shortage, China needs to open up a new path of sustainable development as it is impossible to follow the unsustainable old path towards industrial civilization nor to transfer the crisis of resource shortage and environmental pollution; c) China has always supported and played a significant role in the work of the United Nations. As the largest developing country, China attaches high importance to the integration of its national development strategy with the implementation of the Agenda in order to achieve coordinated development.

In view of the new requirements of the Agenda and actual needs of China's Sustainable Development in 2030, the TF suggests China provide legal guarantee for ecological progress incorporating pollution prevention, environmental protection, climate change, and green, low-carbon and circular development, and develop the Legal Guarantee Scheme for China's Sustainable Development in support of with the implementation of the Agenda.

II. Advancing the implementation of five-year legislative plan and updating legislative projects for environment and resources

A. Advancing the implementation of five-year legislative plan

According to the legislative plan outlined by the 12th NPC Standing Committee, a bunch of laws relevant to environmental resources protection have been formulated and revised or under the process, covering environmental protection, environmental impact assessment, water, air and soil pollution prevention and control, wildlife protection, forests, standardization, tourism, mine safety, marine, cultural relic protection, nuclear safety, mineral resources and exploration and exploitation of deep seabed marine resources, etc. Regarding laws revised or formulated, it is recommended relevant departments continue to follow up and assess their implementation, with particular attention to the legal provisions that can be linked with the Agenda, and take them as an important assessment indicator; for those not yet completed, more efforts should be made to accelerate the process.

B. Updating legislative projects for environment and resources

The *Law on the Management of Environment of Hazardous Chemicals* shall be formulated. The system of multi-departmental management of hazardous chemicals should be reformed by integrating the administrative supervisory functions of hazardous chemicals scattered in departments, covering environmental protection, safety, traffic, and public security, to establish a unified, independent and efficient system of safety supervision and environmental risk prevention and control. The *Law on Environmental Management of Hazardous Chemicals* that applies to all hazardous chemicals should be introduced, so as to clarify the legal responsibilities of regulators, producers and users.

The *Law on Environmental Impact Assessment* shall be revised and comprehensive environmental permit system shall be explored. The existing *Law* on *Environmental Impact Assessment* should be revised by further clarifying the restraints on government policies and plans, as well as industrial structure and layout, in order to enhance its independence and scientific nature. The reliability, transparency and enforceability of the system shall be improved through the administrative supervision, public participation and judicial supervision, so as to control various types of industrial site pollution (air, water, noise, soil and waste pollution).

The *Law on Regional Protection of Nature* shall be introduced. It is recommended to study and draft laws on nature protection areas and laws on natural resource asset management, according to the tasks of the reform for promoting ecological progress.

The compilation of environmental code shall be promoted. With basically built ecological civilization system covering the whole process of production and consumption and the basic areas of eco-environment, environmental code shall be compiled in line with the need to integrate environmental legal systems.

C. It is necessary to formulate the Special Law on Atmospheric Environmental Protection in the Beijing-Tianjin-Hebei Region to provide legal guarantee for regional coordinated environmental governance

1. The special problems facing the Beijing-Tianjin-Hebei region need to be addressed through legislation which further clarifies the measures made by the Law on Air Pollution Prevention and Control and defines into rights and obligations of the parties to make them mandatory. This will provide experience for joint pollution prevention and control in other regions;

2. The situation of air pollution and ecological damage calls for sorting out administrative laws and local regulations, departmental rules and local rules, plans and standards, to allow case-specific treatment and priority pilot and extend the reform measures for promoting ecological progress to the Beijing Tianjin-Hebei region;

3. Uncoordinated provincial planning and disorderly competition among local governments lead to industry duplication and overcapacity. It is necessary to carry out the supply side reform to integrate the forces and resources of various localities and departments so as to enhance the overall regional industrial capability of environmental protection, and form complementary industries and maximum benefits among regions. Meanwhile, the market

regulation mechanism should be fully used in the pursuit of environmental objectives;

4. Poor inter-provincial convergence of policies and systems easily leads to trans-boundary pollution and pollution transfer and undermine the structural upgrading and supply side reform of the Beijing Tianjin-Hebei region. To be standardized and deployed, it is necessary to clarify the authorities and responsibilities within and between the institutions, strengthen the accountability of the party committee and government, and improve capacity.

5. The fair implementation of responsibilities and coordinated collaboration in the region are impeded due to mismatched rights and obligations between provinces, asymmetric information, and unbalanced implementation of measures;

6. Regional coordination measures are difficult to proceed due to poor coherence of provincial administrative management, and some special measures require special legal authority to ensure that the regulatory bodies have authority, power and capacity to match their responsibilities and are able to independently implement and enforce laws and avoid undue interference by local governments.

D. Building a green-oriented legal system

To address the issue that legislation in other economic and resource fields "seriously undermines" environmental laws, it is imperative to stipulate environmental protection in the relevant laws and active efforts should be made to study and explore an ecological and green oriented legal system. In other words, we need to incorporate the ideas, principles and norms of ecological progress and sustainable development into laws such as the Constitution, civil and commercial law, administrative law, economic law, social law, criminal law, litigation and non-litigation procedural law. The legal connotation and denotation of the environment should be clearly stipulated. The civil law should define the environmental right as important content of citizenship, reflecting the principle of promoting ecological progress and curbing environmental degradation, and stipulate that the use of real right shall not undermine the public resources and environmental rights and interests of citizens. The accountability system for environmental infringement needs tightening and a social relief mechanism for environmental infringement is expected.

III. Reinforcing law-based administration and public compliance

First of all, improving the rule of law for sustainable development is a systematic project requiring the participation of all social forces. In addition to perfecting the legal system, strengthening administration and impartial justice according to law, we need to enhance the awareness of law and the idea of rule of law in the whole society, so as to create a social atmosphere of self-conscious study, compliance and usage. Second, a coordinated and efficient environmental regulatory system should be built and improved, to ensure that environmental protection departments as well as other competent departments dependently exercise, free from undue interference of local governments, supervision and management authority in accordance with the law. The environmental accountability system and its implementation mechanism should be strengthened to play the role of social participation and supervision and urge and alert the parties to fulfill their duties seriously.

Finally, a strong culture of compliance needs to be created in national agencies, enterprise and public institutions and the community. This involves a) information card and environmental education activities; b) promotion of the participation of the public and enterprises in the development of environmental standards and environmental objectives; c) strong and transparent compliance and enforcement activities, focusing on areas where human health and environmental impacts are more prominent; d) regular publicity of the results of these compliance and enforcement activities to increase credibility and overall compliance; and e) public dissemination of environmental outcomes, including efficiency of environmental regulation and its compatibility with economic growth.

IV. Beefing up the judiciary safeguard for ecological progress

A. Reforming the jurisdictions of environmental damage cases across administrative areas

1. The extent of jurisdiction should be defined according to the environmental region. The jurisdiction of environmental resource cases particularly needs to break the traditional pattern of civil, administrative and criminal jurisdictions and follow the appropriate division of labor and power of courts at the first instance, to achieve an overall response and systemic solution to disputes.

2. It is recommended to set up the People's Court Circuit Court to hear major environmental cases across administrative regions.

3. With respect to environmental pollution cases that are supposed to be accepted, the people's courts shall file the cases and accept the complaints, if any, to protect the right to appeal.

4. In order to promote the specialized trial of environmental damage cases, the Intermediate People's Courts, the High People's Courts and the Supreme People's Courts are expected to establish environmental resource courts. The Intermediate People's Courts may set up environmental resources tribunal(s) in the grassroots people's courts with defined jurisdiction according to the number of cases and the burden of protection.

B. Promoting public interest litigation for environmental damage

1. It is necessary to improve the environmental public interest litigation system by relaxing plaintiff qualifications, to promote environmental public interest litigation. Social environmental organizations are encouraged to engage in environmental public interest litigation. Public participation and judicial openness of the trial over environmental resources should be intensified. The environmental public interest litigation fund system should be advanced.

2. The convergence of environmental litigation and non- litigation proceedings is advocated to maximize social harmony.

3. People's procuratorates are supported to file environmental public interest litigations, in an effort to promote environmental governance and social justice.

C. Improving the provisions of environmental crime in the criminal law and appropriately increasing environmental crime statutory sentence

The sentence for environmental pollution crimes stipulated in Article 338 of the Criminal Law of China is relatively low, up to only seven-year fixed-term imprisonment, and it is necessary to enhance the statutory sentence configuration, at least up to fifteen-year fixed-term imprisonment, or even life imprisonment, so as to ensure the sentence is in proportion to the social harm of environmental pollution crimes and meet the actual needs to increase the punishment of environmental pollution crimes.

Major Policy Recommendations

I. Developing the Legal Guarantee Scheme for China's Sustainable Development

In September 2015, *Transforming our World: The 2030 Agenda for Sustainable Development* (hereinafter referred to as the Agenda) was adopted at the United Nations Summit on Sustainable Development, outlining a directional blueprint for the development and cooperation of countries around the world in the next 15 years.

The Chinese Government attaches high importance to the Agenda. The 13th Five-Year Plan, passed at the 4th Session of the 12th National People's Congress (NPC) in March 2016, made an explicit requirement to "actively implement the 2030 Agenda for Sustainable Development". The Chinese Government has also formulated and issued *China's National Plan for Implementing The 2030 Agenda for Sustainable Development* (hereinafter referred to as the National Plan) to effectively dock the work with the Agenda.

In order to give full play to the irreplaceable role of the rule of law in advancing the sustainable development process, it is suggested that the Chinese Government develop the *Legal Guarantee Scheme for China's Sustainable Development* (hereinafter referred to as the Legal Guarantee Scheme) serving as an important guarantee for implementing the Agenda in the country.

The goal of the Legal Guarantee Scheme is a) by 2020, to basically establish the system and shape the legal framework for promoting ecological progress, such as those concerning air, water and soil pollution, toxic and harmful chemicals and environmental protection in major regions and basins; b) by 2030, to establish a full-fledged legal system for promoting ecological progress and boosting green, circular, and low-carbon development.

The Legal Guarantee Scheme envisages legislative ideas and law enforcement plans to guarantee sustainable development by 2030. It is recommended to develop the legislative plan and law enforcement plan once the Legal Guarantee Scheme is drafted.

The Chinese Government is also recommended to be deeply involved in the establishment and improvement of the global sustainable development indicator framework, and actively follow up and participate in the research and formulation of sustainable development measurement methodology through strengthened cooperation with international organizations.

II. Improving sustainable development legislation at present and in the future

A. Advancing the implementation of five-year legislative plan in convergence with the Agenda

The legislative projects on sustainable development arranged in the legislative plan outlined by the 12th NPC Standing Committee is consistent with the Agenda. It should be highly appraised that a bunch of laws have been formulated and revised, covering environmental protection, environmental impact assessment, air pollution prevention and control, wildlife protection, tourism, cultural relic protection, and exploration and exploitation of deep seabed

marine resources. Regarding laws included in the legislative plan, but not yet completed, it is recommended to mobilize resources and overcome difficulties to ensure the completion as schedule, such as the water pollution prevention and control law, soil pollution prevention and control law, forest law, standardization law, mine safety law, marine basic law, nuclear safety law and mineral resources law.

B. Updating timely the legislative plan for on-demand adjustment of legislative projects

4. Development of the *Law on the Management of Safety and Environment of Hazardous Chemicals*

The system of multi-departmental management of hazardous chemicals should be reformed by integrating the administrative supervisory functions of hazardous chemicals scattered in departments, covering environmental protection, safety, traffic, and public security, to establish a unified, independent and efficient system of safety supervision and environmental risk prevention and control. The *Law on Environmental Management of Hazardous Chemicals* that applies to all hazardous chemicals should be introduced.

5. Amendment of the *Law on Environmental Impact Assessment* and development of the *Law on Comprehensive Environmental Permit*

The existing *Law* on *Environmental Impact Assessment* should be revised by further clarifying the restraints on government policies and plans, as well as industrial structure and layout, in order to enhance its independence and scientific nature.

A comprehensive environmental permit system that centers on pollution prevention and control permit should be built to strengthen dynamic environmental supervision. It will encompass the acceptance of environmental protection facilities, reporting of pollution discharge, supervision of compliance discharge, and control of the total emissions.

6. Introduction of the *Law on Regional Protection of Nature*

In view of the problems encountered in different regions, such as over-exploitation, overlapping management, insufficient protection funds, unclear land ownership and increasing pressure on community development, it is necessary to integrate natural protection areas, including nature reserves, tourist destinations, forest parks and geological parks, into the scope of the legislative adjustment and form the *Law on Regional Protection of Nature*.

7. Environmental codification

It is recommended to incorporate the environmental code into the legislative plan of the 13th NPC Standing Committee. To this end, a) the Law Committee of the NPC Standing Committee should study and compile, in conjunction with the relevant parties, environmental protection laws and regulations focused on pollution prevention and control, and strive to build a clearly defined well-structured legal system with complete content and strict logic in pollution prevention and control. b) The research on codification should be well conducted in a phased manner, including law theory on environmental codification, foreign environmental codification, theoretical framework of environmental codification, and basic principles and

systems of environmental protection laws.

8. Formulation of the *Special Law on Atmospheric Environmental Protection in the Beijing-Tianjin-Hebei Region* (hereinafter referred to as the Special Law)

(1) The Special Law should be enacted in a timely manner to address atmospheric environmental problems in the Beijing-Tianjin-Hebei region. This integrated law concerning ecological conservation and air pollution prevention and control is designed specifically for regional liability, regional action, and regional coordination. It serves as an administrative law mainly applicable to Beijing, Tianjin and Hebei Province.

(2) The Special Law follows the following basic principles: a) combination of air pollution prevention and control and ecological progress; b) common but differentiated responsibilities; c) partnership; d) coordination of protection and autonomy; and e) atmospheric environmental quality management as the core.

(3) The regulatory system for atmospheric environmental protection in the Beijing-Tianjin-Hebei region should be changed to expand the regulation to large regions that cross administrative divisions. According to the 13th Five-Year Plan, it is worth consideration to set up the Regional Environmental Protection Division and River Basin Environmental Protection Division, of which the former coordinates supervision centers of different regions except the Beijing-Tianjin-Hebei region. It is also recommended is to create the Beijing-Tianjin-Hebei Regional Environmental Protection Agency attached to the North China Environmental Protection Supervision Center.

(4) The systems that can be established in the enactment of the Special Law include a) an environmental impact assessment (EIA) system that reflects strategies and policies concerning environmental planning, industrial restructuring and regional development; b) a multi-disciplinary system and an urban growth boundary system; c) a system for overall protection of the ecological environment; d) a system of uniform standards and technical specifications; e) a unified government funding and use system; f) a coal and oil limit system that considers atmospheric environmental quality objectives; g) unified systems for total quantity control, allowance allocation and emissions trading in the context of atmospheric environmental quality objectives; h) unified systems for environmental monitoring, emergency response and prevention and control coordination; and i) a unified public interest litigation system.

(5) The legal mechanisms worth consideration in the enactment of the Special Law include a) a unified atmospheric environmental monitoring network and information platform; b) a unified system of public participation; c) coordination of law enforcement standards and procedures to dock enforcement d) unified public interest litigation measures; and e) unified ecological compensation measures.

(6) The legal liability systems that can be introduced to the Special Law include a) the special civil liability system and implementation mechanism; and b) the special administrative legal liability system and implementation mechanism.

C. Building a green-oriented legal system

It is imperative to green the relevant environmental protection laws to address the issue that legislation in other fields “seriously undermines” the effects of environmental laws. In other words, the ideas, principles and norms of ecological progress and sustainable development should be incorporated into laws, especially in the process of civil codification, such as the Constitution, civil and commercial law, administrative law, economic law, social law, criminal law, litigation and non-litigation procedural law, so that the systems and measures favorable for environmental protection can continue to play the due role in all fields., special attention should be paid to reflecting the ideas, principles and important norms of promoting ecological progress and environmental protection.

The Constitution and the laws should clearly define the legal connotation and denotation of the environment and stipulate the environment as a public resource or public share. The formulation of civil law should stick to the principle of promoting ecological progress and curbing environmental degradation. The environmental right should be considered as important content of citizenship by stipulating that the use of real right shall not undermine the public resources and environmental rights and interests of citizens.

III. Reinforcing law-based administration and public compliance

A. Enhancing law-based administration

1. Robust institutional guarantee should be put in place for implementing the Agenda towards 2030. Efforts should be made to accelerate the legislation on improving the protection of the ecological environment and strengthening government development, with focus on the establishment of a full-fledged, scientific, standardized, and effective system of administration according to law. Administrative decisions should be made in a scientific, democratic, and legal manner, to ensure quality based on scientific system, procedural justice, open process, clear responsibility. The credibility and execution of administrative decisions needs enhancement while illegal, improper, and delayed decision making should be minimized and corrected promptly. At the same time, it is necessary to safeguard and protect the citizen's right to know. The system of government information disclosure should be improved to ensure the legal access of citizens, legal persons and other organizations, increase government work transparency and promote administration according to law.

2. Governments at all levels are required to assume the primary responsibility according to clearly defined responsibilities. In accordance with the specific objectives and targets of the Agenda, a policy guarantee system guided by national policies and supported by special policies and local policies should be established, with focus put on environmental protection reinforcement, active response to climate change, effective utilization of energy resources, and state governance improvement. It is necessary to create the mechanism for effective policy implementation at "central - local - grassroots" levels while strengthening coordination across fields and sectors.

3. Environmental law enforcement should be strengthened in a vertical management system. In view of the issued *Guiding Opinions on the Pilot Reform of Vertical Management System*

for Environmental Monitoring, Supervision, and Law Enforcement by Environmental Protection Agencies Below the Provincial Level, it is recommended to a) early put in place mechanism, equipment and personnel support and adapt the relevant laws to the vertical management system; b) establish a complete substantive law and procedural law to deepen the standardization of law enforcement; c) reinforce law enforcement foundation and capacity building, so that environmental legislation can be effectively implemented; d) set law enforcement access threshold and strengthen law enforcement personnel training; e) strengthen standardization of monitoring equipment and application of technical means including automatic monitoring, satellite remote sensing, and unmanned aerial vehicles; and f) improve the funding mechanism for environmental supervision and law enforcement by integrating the funds into the scope of full-range fiscal guarantee at the same level.

4. It is suggested to change "National Economic and Social Development Plan" to "National Plan for Economic and Social Development and Environmental Protection" prioritizing the comprehensive and coordinated green development in economic, social and environmental fields.

B. Enhancing public compliance

1. The workers of Party and government organs at all levels, especially departments closely related to sustainable economic and social development, should take the lead in abiding by the Constitution and laws and fostering the idea of sustainable development and law-ruling awareness, and well use the law to solve practical problems challenging sustainable economic and social development.

2. The scope of public participation should be expanded to protect the people's right to know, to participate, to express and supervise. It is recommended to make environmental courses widely available in universities.

3. In addition to voluntary and mandatory information disclosure, enterprises are advised to build an environmental contract based system of agreed information disclosure to the specific parties who bear the obligation to keep confidential, in order to solve the conflict between trade secrets and the right to know. The corporate environmental information disclosure list is advocated, including classification of information and degree of openness, to standardize the way to disclose information. A sound relief mechanism should be introduced for parties involved in the disclosure of corporate environmental information.

IV. Beefing up the judiciary safeguard for ecological environment

A. Reforming the jurisdictions of environmental damage cases across administrative areas

1. The extent of jurisdiction should be defined according to the environmental region. The jurisdiction of environmental resource cases particularly needs to break the traditional pattern of civil, administrative and criminal jurisdictions and follow the appropriate division of labor and power of courts at the first instance, to achieve an overall response and systemic solution to disputes.

2. It is recommended to set up the People's Court Circuit Court to hear major environmental cases across administrative regions.

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Project Background and Implementation Process

I. Project background

During October 26-29, 2015, the 5th Plenary Session of the 18th Central Committee of the Communist Party of China (CPC) took place and put forward that, to persist in green development, we should adhere to the basic national policy of reducing resource use and protecting the environment, and to persist in sustainable development, we should firmly take the path towards coordinated development of production, life and ecology. According to the meeting, the pace should be accelerated to build a resource-saving and environment-friendly society and shape a new dimension for modernization with harmony between man and nature, in a move to push ahead the construction of a beautiful country and make a new contribution to global ecological security. We should promote harmonious co-existence between man and nature by building scientific and rational structures concerning urbanization, agricultural development, ecological security and natural shorelines and fostering industrial systems of green, low-carbon, and circular development. Main functional zones should be created quickly to play a due role in the basic systems concerning land exploitation and protection. We should comprehensively conserve and efficiently use resources with a view of intensive utilization and recycling, and establish sound initial allocation rules for energy use, water use, waste discharge, and carbon emissions to create a social wind of diligence and thriftiness. Environmental governance aimed at improving the environmental quality will be intensified with implementation of the most stringent environmental protection system, action plans for control and prevention of air, water and soil pollution and the vertical management system for environmental supervision, inspection and enforcement bodies below the provincial level. We will build ecological security barriers that give preference to protection and focus on natural restoration. Ecological protection and restoration plans concerning mountains, waters, forests, fields and lakes will be carried out, as well as large-scale land greening action and blue bay remediation action, and the system for protecting natural forests will be improved.

In September 2015, the United Nations Summit on Sustainable Development adopted the *Transforming our World: The 2030 Agenda for Sustainable Development* (hereinafter referred to as the Agenda) and announced 17 sustainable development goals (SDGs) and 169 associated targets that came into effect on January 1, 2016 and will be implemented by 2030. The Chinese Government supports the formulation of the Agenda and is committed to working with States to advance the implementation of the Agenda. On September 26, 2015, Chinese President Xi Jinping expressed the willingness and determination in his address entitled "Working Together to Forge a New Partnership of Win-win Cooperation and Create a Community of Shared Future for Mankind" to the UN General Assembly at the UN Headquarters in New York. On September 20, 2016, Chinese Premier Li Keqiang chaired a high-level symposium on the theme of "A Universal Push to Transform Our World – China's Perspective" at the UN Headquarters in New York. He pointed out that "poverty and hunger eradication should be taken as the top priority and more efforts should be made to promote robust, sustainable, balanced and inclusive economic growth to provide support, in an bid to form virtuous circle in three major fields including economy, society and environment and set

out a path of sustainable development with economic prosperity, social progress and beautiful environment". The Chinese Government has already ratified *China's National Plan for Implementing The 2030 Agenda for Sustainable Development* (hereinafter referred to as the National Plan).

The China Council for International Cooperation on Environment and Development (CCICED) has long been committed to China's green transformation in the environment and development. Focusing on "Management and Institutional Innovation in Green Development", the theme of 2015 Annual General Meeting (AGM) was set to be "National Governance Capacity for Green Transformation" with a view to the "fifth modernization" in China – modernization of the national governance capacity and governance system, a significant strategic and forward-looking policy initiative to promote ecological progress and green transformation according to China's needs in the field of environment and development.

With the approval of the CCICED Bureau, the Task Force (TF) on Rule of Law and Ecological Civilization conducted the study during 2015-2016. In 2015, the TF completed the reports and policy recommendations focusing on "improvement of environmental legislation to promote the ecological legal system" and "strict environmental law enforcement to achieve legislative expectations". On this basis, the study in 2016 will be focused on such core issues as legal guarantee for China's sustainable development and environmental legislation, justice, compliance and enforcement at present and in the future, in line with the requirement of the rule of law according to the overall deployment of the CPC Central Committee to comprehensively promote ecological progress.

II. Implementation process

The objectives of this study include:

(1) "Legal Guarantee Scheme for Sustainable Development by 2030";

(2) "Environmental Legislation at Present and in the Future", including "Law on Management of Safety and Environment of Hazardous Chemicals" and the special law on atmospheric environmental protection in the Beijing-Tianjin-Hebei region;

(3) "Strengthening Public Compliance and Law Enforcement";

(4) "Recommendations on Reinforcing the Judiciary Safeguard for Ecological Environment";

To achieve the above objectives, the Task Force has mainly carried out the following work:

(1) Propose a legal safeguard scheme to facilitate the rule of law in favor of ecological progress and sustainable development, with a view to ecological civilization through development towards 2030 in line with the SDGs outlined by the United Nations.

(2) Study the important environmental legislation in the near future and the next stage. It covers the formulation of the *Law on Management of Safety and Environment of Hazardous Chemicals* which is applicable to all hazardous chemicals; improvement oriented amendment of the existing *Environmental Impact Assessment Law*, and development of laws on natural

protection areas and laws on the management of natural resources assets, as well as promotion of environmental codification in a timely manner.

Explore an ecological and green legal system.

Explore the development of special law on atmospheric environmental protection in the Beijing-Tianjin-Hebei region. By employing a variety of means, the Task Force seeks solutions in dimensions such as legislation, policies, decisions, law enforcement and systems, which provide comprehensive and strong support for protecting the atmospheric environment and promoting economic and social development in the context of coordinated regional development. Against the background of promoting the rule of law in an all-round way as established by the 4th Plenary Session of the 18th CPC Central Committee, the protection of ecological environment in Beijing-Tianjin-Hebei region should always adhere to rule of law first and foremost and give full play to its regulatory and guiding functions. International experience in regional environmental legislation can be drawn on in the research and development of the special law.

(3) Develop the path to strengthening law enforcement capacity building. It is recommended to change "National Economic and Social Development Plan" to "National Plan for Economic and Social Development and Environmental Protection" prioritizing the comprehensive and coordinated green development in economic, social and environmental fields. This requires efforts to promote compliance of the public and enterprises; protect citizens' right to know and define citizens' environmental protection obligations; promote corporate environmental responsibility and expand corporate environmental information disclosure.

(4) Comprehensively strengthen judicial safeguard for ecological progress. The 3rd and 4th Plenary Sessions of the 18th CPC Central Committee called for strict and impartial justice which creates an important opportunity and guarantee to comprehensively promote ecological progress and rule of law. Therefore, the Task Force intends a) to sort out the present situation, existing problems and reasons of environmental justice in China; b) to propose and analyze the necessity and general idea of environmental judicial reform in the future; and c) set out and analyze the main tasks and specific measures of environmental judicial reform. It involves four issues, including a) jurisdiction of environmental cases across administrative areas. This addresses the problem of environmental disputes on inter-basin pollution according to the characteristics of environmental cases; b) improvement of environmental public interest litigation system, involving participation of procuratorial organs in environmental public interest litigation; c) environmental damage appraisal and judicial judgment. A scientific and authoritative assessment and appraisal mechanism is expected to facilitate impartial judgment and protection of legitimate rights and interests of the victims in accordance with the law; and d) punishment for environmental crimes. The provisions of potential damage offense will be added to let the criminal law play the screening role.

Since the project began in March 2015, the Task Force has held two meetings of Chinese and international co-chairs to discuss the implementation plan, research scope and expected results of the project which paves the foundation for the follow-up work. The project start-up meeting and the first working meeting took place on June 3, 2015. It passed the

implementation plan and work arrangements, further clarifying that the Phase I study in 2015 is focused on a) legislation and ecological progress and b) law enforcement and ecological progress. Held on September 4, 2015, the second working meeting discussed in detail policy recommendations and Phase I research report based on previous research findings to fully draw on international experience in environmental legislation and law enforcement in combination with China's actual situation. In addition, the Task Force convened several internal meetings and teleconferences and e-mail discussions to consider the opinions and suggestions of international and Chinese experts in order to enhance the quality and practical significance of the reports and policy recommendations. The research findings in the first phase were submitted to the Council in November 2015, encompassing research reports and policy recommendations focused on "Improving Environmental Legislation and Promoting Ecological Legal System" and "Strictly Enforcing the Law to Achieve Legislative Expectations". The basic pre-research done in other aspects due to time constraint lays the foundation for further study in 2016. The Phase II report will be presented to CCICED in December 2016.

The Task Force kicked off Phase II in January 2016 following the report to CCICED Annual General Meeting in 2015. The study will cover four parts, including a) Legal Guarantee Scheme for China’s sustainable development by 2030; b) recommendations on improving environmental legislation at present and in the future; c) recommendations on strengthening public compliance and law enforcement; d) recommendations on reinforcing judicial safeguard for ecological environment. In 2016, the Task Force has held five meetings of Chinese and international co-chairs for detailed and comprehensive discussion on the implementation plan, research scope and expected results, paving the way for the follow-up meetings. In July, 2016, members of the Task Force paid a one-week visit to New South Wales of Australia, including visits to the New South Wales Land and Environment Court, Environmental Protection Bureau, Justice Bureau, and Legislative Counseling Commission, and acquired more understanding of the New South Wales environmental rule of law system and the status quo. A research report on the fruitful findings of the visit has been submitted. As scheduled, the Task Force will submit the Final Report (Chinese and English) in November 2016 and report the Phase II research findings in December 2016 at the CCICED AGM.

Contents

Part I. Legal Guarantee Scheme for China's Sustainable Development by 2030

Chapter I Purpose

I. Background

In September 2015, the United Nations Summit on Sustainable Development adopted *Transforming our World: The 2030 Agenda for Sustainable Development* (hereinafter referred to as the Agenda) and announced 17 sustainable development goals (SDGs) and 169 targets that came into effect on January 1, 2016 and will be achieved by 2030. The Agenda outlining a directional blueprint for the development and cooperation of countries around the world in the next 15 years.

The Chinese Government attaches high importance to the Agenda. On September 26, 2015, Chinese President Xi Jinping expressed the willingness and determination in his address entitled "Working Together to Forge a New Partnership of Win-win Cooperation and Create a Community of Shared Future for Mankind" to the UN General Assembly at the UN Headquarters in New York. On September 20, 2016, Chinese Premier Li Keqiang chaired a high-level symposium on the theme of "A Universal Push to Transform Our World – China's Perspective" at the UN Headquarters in New York. He pointed out that "poverty and hunger eradication should be taken as the top priority and more efforts should be made to promote robust, sustainable, balanced and inclusive economic growth to provide support, in a bid to form virtuous circle in three major fields including economy, society and environment and set out a path of sustainable development with economic prosperity, social progress and beautiful environment". The 13th Five-Year Plan, passed at the 4th Session of the 12th National People's Congress (NPC) in March 2016, made an explicit requirement to "actively implement the 2030 Agenda for Sustainable Development". The Chinese Government has also formulated and issued *China's National Plan for Implementing The 2030 Agenda for Sustainable Development* (hereinafter referred to as the National Plan) to effectively dock the work with the Agenda. Once put in practice, the Legal Guarantee Scheme will exert a significant and far-reaching impact on China's sustainable development.

There have been many goal and policy proposals made on the basis of scenario analysis of China's sustainable development by 2030 and 2050. The Chinese Government also announced the intended nationally determined contributions (INDCs) on June 30, 2015 prior to the Paris climate change conference and pledged to, by 2030, reduce carbon intensity, i.e. carbon dioxide emissions per unit of gross domestic product (GDP) by 60%-65% from the 2005 level, increase the share of non-fossil energy in primary energy to about 20%, increase forest volume by 4.5 billion cubic meters from the 2005 level, and reach the peak of carbon dioxide emissions and strive to peak early.

II. Necessity

1. The sustainable development of economy, society and environment has risen as a core issue of global concern development.

"Peace and development remain the main themes of today's world and the promotion of sustainable development is the ultimate solution to all kinds of global problems," Premier Li Keqiang said. The fact shows that the destruction of nature since the Industrial Revolution finally broke out in the last few decades and will exert far-reaching impact. Many cross-country, trans-regional large-scale environmental disasters, including global climate change, biodiversity loss, and desertification intensification, are threatening the livelihood and survival of hundreds of millions of people in the world, and the root cause of these problems is uncontrolled economic growth. Given the practical experience of global governance, in the process of promoting global sustainable development, developed countries and developing countries have a high degree of consistency at the theoretical cognitive level, which has never been seen before in the discussion on international problems since the economic globalization.

2. China's sustainable development is faced with constraints.

In the process of post-development with large population and per capita resource shortage, China needs to open up a new path of common development and sustainable development as it is impossible neither to follow the unsustainable old path towards industrial civilization nor to transfer the crisis of resource shortage and environmental pollution. Currently, sustainable development is constrained in four aspects: a) with accelerated economic and industrial restructuring, the total energy consumption begins to peak and decrease, but will remain at a high level in the near future. Environmental pressure caused by high energy consumption will also continue for a long time. For example, the carbon dioxide emissions will peak in 2030 according to China's INDC program; b) China's environmental protection system is deficient in certain aspects. The systems for effective management of soil pollution, heavy metals and toxic and hazardous chemicals have not yet been established, resulting in lack of management capacity; c) the change from reduced energy consumption and total emissions to improved ecological environment requires a progressive, long natural process; and d) the reform for promoting ecological progress remains in the stage of start-up and pilot, and there are still at least 5-10 years before new sophisticated systems and mechanisms take shape and play a substantial role in improving the quality of the ecological environment.

3. China has always supported the UN work and played an important role in its operations.

China is one of the major founding members of the UN and a permanent member of the UN Security Council. It has always been committed to fulfilling its international obligations and actively participating in all areas of the UN work, thus contributing Chinese wisdom and power to world peace and security and common development of mankind. China has always defended the UN-centered international system and safeguarded the purposes and principles of the Charter of the United Nations. It serve as an important force to world peace and development by actively promoting dialogue and peaceful settlement of disputes and deeply

participating in cooperation addressing global challenges such as climate change. As the largest developing country, China attaches high importance to the integration of its national development strategy with the implementation of the Agenda to promote coordinated development.

Chapter II New requirements put forward in the Agenda

I. New requirements under the Agenda for civil, commercial and economic legislation

Goals under the Agenda involving economic legislation for sustainable development include:

1. End poverty in all forms everywhere. It therefore needs to a) implement nationally appropriate social protection systems and measures for all; b) ensure that all men and women, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance; and c) create sound policy frameworks at the national, regional and international levels.

2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture. It therefore needs to a) ensure sustainable food production systems... b) strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and progressively improve land and soil quality; c) correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect.

3. Strengthen the means of implementation and revitalize the global partnership for sustainable development. It therefore needs to a) enhance global macroeconomic stability, including through policy coordination and policy coherence; b) enhance policy coherence for sustainable development; and c) respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development.

II. New requirements under the Agenda for social legislation

Goals under the Agenda involving social legislation for sustainable development include:

1. Ensure healthy lives and promote well-being for all at all ages. It therefore needs to a) substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination; and b) strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate.

2. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. It calls for ensuring that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, and global citizenship.

3. Achieve gender equality and empower all women and girls. It therefore needs to a)

undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources; and b) Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.

4. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. It therefore needs to a) promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation; b) decouple economic growth from environmental degradation, in accordance with the 10-year framework of programs on sustainable consumption and production; and c) devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products. efforts to decouple economic growth and environmental degradation in line with the 10-year framework of the Program of Programs on Sustainable Consumption and Production And implement policies to promote sustainable tourism in order to create employment opportunities and promote local culture and products.

5. Reduce inequality within and among countries. It is necessary to a) empower people of all kinds; b) ensure equal opportunity and reduce inequalities of income, including by promoting appropriate legislation, policies and action in this regard; c) adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality; and d) implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements.

6. Ensure sustainable consumption and production patterns. The included targets are to: a) implement the 10-year framework of programs on sustainable consumption and production; b) achieve the sustainable management and efficient use of natural resources; c) achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment; d) substantially reduce waste generation through prevention, reduction, recycling and reuse; e) ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature; f) develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products; and g) rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities.

7. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels. It is

therefore necessary to a) promote the rule of law at the national and international levels and ensure equal access to justice for all; b) develop effective, accountable and transparent institutions at all levels; c) ensure responsive, inclusive, participatory and representative decision-making at all levels; d) broaden and strengthen the participation of developing countries in the institutions of global governance; and d) ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements.

III. New requirements under the Agenda for environmental legislation

Goals under the Agenda involving environmental legislation for sustainable development include:

1. Ensure availability and sustainable management of water and sanitation for all. The targets included are to a) achieve universal and equitable access to safe and affordable drinking water for all; b) improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally; c) substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity; d) implement integrated water resources management at all levels, including through trans-boundary cooperation as appropriate; e) protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes; f) expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programs, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies; and g) support and strengthen the participation of local communities in improving water and sanitation management.

2. Ensure access to affordable, reliable, sustainable and modern energy for all. It therefore needs to a) increase substantially the share of renewable energy in the global energy mix ; b) double the global rate of improvement in energy efficiency; c) enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology; and d) expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all.

3. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation. It is necessary to upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

4. Make cities and human settlements inclusive, safe, resilient and sustainable. It encompasses such targets: a) strengthen efforts to protect and safeguard the world's cultural and natural heritage; b) significantly reduce the number of deaths and the number of people

affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations; c) support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning; d) substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels.

5. Take urgent action to combat climate change and its impacts. It requires us to a) strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries; b) integrate climate change measures into national policies, strategies and planning; and c) improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

6. Conserve and sustainably use the oceans, seas and marine resources for sustainable development. Among the targets are to a) prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution; b) sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans; c) minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels; d) effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics; e) conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information; f) prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation; and h) Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea which provides the legal framework for the conservation and sustainable use of oceans and their resources.

7. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. Among the targets are to a) ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements; b) promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and

reforestation globally; c) combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world; d) ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development; e) take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species; f) promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed; g) take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products; h) introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species; i) integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts; j) mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems; k) mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation; and l) enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities.

Taking into account the extensive new requirements put forward by the Agenda for sustainable development and the implementation of China's National Plan for sustainable development by 2030, the Task Force believes that it necessary to develop the Legal Guarantee Scheme to achieve the rule of law towards ecological civilization by addressing issues such as pollution prevention and control, environmental protection, response to climate change, and green and circular development.

Chapter III Formulation

I. Guiding ideas and principles

In line with the spirit of the CPC Central Committee on promoting ecological progress, China is pushing forward sustainable development in an innovative, coordinated, green, open and shared manner in the context of the "five-in-one" layout and the "four-comprehensive" strategy. The development of legal framework for sustainable development should, under the guidance of correct ideas, follow the basic principles that have been proved scientific and rational in the long-term legal construction, including resting on national conditions and realities, properly handling the relationship between economic development and resources and environment, and coordinating legislation and implementation.

1. Resting on China's national conditions and realities

The adherence to the national conditions and realities is an objective requirement for strengthening the rule of law for sustainable development. It requires us to actively learn from

foreign advanced and applicable experience while making efforts based on China's national conditions.

The most fundamental is to seriously study the actual needs of China's economic and social development and understand the measures taken in places and sectors to adapt to the sustainable economic development and demands of the people. The measures that are fruitful and universal can be upgraded to national systems and measures and those special integrated to special regulations.

2. Properly handling the relationship between economic development and resources and environment

The complex relationship between economic development and resources and environment has always run through the rule of law for sustainable development. Practice shows that properly handling the relationship is the basic experience and requirement for promoting and improving the rule of law for sustainable development. This requires protection in the process of development and development based on protection and persistence in conservation-oriented, safe, clean, and scientific development.

Given the experience acquired, we should integrate the ecological law not limited to resources and environmental laws directly related to sustainable development by laying down provisions in favor of environmental protection, resource conservation and sustainable development, in order to effectively protect and improve the ecological environment, conserve resources and energy, and promote sustainable development,

3. Coordinating legislation and implementation

In general, the rule of law covers legislation, law enforcement, justice, compliance and supervision. Among them, legislation addresses law formulation which in broad sense includes amendment, revocation and other legislative activities. Law enforcement, justice, compliance and supervision can be collectively referred to as law implementation.

China’s legal system has taken the initial shape, but the content of the legal system is still far from perfect. The quality and technique of legislation have yet to be further improved, and the legislative process needs more scientific democracy. It is therefore necessary to continue to strengthen the legislative work. The focus of future legislation, different from the past, should be gradually shifted from development of new laws to revision and perfection of the existing laws, paying more attention to the quality of legislation. It is in this sense, we believe that the future promotion of the rule of law should adhere to the coordinated development of law implementation and perfection.

II. Content

The goal of the Legal Guarantee Scheme is a) by 2020, to basically establish the ecological civilization system and shape the legal framework for promoting ecological progress, such as laws concerning soil pollution, toxic and harmful chemicals and environmental protection in major regions and basins; b) by 2030, to establish a full-fledged legal system for promoting

ecological progress and boosting green, circular and low-carbon development, and complete the environmental codification.

The Legal Guarantee Scheme envisages legislative ideas and planed steps to guarantee sustainable development by 2030. It will serve as a cornerstone for drafting the legislative plan for sustainable development by 2030. It is recommended to develop the legislative plan once the draft is completed.

BOX 1. The Rhine and its water quality

Gustaaf Borchardt

Chairman of the International Commission for the Protection of the Rhine (ICPR)

For many centuries, the Rhine (with a watershed ca. 200.000 km² affecting 9 countries) has played an important role in the history and the social, political and economic development in Europe. Multiple uses, conflicting interests and particularly environmental and flood problems in and along the river have highlighted the importance of an integrated approach aimed at protecting the Rhine. The Rhine, one of the largest rivers in Europe, has undergone a history of tremendous pollution fin the period 1950-1970 and impressive restoration in the 80ies. A fire at Sandoz in Basel in 1986 caused the death of all aquatic life for up to 400 km downstream. This changed the discussions in the commission – after developing and signing several specific legally binding conventions in 1976 - to a long term ambitious political environmental goal setting in 1987. Several programmes against pollution and for restoration were launched.

In the International Commission for the Protection of the Rhine (ICPR) the nine states in the river catchment and the European Commission cooperate in order to harmonize the many interests of use and protection in the Rhine area. Key elements are common interest in environmental issues, common political reaction after accidents/disasters or floods and common political will.

The launched programmes are a success story, as pollution could be reduced and even the salmon, a lost migratory species, is coming back to the Rhine. Since 1970, more than 100 billion Euros have been invested in constructing and improving municipal and industrial wastewater treatment plants. The result: the water quality has improved considerably. From being an open sewer in the seventies, the Rhine has developed into one of the cleanest rivers in Europe.

Today water quality is much better again but we are facing new challenges. Wastewater contains a diverse group of micropollutants, which are partly not eliminated in the wastewater treatment plants. Very low quantities of these pollutants are detectable in waters and may detrimentally affect life in the Rhine and drinking water production.

If, in spite of all precautionary measures, an accident occurs and considerably amounts of noxious substances flow into the Rhine, the international Warning and Alert Plan Rhine (WAP) is applied, informing all Rhine bordering countries, particularly those downstream the site of the accident. The polluter is in charge of informing the national authorities about the

accident. Following his information, one of the seven main warning centers along the Rhine between Basel and Arnhem (NL) passes on the information to the warning centers located downstream, to local authorities and to water distribution companies.

The conference of Rhine ministers 2007 assigned the ICPR to develop a joint and comprehensive strategy for reducing and avoiding micro-pollutant inputs from urban wastewater and other (diffuse) sources into the Rhine and its tributaries by improving knowledge on emissions, eco-toxicological reactions in nature and to draft suitable treatment methods.

In addition to the pollution of water, the contamination of biota is a topic the ICPR is concerned with. Last year a pilot programme for measuring the pollutant contamination of biota was performed and will be analyzed this year, including substances like industrial chemicals and plant protecting agents. Following the pilot programme, a regular measuring programme will start in 2018.

The work of the ICPR has triggered water policy in the European Union. Today basin-wide and trans-boundary approaches in water management and the required co-operation between all countries in a catchment is a European obligation. Integrated river basin management was developed within the ICPR step by step: The ICPR is dealing with the reduction of water pollution since 1950, with Ecosystem improvement since 1987, with water quantity issues since 1995 and with groundwater issues since 1999. Now all is integrated in the two European Directives and several daughter directives.

Part II. Improving Sustainable Development Legislation at Present and in the Future.

Chapter I Improving Sustainable Development Legislation at Present

I. Advancing the implementation of five-year legislative plan in convergence with the Agenda

The legislative projects on sustainable development arranged in the legislative plan outlined by the 12th NPC Standing Committee is consistent with the Agenda. It should be highly appraised that a bunch of laws have been formulated and revised, covering environmental protection, environmental impact assessment, air pollution prevention and control, wildlife protection, tourism, cultural relic protection, and exploration and exploitation of deep seabed marine resources. Regarding laws included in the legislative plan, but not yet completed, it is recommended to mobilize resources and overcome difficulties to ensure the completion as schedule, such as the water pollution prevention and control law, soil pollution prevention and control law, forest law, standardization law, mine safety law, marine basic law, nuclear safety law and mineral resources law.

II. Updating timely the legislative plan for on-demand adjustment of legislative projects

A. Reform the current fragmented system for managing hazardous chemicals

Firstly, reform the current multi-department management system (including safety, environment protection, transport and public security) by integrating the supervisory functions and establishing a unified independent system to prevent and control environmental and safety risks.

Secondly, establish a unified legal system for identifying dangerous chemical substances and for risk evaluation drawing on the experience in foreign jurisdictions.

Thirdly, revise and improve current administrative requirements to establish a complete system for reporting and registration of new chemical substances and a system for the market entry of chemicals.

Fourthly, clarify fundamental requirements and measures to restrain (for example, by contents limits) or to eliminate high-risk chemical substances contained in varieties of products, based on actual demand.

Fifthly, in line with process requirements “from the cradle to grave”, clarify risk management requirements for toxic and hazardous chemical substances and products throughout their entire life span from R&D, production, use, consumption, import and export, transport, storage, abandonment and final disposal.

Sixthly, build an overall emergency response system for accident emergency and

environmental pollution handling.

Finally, develop a comprehensive liability system for safety and environmental protection by clearly imposing legal liabilities on producers, consumers and regulators.

BOX 2: REGULATION OF HAZARDOUS MATERIALS IN THE U.S.

U.S. regulation of the storage and discharge of hazardous or toxic substances emphasizes planning, emergency response, transparency, and public supervision. In the wake of the 1984 Union Carbide accident in Bhopal, India, American citizens called for stronger regulation of hazardous materials.

In 1986, Congress passed the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA required U.S. states to create state emergency response commissions (SERCs) and local communities to establish local emergency planning committees (LEPCs). LEPCs are required to create emergency response plans. Companies are in turn required to provide to SERCs, LEPCs and local fire departments annual reports regarding the identities, locations and amounts of hazardous chemicals on-site.

Perhaps the greatest innovation of the EPCRA was the creation of the Toxics Release Inventory (TRI), which required certain facilities to provide annual reports to EPA regarding emissions of up to 600 or more toxic chemicals. TRI information was made available to the public through a national computerized database.

The U.S. Congress created the TRI in the belief that open information about toxic chemical releases would raise public awareness and provide the public with the tools to bring pressure to bear on companies to reduce use and emissions of toxic chemicals. In the first year after the TRI was implemented, reported emissions declined by 39 percent according to one study, and emissions have declined in nearly every subsequent year.

A subsequent program, the EPA Risk Management Program, required emitting facilities to prepare Risk Management Plans with:

- A history of accidental releases occurring during the previous five-years;
- A summary of the facility's accidental release prevention program;
- An offsite consequence analysis, which is an analytical determination of the potential impacts to the environment and the public in a hypothetical worst case accident scenario and alternative accident scenarios;
- A summary of the facility's emergency response plan.

Congress also authorized the U.S. Chemical Safety and Hazard Investigation Board, an

independent board established to investigate the causes of major chemical accidents.

BOX 3: MANAGEMENT OF CHEMICALS BY THE EUROPEA N UNION

The European Union (EU) early considered the need to establish a balance between ensuring the free marketing and trade of chemical products on the one hand and protecting human health and the environment against the risks from chemicals on the other

One of the main challenges was to overcome the gap that numerous chemicals are put on the market or used by industry, for which not enough knowledge about the risks for humans or the environment exists. To overcome this problem, the EU set up a European Chemical Agency (ECHA) with a staff of some 600 people and the task to manage chemicals.

Chemical substances, on their own, in preparations or in articles must not be placed on the EU market until they have been registered with ECHA. Any request for registration must be accompanied by detailed information on the chemical, and in particular, a safety report following a safety assessment of the chemical. According to the quantity to be marketed, the risk of the chemical and other conditions, testing proposals must also be made. The responsibility to provide data on a chemical substance is thus deliberately placed on the economic operator.

ECHA must evaluate all substances. It may ask for further information and for further tests to be carried out. Substances found to be of very high concern - these are in particular substances that are carcinogenic, mutagenic, toxic for reproduction, bio accumulative, persistent or toxic for reproduction - must be authorised by the EU and supplementary information on the substance is required.

Normally, an authorization is given for a certain use of the substance. Substances of concern for humans or the environment may be restricted in use, after detailed scientific and socio-economic consultations.

All these provisions are detailed in the REACH-Regulation (Regulation 1907/2006) as well as in numerous delegated and implementing Acts. The provisions apply all over the EU, i.e. to some 500 million people.

Active substances used in biocidal products are also subject to an assessment and evaluation of ECHA and then authorised by the European Commission. Active substances contained in pesticides as well as genetically modified organisms undergo a detailed scientific examination of the European Food Safety Authority (EFSA), before they may be authorised and then used within the EU.

Member States, manufacturers, importers, and traders who disagree with decisions by ECHA or the European Commission, may appeal to a court against the decision. Individual persons and environmental organizations only have limited access to courts to have a chemical or a substance banned or restricted in use.

In order to prevent major industrial accidents caused by chemicals, the EU has binding

directive 2012/18 similar to the US model described in BOX 2.

B. Amendment of the Law on Environmental Impact Assessment and development of the law on comprehensive environmental permit

Strengthen and streamline EIA for plans and projects

Firstly, expand the scope of EIA to major economic and technological policies and comprehensive economic plans that are likely to have significant impacts on the environment, (planning EIA) by strengthening EIA-related laws.

Secondly, improve substantive and procedural requirements for planning EIAs and project EIAs. Require the following important considerations to be taken into account for both planning EIA and project EIAs: Key functional zone planning approved by the State Council, major land use planning and ecological redlines. Plans and construction projects that fail to satisfy these requirements should not be approved.

Thirdly, strengthen the role of EIA by providing for integrated environmental assessment, gradually bringing EIA for the use of resources and ecological protection into the current EIA system, and reduce overlapping administration and duplicated assessment required by different authorities.

Fourthly, improve EIA preparation and approval procedures; further improve the procedures for stakeholders consultations while enhancing professional EIA technical review; and strengthen the role of EIA in balancing the interests of the various parties involved.

Fifthly, enhance the supervision and regulation system for third-party assessment of the EIA by combining industry self-regulation with oversight from administrative authorities and the community thereby improving the independence and scientific quality of the EIA.

Finally, create a liability system where owners, the third-party experts who prepare EIAs and regulatory agencies are held to account and intensify efforts to pursue EIA violations.

The internal management system of environmental protection departments needs to be reformed in accordance with the requirements for transition from environmental protection to environmental quality management. The pollution discharge permit is integrated with systems such as environmental standards, environmental monitoring, environmental impact assessment, three-simultaneous acceptance, discharge reporting, total emissions control, supervision of environmental protection facilities, sewage outfall management, in order to reduce duplication and internal friction of environmental management, so that the permit can effectively guide the implementation of environmental standards and integrated environmental management.

It is suggested to develop the Environmental Permit Law, which aims a) in accordance with the prevailing administrative licensing law, to strengthen the legal status of environmental permits and clearly forbid unpermitted discharge; b) to adopt an integrated environmental

permit applicable to waste water, waste gas and solid waste; c) to clearly define the responsibilities of environmental departments at all levels in granting and practicing environmental permit and establish a management system of state supervision and local supervision and implementation; d) to include the following aspects into the scope of environmental permit management: systems for environmental standards, environmental monitoring, environmental impact assessment, three-simultaneous acceptance, discharge reporting, total emission control, supervision of environmental protection facilities and sewage outfall management; e) to establish the procedures for environmental permit application, approval and issuance and the supervision and management requirements for periodic reports and on-site inspection; and f) form a full-fledged legal liability system by integrating the existing provisions.

BOX4: STRATEGIC ENVIRONMENTAL ASSESSMENT IN THE EU

Projects that significantly affect the environment require an Environmental Impact Assessment (EIA). European and German Law also provide for a Strategic Environmental Assessment (SEA) for plans and programs (e.g. regional, landscape, spatial and local planning or sectorial planning (e.g. waste management plans)).

The SEA aims to assess the environmental impacts of a plan or a program at an upstream level, in other words at a very early stage. The key elements are the same as those for the EIA: screening and scoping of the plan, submission of all relevant documents by the planning institution/authority (EIS), involving other affected public authorities, public participation, a summarizing presentation about environmental impacts, evaluation, consideration within the decision making process and publishing of the results.

The two-step-approach – SEA followed by an EIA – allows an assessment of alternative actions/measures at an early stage which is more effective than at the project level, where alternatives e.g. for compensation for nature interventions or the location of an industrial project often do not exist. Furthermore it allows public participation at a stage where concrete decisions are not yet taken. Finally the Environmental Impact Assessment has to take into account the results of the Strategic Environmental Assessment so that a doubling of environmental assessments can be avoided.

BOX 5: PERMITS AND EIA

In international jurisdictions, an environmental impact assessment process (EIA) is applied to large infrastructure and industrial projects as early as possible in the development of the project. The project must not commence until the EIA has been assessed by the relevant authority.

The purpose of an environmental impact assessment is to identify and describe the direct and indirect impacts a project may have on people, animals, plants, land, water, air, climate, landscape and cultural environment and on the management of materials, raw materials and

energy, land, water and the physical environment in general.

The EIA process is closely linked to the permitting process. An application for a permit must contain an environmental impact statement (EIS) setting out in full the information that emerged during the EIA process. The permitting authority must consider this before granting a permit and setting the permit conditions.

Examples of the kinds of matters that must be addressed in the EIS include:

1）an analysis of any feasible alternatives to the carrying out of the project having regard to its objectives, including the consequences of not carrying out the project;

2） a detailed description of those aspects of the environment that are likely to be significantly affected;

3）a full description of the measures proposed to mitigate any adverse effects of the project on the environment; and the reasons justifying the carrying out of the project infrastructure in the manner proposed, having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development.

Full public consultation is required during the EIA process. For example, the full EIS must be released to the public for comment and those comments must be taken into account when considering whether a permit should be granted. It is not uncommon for projects to be modified as a result of the public consultation process.

The permitting authority must refuse a permit application if an EIA is not adequate. Permitting decisions can be challenged in the court on the grounds that the EIA has not been adequately carried out.

EIAs are carried out by private consultants engaged by the applicant. While there is some public concern that the consultants are not independent, there are safeguards. Firstly, the EIA must satisfy staff of the relevant authority who are competent to assess its adequacy, secondly there is public consultation of the full EIA and finally there is judicial supervision of compliance with legal requirements.

The permitting authority must refuse a permit application if an EIS is not adequate. Permitting decisions can be challenged in the court on the grounds that the EIS has not been adequately prepared.

BOX 6: INTEGRATED ENVIRONMENTAL PERMITS - STANDARDS USING BAT AND BREF

The objective of integrated environmental permitting is to establish legally binding

environmental requirements for fixed sources of emissions (factories and other large point sources) in a transparent and predictable manner in order to protect human health and environment.

The requirements resolve conflicts between private economic interests in conducting activities that adversely impact on the environment on the one hand and the public interest in ensuring that the environment is protected on the other.

Integrated environmental permitting is an approach that has long been used in Sweden and Australia and in recent years it has also been used in the EU. The requirements are imposed by state or municipal authorities through a permitting process that results in conditions often expressed as maximum allowable emissions of pollutants to air and water, and as limitations of other environmental aspects such as waste and noise (Emission Limit Values, ELVs).

The main advantage of the approach is that it provides for an integrated assessment of the various impacts of a project. This results in better environmental outcomes than if impacts are assessed separately with separate permits for air, water, noise and waste. Industry and the community also welcome the integrated approach because it means a "one stop shop" resulting in one clear and consistent set of operating rules.

BAT (Best Available Techniques) is an important decision-making criterion for the formulation of conditions. The basic philosophy is to limit the pollution as much as technically possible, environmentally justified and economically feasible.

The EU has developed specific BAT identification documents for various industry sectors (BAT Reference Documents, BREFs). In these often voluminous documents, BAT is described by means of emission limit values (ELV) within a range that allows taking account of local conditions. However, there is no simple rule of thumb for applying BAT in each case. An informed judgment by the permitting authority is always a part of the permitting process.

It should be noted though that any deviation of the decision from the BREFs must be properly justified.

In the Swedish Code there are general rules of consideration, which a permitting authority has to consider before granting a permit and setting the conditions。

For businesses of a certain type, there are also pre-determined emissions limits that they must comply with.

BOX 7: PERIODIC REVIEW OF PERMITS IN NSW

In New South Wales, Australia, the law requires the EPA to review permits (called environment protection licenses) at least every 5 years. In addition, the permit conditions can

be strengthened at any other time if necessary to protect the environment.

It is very rare for the EPA to shut down a facility. If an older facility is not able to achieve the environmental performance of new facilities, the EPA negotiates a pollution reduction program with the license holder requiring steps to be taken over a specified period to bring its performance up to the new standard.

This may be achieved by phasing in new technology or adopting improved production processes. The steps in the pollution reduction program are attached as requirements in the license and it is a criminal offence not to comply.

C. Law on regional protection of nature

Reforms concerning natural reserves and natural resources

Firstly, reform the existing overlapping management system by various agencies of natural reserves, scenic attractions, geological parks, forest parks and other kinds of conservation areas; establish a unified classification system; integrate laws, administrative regulations and technical specifications to create a relatively complete and unified system.

Secondly, establish the ownership of natural resources, and the rights to use natural resources, improve regulations on property right transactions. Develop laws and supporting regulations to reform the asset management system of state-owned non-profit natural resources to gradually develop an administrative and institutional system for natural capital delegation, management and auditing.

BOX 8： National environment protection measures in Australia

The legislation has been successful in developing a single national framework to address an environmental issue, with the flexibility for implementation to take into account variability between jurisdictions. Currently seven measures have been established :

Air Toxics—sets out a nationally consistent approach to collection of data on toxic air pollutants (such as benzene) in order to deliver a comprehensive information base from which standards can be developed to manage these air pollutants to protect human health.

Ambient Air Quality—establishes national ambient standards and a nationally consistent framework for monitoring and reporting on ambient air quality, including the presence of pollutants such as carbon monoxide, lead and particulates. (The national government sets national emission standards for new vehicles but there are no national emission standardst for industry. Individual provincial jurisdictions set industry emission standards to suit local circumstances).

Assessment of Site Contamination—provides a nationally consistent approach to the

assessment of site contamination to ensure sound environmental management practices by regulators, site assessors, environmental auditors, landowners, developers and industry. It has been highly effective in providing authoritative guidance to practitioners in this field.

Diesel Vehicle Emissions—supports reducing pollution from diesel vehicles. Several jurisdictions operate a suite of programmes to reduce exhaust emissions from diesel vehicles.

Movement of Controlled Waste—operates to minimise potential environmental and human health impacts related to the movement of certain waste materials, by ensuring that waste to be moved between states and territories is properly identified, transported and handled in ways consistent with environmentally sound management practices.

National Pollutant Inventory—provides a framework for collection and dissemination of information to improve ambient air and water quality, minimise environmental impacts associated with hazardous wastes and improve the sustainable use of resources.

Used Packaging Materials—operates to minimise environmental impacts of packaging materials, through design (optimising packaging to use resources more efficiently), recycling (efficiently collecting and recycling packaging) and product stewardship (demonstrating commitment by stakeholders).

D. Incorpration of environmental code into the legislative plan of the 13th NPC Standing Committee

As the ecological civilization system covering the whole process of production and consumption and the basic ecological environment has been basically established, we should build a full-fledged legal framework of ecological civilization facilitating green, circular and low-carbon development and promote the compilation of environmental code.

The Task Force believes it necessary to formulate a unified Environmental Code of the People's Republic of China. First, the Environmental Code can effectively solve the contradictions and conflicts within the environmental legal system to ensure the convergence of environmental protection laws as well as reasonable division of labor, smooth operation and effective implementation. Second, the Environmental Code facilitates the unified design of environmental protection system, which will significantly reduce the cost of legislation and implementation. Third, a systematic legal system of environmental protection will take shape pursuant to the Environmental Code, which fully embodies the great importance attached by the Party committee and the state.

Taking into account China's actual situation, the scientific development of Environmental Code should clarify the follwing legislative ideas. First, recognizing the *Environmental Protection Law* as the basic law on environmental protection, there is no need to repeat the provisions of other environmental legislation in the Environmental Code. Second, the technical route for legislation aims to achieve the objectives of pollution prevention and ecological protection. At present, there are mainly three views on the technical route of legislation: a) basic law on pollution control; b) basic law on pollution control, ecological

protection and rational utilization of resources; and c) basic law on pollution control and ecological protection. The author agrees with the third view.

The Task Force is not in favor of developing an environmental basic law that addresses pollution problems only. The concept of environmental protection implies the protection of ecology, and China's current environmental protection law has dedicated a separate chapter to ecological protection. Without sufficient reasons, we should not separate ecological protection from environmental protection.

The Task Force also disagrees with the integration of the main elements of the resource and energy law into the Environmental Code. The legislation on resource and energy is not aimed at just environmental protection as the rational utilization of resources and energy, unquestionably closely related to environmental protection, involves a very wide range of issues. Therefore, it is not appropriate to demand too much regarding legislative objectives of the Environmental Code.

The Task Force favors the third view that the Environmental Code should serve as the basic law for pollution control and ecological protection. Focusing on pollution control and ecological protection, the Environmental Code needs to reflect Chinese characteristics and adapt to China's current management system on the basis of clean-up and assessment of individual legislation. More specifically, by adopting a reasonable structure (such as general provisions, parts, chapters, and sections), the code absorbs and replaces the existing single laws on pollution control and ecological protection. It is also expected to scientifically and rationally enrich, integrate and strengthen the main management systems for pollution control and ecological protection. This can create more targeted legal system and measures while significantly reducing the duplication of clauses. In light of the unstable environmental protection management system, the inception of such a code in the field where the legal system with highly common laws is comparatively sound will be conducive to coping with the hard-dealt environmental and ecological problems, but also conform to the world mode of environmental legislation that integrates pollution control and ecological protection.

It is suggested that the NPC Standing Committee include the Environmental Code in the legislative plan. As China has already met the conditions for integrating environmental laws, it is proposed that the Law Committee of the NPC Standing Committee, in conjunction with the relevant departments, set about early exploring the Environmental Code and strive to foster a clearly defined, full-fledged, well-structured legal system setting out effective measures. The formulation of a strongly practical law requires solid practical basis and theoretical preparation, so concerted efforts based on rational division of work are needed to make preliminary research and demonstration, covering law theory and theoretical framework, foreign environmental codification, and basic principles and systems of environmental protection laws. The priority should be given to the research and demonstration of the General Principles and the Basic System which occupy a central position in the code and pave the foundation for other chapters. In order to do this, it is recommended to carry out the research and demonstration work in stages. Firstly, the study is focused on the general principles and basic system. It clarifies which provisions can be taken as principled provisions or basic legal

systems and which divorced from the individual laws to include into this chapter. Secondly, the rest chapters are studied based on single laws. Lastly, attention should be paid to mobilizing multi-faceted forces to participate in the drafting of the Environment Code. The development of the Environment Code is by no means a simple integration of existing environmental protection laws. It involves a major adjustment to existing environmental protection laws and regulations, including the addition of new environmental protection ideas, principles and systems, such as civil environmental right, information disclosure and public participation, environmental tax and ecological compensation, compensation for pollution damage, and jurisdiction of cross-administrative regional pollution, and specialized environmental courts. Whether and how these changes are reflected need in-depth argumentation through the broad and deep involvement of the relevant administrative and academic departments and the parties concerned. To this end, it is suggested to adopt a "two-wheel" legislative approach: a) to commission or organize senior experts on environmental protection to led and conduct research and demonstration and produce the drafting proposal; and b) to let the Law Committee of the NPC Standing Committee lead the relevant departments and relevant committees to draft the law.

BOX 9: SWEDISH ENVIRONMENTAL CODE

The overall purpose of the Swedish Environmental Code is to promote sustainable development to assure a healthy and sound environment for present and future generations. It replaced 16 former Acts and took ten years to develop.

The Code was first introduced in 1999 to harmonize environmental legislation, ensuring a consistent approach and avoiding gaps and inconsistencies.

It applies in principle to all human activities that may harm the environment or human health and must be applied in such a way as to ensure that:

1）Human health and the environment are protected against damage and nuisance, whether caused by pollutants or other impacts;

2）Valuable natural and cultural environments are protected and preserved;

3）Biological diversity is preserved;

4）The use of land, water and the physical environment in general is such as to secure a long term good management in ecological, social, cultural and economic terms; and

5）Reuse and recycling, as well as other management of materials, raw materials and energy are encouraged with a view to establishing and maintaining natural cycles.

Important overarching principles, policies and goals are laid down in the Code and must be followed by agencies and the Court when applying it. For example, when considering a

permit application and imposing conditions on any permit approval,

the relevant agency must consider the following principles, policies and goals:

1) Polluters pay principle; 2) Precautionary principle; 3) Prevention principle; 4) Burden of proof; 5) Best available techniques; 6) The location of activities; 7) Reuse and recycling; 8) Cost-benefit balancing.

General provisions in the Code promote the principle of sustainable development. Examples include provisions concerning :

1) The management of land and water areas; 2) Protection of nature; 3)Protections of animal and plant species

The principle of sustainable development in the first section of the Code mustbe applied when the Government or agencies under the Government make rules and regulations based on the Code.

The Code also contains special provisions relating to particular activities including:

1) Environmentally hazardous activities and health protection; 2) Activities that cause environmental damage; 3) Water operations; 4) Chemical products and biotechnical organisms; 5) Waste and producer responsibility.

The Code also contains also a great number of procedural rules.

Chapter II Formulation of the *Special Law on Atmospheric Environmental Protection in the Beijing-Tianjin-Hebei Region* (hereinafter referred to as the Special Law) to provide legal guarantee for regional coordinated environmental governance

I. Necessary

At present, environmental legislation is basically available in China, including integrated basic law and special laws concerning the control of air, water, noise, and solid waste pollution and protection of water, forest, wildlife, and grassland, as well as management-oriented laws including the *Law on Environmental Impact Assessment*, *Law on Circular Economy Promotion*, and *Law on Cleaner Production Promotion*. From the theoretical point of view, China has basically built a legal system of environmental protection with Chinese characteristic. In the current transitional period that may last for about another 20 years, many problems specific to regions and domains emerge and need to be resolved through special rules. In this light, China should turn to pragmatic environmental legislation by detailing provisions of the existing laws and devising problem-specific systems,

frameworks and mechanisms. It should also be so when coming to the protection of atmospheric environment in the Beijing-Tianjin-Hebei region.

A. The special problems facing the Beijing-Tianjin-Hebei region need to be addressed through legislation which further clarifies the measures made by the Law on Air Pollution Prevention and Control and defines into rights and obligations of the parties to make mandatory. This will provide experience for joint pollution prevention and control in other regions.

Targeted legislative systems, frameworks and mechanisms are needed to address special legal issues in the Beijing-Tianjin-Hebei region. Given the special status of the region, the environmental security, particular air quality, of Beijing, the capital city and an international metropolis, should be considered in the international context. Fog and haze in Beijing cannot be solved solely within the metropolis and shared governance by Beijing, Tianjin and Hebei is needed to really improve the atmospheric environment. Regional pollution control has not been heeded and become deeply rooted until an amendment to the *Law on the Prevention and Control of Air Pollution* that requires regional joint prevention and control. However, this law is too general to clearly define the measures aimed at restrictions on motor vehicles and businesses in the special circumstances of the Beijing-Tianjin-Hebei region. For example, the environmental permit needs refinement to be more checkable, measurable and target accessible. The existing planning specially for environmental protection in the region, namely the *Outline for the Plan for Coordinated Development of the Beijing-Tianjin-Hebei Region*, also fails to lay down enforceable and mandatory measures. Hence, a special law for the region is expected. It will set an example and provide reference for other regions, such as the Yangtze River Delta and Pearl River Delta.

B. Facing the situation of air pollution and ecological damage, we need to sort out administrative laws and regulations, departmental rules and local rules, plans and standards to allow case-specific treatment and priority pilot and extend the reform measures for promoting ecological progress to the Beijing Tianjin-Hebei region.

Pollutant emissions in the Beijing-Tianjin-Hebei region far exceed the environmental carrying capacity. In 2012, sulfur dioxide, nitrogen oxides, and smoke (dust) emissions registered 1.66 million tons, 2.273 million tons and 1.387 million tons respectively, accounting for 7.8%, 9.7% and 11.2% of the national total, and the emissions per unit area is 3.5 times, 4.3 times and 5.0 times the national average respectively. $PM_{2.5}$ pollution has become "the heart and lung disease" of the local residents. In 2013, 11 cities in the region made into the top 20 $PM_{2.5}$ polluted cities and 7 into the top 10. The annual average $PM_{2.5}$ concentration reached 106 $\mu g/m^3$, 1.5 times the average of 74 cities, and 13 cities in the region failed to meet the standards by exceeding 0.1 to 3.6 times the proscribed levels. To effectively address the serious air pollution, the region is forced to develop a special law by consolidating the

administrative laws and regulations, departmental rules and local rules, plans and standards. Targeted at regional problems, the special law will serve as a clear and effective legal basis for effectively protecting and improving the atmospheric environment. In addition, China is stepping up the reform for promoting ecological progress and putting a number of measures into practice. Pilot is carried out for measures to promote integrated environmental monitoring network, to practice vertical environmental supervision system for departments below the provincial level, to encourage third-party environmental governance and push ahead the environmental protection industry. These measures need to be legalized and guaranteed by a special law.

C. Uncoordinated provincial planning and disorderly competition among local governments lead to industrial duplication and overcapacity. It is necessary to carry out the supply side reform to form complementary industries and maximum benefits among regions, and to integrate the forces and resources of various localities and departments so as to enhance the overall industrial capability of environmental protection.

The specific planning of the three cities and provinces hardly harmonizes with the overall regional planning provided by the *Outline of the Plan for the Coordinated Development of the Beijing-Tianjin-Hebei Region* and *Ecological Environmental Protection Plan for the Coordinated Development of the Beijing-Tianjin-Hebei Region*. Industrial overcapacity and duplication is a common problem because of widespread disorderly establishment of industrial parks and green light for high-polluting enterprises by local governments in the context that GDP serves as the main criteria for government performance assessment. Driven by interests, Beijing, Tianjin, and Hebei consider more their own conditions and development objectives than regional coordination in planning development. Uncoordinated planning results in serious industrial overcapacity and duplication in the region. Considering own atmospheric conditions, the Beijing-Tianjin-Hebei region should pool capital and resources to supply side reform which encompasses the development of dominant industries through mergers and integration, support for low-carbon low-emission enterprises, and introduction of basic transformation and new technologies to reduce pollutant emissions and consumption of traditional fossil fuels. The future industrial planning, including the optimization of the whole industry, should be based on regional integration and aimed at formation of regional complementary industries and maximum benefits.

D. Provincial policies and systems do not converge, making possible trans-boundary pollution transfer and undermining structural upgrading and supply side reform of the Beijing Tianjin-Hebei region, and therefore should be integrated into unified deployment.

Beijing, Tianjin and Hebei as separate provincial administrative areas have adapted the environmental protection system to their respective realities. For example, Beijing and Tianjin have more developed economies and better environmental situation than Hebei, so their atmospheric environmental supervision systems are relatively more stringent. The *Notice on Issues Concerning Adjustment of Pollution Charges* issued in Hebei proposes raising pollution charges in three steps by 2020, but the standards remain far behind those of Beijing and Tianjin. The ratio of pollution charges in Hebei, Beijing and Tianjin is approximately 9: 7: 1. The transfer of polluting enterprises in the border area between Beijing and Tianjin also hinders the structural upgrading and supply side reform of the region.

E. Measures advance unevenly in the region due to provincial mismatched rights and obligations and information asymmetry and fair implementation and work coordination is needed.

Work proceeds orderly based on fairness that rights match with obligations. However, in practice, it is more often than not that large and small contributors to regional air pollution control bear the same obligations or the benefited area and the damaged area enjoy the same rights. This will undoubtedly dampen the enthusiasm of large contributors or damaged areas, resulting in stagnation of regional air pollution prevention and control. For a long time, in order to ensure the economic development of Beijing and Tianjin, Hebei has made huge concessions and sacrifices both in the development and utilization of resources and phase-out of backward production capacity in Beijing and Tianjin.

The coordinated development of Beijing, Tianjin and Hebei, especially in environmental protection, involves a wide range of matters and complex interests. While the NIMBY phenomenon is inevitable, either the consciousness and awakening of citizens or planning and policy guidance is enough to ensure balance of interests. Even intergovernmental cooperation agreements, which are not necessarily widely representative and mandatory, are likely to cause discontent and revolt of citizens and further risks where the interests of the relevant people and social organizations are endangered. Therefore, legislation, or more specifically, legal guarantee, should be put in place for the coordinated environmental protection of the region.

F. Regional synergy is difficult due to poor coherence of provincial administration and some special measures require special legal authority.

The governments of Beijing, Tianjin and Hebei concern more about their own administrative

areas than the region as a whole, which undermines the communication and cooperation. Due to the lack of regional coordination bodies, the collaboration carried out to varying degrees in many fields is non-institutional and the cooperation, generally reflected in commitments of local government leaders, shows low legal validity and stability and fails to reach consensus when it comes to the core interests. To address air pollution in the region, measures are intensified during 2016-2017, including greening rural coal consumption and eliminating coal-fired boilers and furnaces within the deadline, outlining coal banned zones and coal quality control zones, completing shutdown and phase-out tasks within the deadline, improving urban management, strengthening motor vehicle pollution control, reinforcing comprehensive management of volatile organic compounds, completing pollution control in key industries in transmission channel cities, practicing discharge permit to strengthen "elevated source" regulation, strengthening the response to heavily polluted weather events, and practicing production control in industrial enterprises of transmission channel cities. It is best to grant legal authority for these special measures. To protect the atmospheric environment in the region, a law is needed to divide the general and special duties and obligations of the three places and to systematically stipulate how to effectively control the atmospheric environment.

BOX 10: REGULATING REGIONAL AIR POLLUTION IN THE UNITED STATES

Although the U.S. has made significant progress in improving air quality, regional air pollution problems remain an unresolved challenge. Boundary problems (*i.e.*, a mismatch between the scope of enforcement authorities and environmental problems), technical difficulties in monitoring and calculating cross-jurisdictional pollution contributions, and disputes over fairness and legality in the allocation of burdens have all contributed.

This memorandum provides a brief summary of how the United States currently regulates regional fine particulate (PM2.5) and ozone pollution problems, focusing on the Cross-State Air Pollution Rule (CSAPR; effective Jan. 1, 2015). Earlier examples of regulatory programs aimed at regional air pollution issues include: (1) the Acid Rain “cap and trade” program established by Title IV of the 1990 Clean Air Act amendments; (2) the creation of the so-called NOx SIP Call and various interstate ozone transport bodies; and (3) the Clean Air Interstate Rule (CAIR), which has subsequently been replaced by the CSAPR. Further information about these other programs is available upon request.

EPA’s Cross-State Air Pollution Rule

EPA finalized the Cross-State Air Pollution Rule (CSAPR) on July 6, 2011 (also known as the “Transport Rule.”)[1] CSAPR is designed to limit “the interstate transport of emissions of

[1] The final rule can be found at 40 CFR Parts 51, 52, 72 et al. “Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals; Final

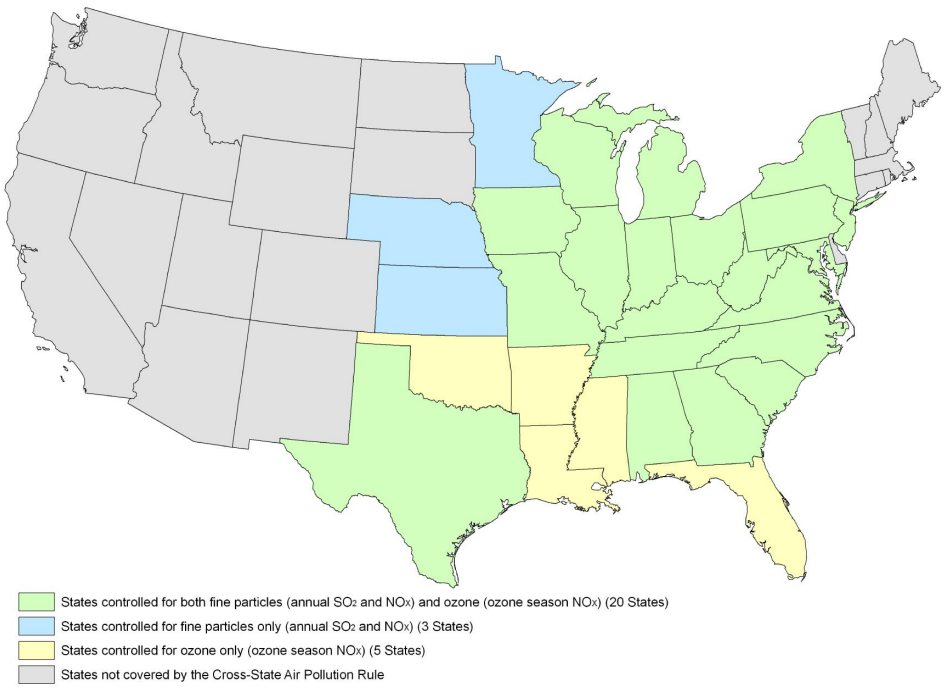
nitrogen oxides (NOx) and sulfur dioxide (SO2) that contribute to harmful levels of fine particle matter (PM2.5) and ozone in downwind states"[2] through regulation of power plants – the largest single category of sources of these pollutants. The rule was promulgated pursuant to the Clean Air Act's so-called "Good Neighbor" provision,[3] which requires states to prohibit emissions that contribute significantly to nonattainment in any other state of national ambient air quality standards (NAAQS). EPA found that 28 eastern U.S. states significantly affected the ability of downwind states to comply with 1997 and 2006 fine particulate NAAQs and 1997 ozone NAAQS.[4]

Rule." *See* https://www.gpo.gov/fdsys/pkg/FR-2011-08-08/pdf/2011-17600.pdf. A detailed chronology of CSAPR rulemaking with related documents can be found at: https://www3.epa.gov/airtransport/CSAPR/actions.html. CSAPR was promulgated in response to the US Court of Appeals for the District of Columbia Circuit's remand of the Clean Air Interstate Rule (CAIR) in 2008. *See North Carolina v. EPA*, 531 F.3d 896 (DC Cir. 2008). CAIR "required 29 states to adopt and submit revisions to their [SIPs] to eliminate SO2 and NOx emissions that contribute significantly to downwind nonattainment" of PM2.5 and ozone air quality standards. "CAIR covered a similar but not identical set of states as the Transport Rule. CAIR FIPs were promulgated April 26, 2006… to regulate [power plants] in coverd states… until states could submit and obtain approval of SIPs to achieve the reductions." *See* CSAPR Final Rule. CAIR remained in place pending the implementation of CSAPR.

[2] *See* CSAPR Final Rule.

[3] *See* CAA section 110(a)(2)(D)(i)(I)

[4] EPA has proposed an Updated Rule that includes consideration of 2008 revised ozone NAAQS.



CSAPR is built around the State Implementation Plan (SIP) program under the Clean Air Act, which authorizes states to draft detailed plans regarding how they will resolve any non-compliance with ambient air quality standards. States create enforceable SIPs under the supervision of the EPA. If a state fails to adopt an adequate SIP, the EPA is authorized to implement so-called Federal Implementation Plans (FIP). The Good Neighbor provision in the CAA requires states not only to ensure compliance with NAAQS within their own borders but also to eliminate emissions that contribute significantly to nonattainment in downwind states.

The logic of CSAPR is quite straightforward. EPA identifies emissions from upwind states that contribute significantly to downwind nonattainment. These are incorporated into "State Emission Budgets." The final CSAPR promulgates enforceable EPA-designed FIPs to achieve required emissions reductions. States can either comply with these FIPs, or develop/revise their own SIPs to include measures that eliminate these emissions. While EPA and state regulators take the lead, federal and state courts, the federal Department of Justice, state attorneys general offices, environmental non-governmental organizations (NGOs), citizens, and other actors (such as the media) also work together to enforce these rules and ensure compliance. The efficacy of CSAPR depends upon both (i) program design, and (ii) enforcement mechanisms that are part of the U.S. environmental regulatory regime and its governance institutions more generally. The remainder of this memorandum will discuss each of these aspects in turn. As Chinese policymakers consider the U.S. experience, they will need to consider program design and policy, as well as general governance reform.

Program Design

CSAPR requires 28 states to reduce annual SO2 emissions, annual NOx emissions and/or ozone season NOx emissions. These measures are aimed at achieving compliance with PM2.5 and ozone ambient standards. With respect to the annual PM2.5 NAAQS, the Transport Rule found that 18 states had SO2 and annual NOx emission reduction responsibilities under the Good Neighbor provision. Twenty-one states had such responsibilities with respect to the 24-hour PM2.5 NAAQS.[5] In all, CSAPR requires emissions reductions related to interstate transport of fine particles in 23 states. With respect to the 1997 ozone NAAQS, the original Transport Rule found that 20 states have emission reduction responsibilities with respect to ozone-season NOx emissions. An additional 5 states were later required to make summertime NOx reductions. EPA later proposed the CSAPR Updated Rule to address interstate transport of pollution under the 2008 8-hour ozone NAAQS. A final Updated Rule has not issued yet.

The first phase of Transport Rule compliance commenced on January 1, 2015 for SO2 and annual NOx reductions and May 1, 2015 for ozone-season NOx reductions. The second phase, which increases stringency of SO2 reductions in some states, will begin on January 1, 2017.[6]

Under CSAPR, EPA analyzed downwind air quality and upwind state emissions. First, EPA identified downwind "receptors" that would either be in nonattainment or "have difficulty maintaining NAAQS based on historic variation in air quality." Then, EPA used air quality monitoring to determine which upwind states contribute at or above threshold levels to the air quality problems in these downwind areas. For states that contribute at or above threshold levels, EPA used an "air-quality and cost-based multi-factor approach" to determine the emissions each state must reduce.[7] EPA then incorporated these emissions reduction amounts into state-specific budgets.[8] The Transport Rule provides states with some flexibility (set forth in "assurance provisions") to go above their budgets by a "variability limit" in

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[5] *See* Table III-1 of the CSAPR Final Rule.

[6] These dates reflect an extension of three years due to delays from litigation over CSAPR design. The original implementation dates were January 1 and May, 2012 and January 1, 2014. Interim Rule Change - https://www.gpo.gov/fdsys/pkg/FR-2014-12-03/pdf/2014-28286.pdf; Final Rule Change - https://www3.epa.gov/airtransport/CSAPR/pdfs/CSAPR_Date_Change_Affirmation_Rule.pdf.

[7] This methodology was, among other things, the subject of extensive litigation. The US Supreme Court ultimately upheld the legality of the EPA's chosen approach in *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584 (2014), reversing 696 F.3d 7 (D.C. Cir. 2012). This memorandum will not describe this methodology in detail. For further information, see CSAPR Final Rule, Parts V & VI.

[8] Such budgets addressed a problem with CAIR that would have allowed states to meet their legal obligations by purchasing emissions credits rather than reducing pollution. State-specific emissions budgets (i.e., the "quantity of emissions that will remain from covered units under the Transport Rule after elimination of significant contribution to nonattainment and interference with maintenance in an average year") are meant to address this concern.

anticipation of emissions unexpected increases in emissions due to weather, demand growth, or disruptions in electricity supply from other units.

EPA's "significant contribution analysis" (*i.e.,* determining which states need to reduce emissions pursuant to the Good Neighbor provision) is highly technical and based on sophisticated modeling and emissions identification. Changes in available input information (including emissions inventories) can result in differing results. For example, EPA's initial CSAPR analysis for its 1997 ozone NAAQS did not identify three states as significantly contributing to downwind nonattainment (Wisconsin, Iowa and Missouri), but subsequent analysis required their addition to the list of significant contributors. On the other hand, three states (Connecticut, Delaware and the District of Columbia) were included as significant contributors in early analysis and subsequently removed based on updated modeling. This variation shows that the determination of upwind sources and their impact on downwind nonattainment can be an uncertain process, highly dependent on data quality and availability. Despite China's growing technical capabilities in air pollution science and management, we would expect source contribution analysis to be even more challenging in China given resource limitations, the substantially larger number of emission sources, the continuing prevalence of data quality and availability problems, rapid economic and institutional change, and legal uncertainty.

After state budgets are determined, the rule achieves its reductions in significant part through four market-based trading programs: an annual NOx trading program; an ozone-season NOx trading program; and two separate SO2 trading programs ("SO2 Group 1" and "SO2 Group 2"). According to the final rule:

> The air quality-assured trading remedy in [CSAPR] allows interstate trading to account for variability in the electricity sector, but also includes assurance provisions to ensure that the necessary emission reductions occur within each covered state. The assurance provisions restrict [power plant] emissions within each state to the state's budget plus the variability limit and ensure that every state is making reductions to eliminate the significant contribution to nonattainment… that EPA has identified.

In short, trading is allowed, but state emissions are nonetheless still capped at the budget plus a "variability limit." This addresses a problem with CAIR, which would have allowed states to meet a greater portion of their reduction obligations through purchase of emissions credits. Downwind states had complained that under CAIR extensive trading meant that states and firms could be in compliance with the EPA's plan without actually reducing upwind contribution to downwind noncompliance with NAAQS.

CSAPR is expected to generate significant pollution reduction and health benefits that far

outweigh the costs of the program.[9] By implementation of Phase 2 (to commence January 1, 2017), the program is expected to lower power plant emissions from 2005 levels by 6.4 million tons per year of SO2 – a 73 percent reduction, and 1.4 million tons per year of NOx – a 54 percent reduction (which includes 340,000 tons per year of NOx during ozone season). These reductions are expected to produce health benefits, including annual avoidance of: 13,000 to 34,000 premature deaths; 15,000 nonfatal heart attacks; 19,000 hospital and emergency room visits; 1.8 million lost work days or school absences; 400,000 aggravated asthma attacks. The final CSAPR is expected to yield annual health and environmental benefits of $120 to $280 billion. In contrast, the costs are $800 million annually plus $1.6 billion of sunk capital costs.

II. Legislative orientation and general idea

A. Legislative orientation

First, the Special Law is a special measure for solving atmospheric environment problems of the Beijing-Tianjin-Hebei region while reflecting the general requirements of *Environmental Protection Law* and *Action Plan for Air Pollution Prevention and Control*. It encompasses peculiar systems and mechanisms, as measures intensified during 2016-2017, including greening rural coal consumption and eliminating coal-fired boilers and furnaces within the deadline, outlining coal banned zones and coal quality control zones, completing shutdown and phase-out tasks within the deadline, improving urban management, strengthening motor vehicle pollution control, reinforcing comprehensive management of volatile organic compounds, completing pollution control in key industries in transmission channel cities, practicing discharge permit to strengthen "elevated source" regulation, strengthening the response to heavily polluted weather events, and practicing production control in industrial enterprises of transmission channel cities. These measures are not required in the existing laws and should be regulated in a special law. Second, the Special Law is a synthetic law that considers ecological protection and air pollution control and overcomes the weaknesses of *Action Plan for Air Pollution Prevention and Control*. Third, the legislation is targeted at regional responsibility, regional action and regional coordination, different from the administration counterparty. Fourth, this administrative law also includes civil and litigation provisions that touch trans-regional civil legal liabilities and innovation in environmental judicial system. Finally, the Special Law is applicable mainly to Beijing, Tianjin and Hebei, but principle regulation(s) may be designed to present requirements for Inner Mongolia, Shanxi, Shandong, etc.

B. General idea

The Beijing-Tianjin-Hebei region should gradually improve atmospheric environment quality

[9] https://www3.epa.gov/airtransport/CSAPR/index.html;
https://www3.epa.gov/airtransport/CSAPR/basic.html;
https://www3.epa.gov/crossstaterule/pdfs/FinalRIA.pdf;

and facilitate the integrated development considering the functional positioning of each place and reflecting the idea of complementary advantages and shared governance. Guided by the objectives as specified in the *Outline of the Plan for Coordinated Development of the Beijing-Tianjin-Hebei Region* and the *Ecological Environmental Protection Plan for the Coordinated Development of the Beijing-Tianjin-Hebei Region*, innovations are favored under the framework of *Action Plan for Air Pollution Prevention and Control*, targeted at the actual uncoordinated, inconsistent problems in violation of the win-win philosophy.

BOX 11: Legal instruments against trans-boundary air pollution: European Union and Germany

I. Legal measures against trans-boundary pollution in Germany

EU law provisions are implemented in German law through the Federal Emission Control Act and according subordinate law.

1. Clean air plans for the prevention of trans-boundary pollution

Clean air plans, set up to fight air pollution, generate different effects. If critical values/standards are exceeded by emissions, which originate from outside of the area of a set plan, the competent regional or local authority is obligated to develop a plan as well.[10] If critical /standards are exceeded by a significant amount of trans-boundary air pollution, the member states authorities are obligated to

- Cooperate,
- Take joint measures, e.g. developing a coordinated clean air plan, and
- Inform the competent member states authorities as usefully and fast as possible.[11]

It is then the responsibility of the member state to inform its own concerned public.

2. Industrial installations related protection against trans-boundary air pollution

The provision of permission is the most important instrument for the prevention of trans-boundary air pollution. Material requirements, e.g. compliance with critical values, and formal requirements, such as the participation of the affected authorities and the public, need to be met before permission is granted.
The operator of the industrial installation is burdened with the proof of compliance, which he can demonstrate by submitting his application and providing the according documents.

The following needs to be noted concerning the prevention of trans-boundary air pollution by industrial installations:

[10] Article 47 (4)(4) of the Federal Immission Control Act.

[11] Cf. Article 29 of the 39th Ordinance for the Implementation of the Federal Immission Control Act.

1. In matters of material requirements, critical values/standards set on EU-level in connection with transboundary air pollution are applied at first when reviewing an industrial installation's compliance with permission requirements.[12]

2. In matters of formal requirements, authorities of neighboring states, in which trans-boundary emissions are expected, have to be included in the process just as much as the national authorities and have to be given the right to inspect application documents and raise objections.[13]

The neighboring state's public has to be included in the same manner the permitting state's public is included. Participation in the context of pollution control law means "Everyman-participation", a specific interest or violations of rights is not required. Participation means the access to the relevant permission documents, which are primarily the application papers and the environmental impact assessment.
The public has furthermore the right to take up a stance within a certain period of time. Risen objections need to be demonstrated.[14]

The authorities of the neighboring state can ask the permitting state's authorities to take appropriate measures, when the operation of the industrial installation is expected to affect the neighboring state substantially.[15]

The authorities of the neighboring state have to be involved in the issuance of retroactive orders as well, just as the public, if it is affected by any of those orders.[16]

Natural and legal persons originating from neighboring states can file a suit for the revocation of the permission or the issuance of retroactive orders, if critical values are exceeded that serve the protection of the population.

II. Examples for trans-boundary joint measures in Germany

1. Reciprocal recognition of environmental badges

One example for trans-boundary joint measures in the context of air pollution control is the reciprocal recognition of environmental badges governed by anti-pollution law between the Czech Republic and the Federal Republic of Germany. A motor vehicle being granted a said badge is not affected by an access restriction based e.g. to a city on a clean air plan due to its

[12] Article 5 of the Federal Immission Control Act in conjunction Article 3.

[13] Article 10 of the Federal Emission Control Act in conjunction with Article 11a (1), (3) of the 9 th Ordinance for the Implementation of the Federal Emission Control Act.

[14] Article 10 of the Federal Emission Control Act in conjunction with Article 11 a (4) of the 9 th Ordinance for the Implementation of the Federal Emission Control Act.

[15] Article 10 of the Federal Emission Control Act in conjunction with Article 11a of the 9 th Ordinance for the Implementation of the Federal Emission Control Act.

[16] Article 17 (1a) of the Federal Emission Control Act.

minor pollutant emissions. Via German support, the Czech Republic has enacted a regulation that constitutes a spacious access restriction for the most polluting vehicles (environmental zones) in Prague. Air pollution control laws are to be revised additionally. It was decided that environmental badges following an identical standard should be recognized reciprocally.

Based on a decree of the Federal Environment Ministry, all federal states of Germany have ensured the recognition of Czech environmental badges accordingly.

2. Mutual clean air plans

In Germany regional or local authorities are competent for the development of clean air plans. Trans boundary cooperation with foreign neighboring cities exists at least in the eastern Germans states. One example is the mutual clean air plan of the German city Görlitz and its bordering Polish city Zgorzelec.[17]

III. Basic problems

A. Legislative purpose

The Special Law is formulated to make the *Outline of the Plan for Coordinated Development of the Beijing-Tianjin-Hebei Region* and other environmental protection specific plans mandatory for removing atmospheric environment problems, especially the heavy haze, from the region, and provide support for economic development of the region.

The legislative purpose is summarized as: the Special Law is formulated to protect the atmospheric environment, promote the joint prevention and control of air pollution, relieve haze, safeguard public health and propel the coordinated development of the region while considering the regional realities, pursuant to the Environmental Protection Law, Action Plan for Air Pollution Prevention and Control.

B. Strategy

The strategy of atmospheric environmental protection in the Beijing-Tianjin-Hebei region can be defined as follows: considering the development and realities of Beijing, Tianjin and Hebei, the regional atmospheric environmental protection needs to break down administrative barriers with a view to regional integration, practice joint prevention and control of air pollution caused by coal, industry, motor vehicles, dust and agriculture and integrated prevention and control against air pollutants and greenhouse gases (GHGs), such as particulate matters, sulfur dioxide, nitrogen oxide, volatile organic compounds and ammonia, while establishing unified plans, standards and measures, as well as a sound fund raising and use system.

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[17] See http://www.internationales.sachsen.de/17648.htm.

C. Regulatory system

China's current regulatory system lays particular emphasis on supervision over administrative areas and industries, which goes against the transformation of the mode of development and life. Therefore, changes must be made towards both supervision of administrative areas and trans-administrative areas. According to the 13th Five-Year Plan, the first consideration is to set up the "Regional Environmental Protection Division" and River Basin Environmental Protection Division", of which the former take charge of supervision centers except that of the Beijing-Tianjin-Hebei region. Furthermore, the Beijing-Tianjin-Hebei Regional Environmental Protection Agency can be added to the North China Environmental Protection Supervision Center.

D. Applicable scope

The Special Law is not suitable for wide application. It can apply to the Beijing-Tianjin-Hebei region in the narrow sense, including Beijing, Tianjin and Hebei. Inner Mongolia, Shanxi, Shandong and etc. and include contingent requirements in the provisions on some legal measures.

IV. Major Systems

A. Integrated EIA system for planning, industrial restructuring and regional development strategies and policies

When developing regional integrated environmental planning, the three places should make concerted efforts to identify solutions and measures based on the issues. Through integrated planning and industrial restructuring, it is possible to change the current unreasonable distribution and maximize economic and environmental benefits while promoting atmospheric environmental protection.

B. Integrated regulation system and urban growth boundary system

By way of regulation integration, it is possible to coordinate the scale and target of each plan, make rational layout of urban and rural areas and industrial parks, and integrate related industries to phase out outdated capacity and improve competitiveness, and also let development follow the regulation. The urban growth boundary system controls the excess expansion of cities and protects the ecological environment by keeping ecological land from occupation.

C. System for overall environmental protection, including unified measures, and area-specific measures and period-specific measures

The atmospheric environment is only one part of the whole ecological environment that consists of atmospheric environment, basin environment and regional ecology. The protection

of atmospheric environmental in the Beijing-Tianjin-Hebei region should be considered in the context of environmental protection and take advantage of the links among all environmental factors. The unified measures include motor vehicle control, industrial policy and environmental access threshold. Given the presence of potential serious environmental problems, area-specific measures and period-specific measures are also necessary before overall industrial restructuring is achieved in the region, whether it is 2016-2017 or thereafter. Among them are completing clean alternative to rural coal use within the deadline, phasing out coal-fired boilers and furnaces within the deadline, strengthening the response to heavily polluted weather events, coal banned zones and coal quality control zones, and production control in industrial enterprises of transmission channel cities.

D. Unified system of standards and technical specifications

Currently, the national environmental quality standards without any difference are prevalent in Beijing, Tianjin and Hebei, but the actual environmental problems call for higher standards. In this light, the Special Law should set unified standard for the atmospheric environment in the region, such as uniform standards of oil product and emission charges. Besides, it should be stipulated that Beijing and Tianjin should appropriately support Hebei Province with funds to gradually achieve the unification of waste-discharge standards.

E. Unified system for raising and using government funds

The Special Law should include specific provisions on the funding for protecting the atmospheric environment. A unified system for raising and using government funds should be built. Appropriate fund raising measures reflecting the common but differentiated principle are designed according to the regional realities. Funds should be provided by the three places according to a negotiated ratio with Beijing and Tianjin bearing the main portion. As for the use of funds, Hebei Province should be given the preferential support. In addition, the funding sources should be expanded by encouraging social investment and donations, and additional charges for ecological environmental protection introduced, such as additional charges on power and fuel.

F. System for total quantity control of coal and oil reflecting atmospheric environmental quality objectives

Through the implementation of the Special Law, the social energy mix will be optimized in the region. The proportion of electric power in the end-use should be increased, making electric power the main final energy source in the future, with a view to foster an energy structure dominated by electric power and supplemented by gas. Coal use will be strictly restricted in social life and mainly seen in coal-fired power plants. The requirement for ultra-low emissions will be applied to ensure centralized and effective control of air pollutants and carbon emissions and facilitate emissions trading. The Special Law is expected to provide details on matters untouched or unspecified by the *Law on Air Pollution Prevention and Control*, set out targets and measures of total quantity control, and define the roadmap to a

unified emissions trading scheme.

G. Unified system for environmental monitoring, emergency response, and pollution prevention coordination

Early warning and emergency response are the major links of an integrated pollution prevention and control system. The regional mechanism for early warning consultation (based on monitoring data) and emergency response to severe pollution should be built to facilitate unified warning, joint emergency response, and accountability while enhancing leadership and supporting facilities. Platforms should be put in place to share monitoring and warning information and (including the Internet) release forecasting and warning information. The relevant departments within the region should actively consult with each other and launch the unified emergency plan in a joint response to expected regional severe pollution.

H. Unified measures for information disclosure, public participation and public interest litigation

It is recommended that the administrative areas above the county level in the region disseminate to the public, on a yearly basis, the work and cooperation on environmental protection. Enterprises shall disclose information as required on a voluntary and/or compulsory basis, and those that fail to do so shall be fined on a daily basis. A special issue to be considered is how to conduct environmental public interest litigation, especially initiated by social organizations on air pollution. It is necessary to guarantee the independence of these organizations that frees them from too much government interference. More funding support is expected by expanding funding channels. A regional environment public interest litigation system should be established, explaining how the litigation is handled in the three places. It is suggested to stipulate, in the Special Law, that the first instance shall be trialed in Tianjin Intermediate Court, and the second instance in Tianjin Supreme People's Court, and the judicial interpretation for civil public interest litigation by the Supreme People's Court and Supreme People's Procuratorate and for administrative public interest litigation by the Supreme People's Procuratorate.

BOX 12: Clean Air Policy in Germany – Legislation, Instruments, Enforcement and Judicial Review

The Clean Air Policy in Germany rests on two foundations and their intertwining: National and the European Union's legislation (EU-legislation). Initially, the national legislation, in particular the Federal Immission Control Act from 1974 (BImSchG), primarily aimed at reducing installation-related *e*missions by providing for source-based measures, such as introducing permits for installations. In contrast, the European legislation is rather *em*issions-related[18], which means that it mainly focuses on the sensitivity of the pollutants'

[18] E.g.: Directive 2008/50/EC of the European Parliament and the Council of 21 May 2008 on ambient air quality and cleaner air for Europe, Official Journal of the European Union L 152/1.

receptors, the legally protected goods like human, air, water, soil, animals, plants, ecosystems, etc.) by introducing standard settings and planning instruments.

To illustrate this (EU-)*em*issions-related policy, the issue of urban fine-particle pollution (PM_{10}) caused by various emitters, such as vehicles or power plants, serves as an example. Fine-particle pollution may cause severe health risks and, consequently, must be avoided. Therefore, the 39. German Federal Emission Regulation (39. BImSchV) which is based on and transformed into national law several EU directives[19] was passed in 2010. This German regulation (39. BImSchV) introduced daily and annual average emission limits of fine-particle pollution[20]. If the emission limits are exceeded, two different steps may be taken to reduce emissions: Drawing up either *Clean air plans* or *Plans for short term measures*. *Clean Air Plans* provide for measures that permanently reduce air pollution. National authorities in cities and municipalities enjoy discretion to decide which one of these measures they choose to avoid limit exceedances (e.g. environmental zones, city congestion charges). *Plans for short-term measures*, on the other hand, contain measures that instantly reduce air pollution, such as traffic restrictions or operational restrictions for industrial installations.

Clean air plans and *plans for short-term measures* therefore could be effective instruments for national authorities to react instantly to changing conditions but also to influence the long-term development of urban fine-particle pollution. However, the Federal Emission Regulation (BImSchG), as presented, has initially not been effectively enforced in Germany since municipalities and cities did not draw up any of the plans mentioned. One of the main reasons for this deficit was that citizens were not entitled to sue if authorities were reluctant to draw up clean air plans although emission limits were exceeded. This was due to the federal administrative courts' rulings that citizens' subjective rights were not violated by the omission of drawing a clean air plan by public administrations.

However, the European Court of Justice (ECJ) ruled in 2008 in its much noted so-called *Janecek*-decision (ECJ Case 237/07, 25th of July 2008) that citizens had indeed a subjective right pursuant to the EU-Air Quality Directive 2008/50/EC and that the member states were obliged to give their citizens access to justice. This decision led to a change of judicial review and legislation in Germany. From that time on, citizens were entitled to bring suits against public authorities' omissions regarding clean air plans.

The same problem applied to NGOs. They were also not granted access to justice. But again, the ECJ ruled that access to justice had to be given to environmental organizations in any case in which European Environmental law is infringed (ECJ Case 240/09 - Slovak brown bear-Case, 8th of March 2011). In line with the ECJ's decision, the German Federal Administrative Court (BVerwG) also granted NGOs access to justice if an existing air quality plan infringes environmental law. The air quality plan in question was one of the City of

[19] Inter alia Directive 2008/50/EC mentioned above.

[20] (1) Daily average immission limit value: 50 µg/m3, may not to be exceeded more than 35 times in any calendar year; (2) Annual average immission limit value: 40 µg/m3.

Darmstadt. However, at first, municipalities and cities appeared not be impressed by the ECJ's decision as they were reluctant to adopt or revise their air quality plans. This created an almost unique situation for the German legal system as public authorities usually – consistent with the rule of law – adhere to courts' decisions. NGOs were therefore forced to sue once again, this time claiming that cities and municipalities were obliged to draw up clean air plans according to the precedent decisions. Eventually, the administrative court of Wiesbaden ruled in January 2016 (Decision of the 11.01.2016 - 4 N 1727/15WI) that cities and municipalities are obliged to draw up clean air plans as they otherwise were faced with penalty payments to enforce the precedent decisions.

Concluding, one has to state that the German clean air policy and the administrative law in general has been and will be shaped by the European's environmental legislation. In the future, the question of enforcing clean air policy and its legislation will be crucial. In particular, the standing to sue for NGOs will be one of the main procedural questions. Citizens and NGOs can and must be entitled to supervise the state's and public authorities' activities. In this context, the administrative court of Wiesbaden's decision might be a step in the right direction as access to justice is a prerequisite for an effective legal system. This implies also that the enforcement of environmental law depends on a competent and independent administrative law system.

V. Special liability systems and mechanisms

A. Special civil liability system and implementation mechanism

Regional civil liability, such as regional ecological compensation and pollution damage liability, can be assumed through unified financial transfer by local governments. The specific implementation can be determined by the Ministry of Environmental Protection (MEP), with relevant budget transferred by the Ministry of Finance (MOF). The legislation should also regulate regional ecological compensation in the region, taking full account of differences among the three places, in order to achieve coordinated protection of the ecological environment.

B. Special administrative liability system and implementation mechanism

The liability prescribed in the Special Law should focus on the regulatory responsibilities of government departments, and environmental protection and ecological progress should be incorporated into the tenure assessment and examination system for party and government bodies and leading cadres at all levels. The assessment of subordinate areas should consider environmental quality improvement, and that of major departments should highlight the implementation of pollution prevention measures.

The accountability procedure should be unified for the whole region, and a regional environmental protection division can be set up which assesses the performance of leading

cadres in fulfilling environmental responsibility and transfers cases to discipline inspection organs and organization (personnel) departments if necessary.

Unified accountability standards are established by referring the *Action Plan for Water Pollution Prevention and Control*. In case of failure in passing annual assessment, the leading agency for coordinated development of the Beijing-Tianjin-Hebei region would contact responsible persons of provincial governments and relevant departments, and propose, supervise and urge corresponding rectification. Where the local government has been contacted more than twice because of pollution, the responsible person shall be called to take the responsibility. EIA approval limits can be adopted for construction projects in relevant areas and enterprises. The unit or person that fails to make an effective response to pollution incident due to breach of duty, intervenes and fabricates data, or fails to complete annual target shall be investigated and held accountable according to law. The leading cadre whose blind decisions result in deterioration of environment quality and serious consequences shall be recorded, and punished, depending on the seriousness, in accordance with organizational regulations or party and government discipline. The lifelong accountability system shall apply for cadres.

Part III. Recommendations on greening legal system

The Constitution and the law should clearly define the legal connotation and denotation of the environment and stipulate the environment as a public resource or public share. The formulation of civil law should stick to the principle of promoting ecological progress and curbing environmental degradation. Environmental rights should be incorporated as an important content of citizenship by stipulating that the use of the real right shall not undermine the public resources and environmental rights and interests of citizens. The accountability system for environmental infringement needs upgrading and a social relief mechanism for environmental infringement is expected.

It is imperative to stipulate environmental protection in the relevant laws to address the issue that legislation in other economic and resource fields “seriously undermines” environmental laws. To this end, active efforts should be made to study and explore the ecological and green dimensions of China's overall legal system. In other words, we need to incorporate the ideas, principles and norms of ecological progress and sustainable development into laws, such as the Constitution, civil and commercial law, administrative law, economic law, social law, criminal law, litigation and non-litigation procedural law, so that the systems and measures favorable to environmental protection can continue to play the due role in all areas. Civil codification has been included in the revised legislative plan of the 12th Standing Committee of the National People’s Congress; in the process of civil codification, special attention should be paid to reflecting the ideas, principles and important norms of promoting ecological

progress and environmental protection.

Chapter I. Explicitly stipulating the connotation and denotation of environment in the Constitution and other laws

The environment should be defined as a public resource or public share. The environment, including natural resources and the ecological system (including natural environmental consisting of natural elements and artificial environment) should be defined as a public resource or public share (e.g., the ground, terrain, sea area, space, roads, streets, squares and plazas, natural and cultural relics, parks, landscapes, etc. shared by the public) according to law. The public resource or public share is specially specified and protected by the Constitution and other laws, especially environmental laws. This is also the root cause for environmental protection law to become a separate legal branch.

Chapter II. Incorporating principles of promoting ecological civilization construction and environmental protection into codification of the civil law

How to effectively utilize resources and prevent destruction of ecological environment, and how to satisfy the growing material needs of the contemporary generation without compromise in benefits of future generations should be one of the important missions of the civil code that directly adjusts and regulates property relations and personal relations. This requires the future civil code not to focus merely on the real right as the traditional civil law does, but to extensively reflect cultural and ecological concerns in all aspects such as basic principles, personal rights, real right and tort liability and achieve green-oriented formation. Basic principles reflect core value of the civil law, so it is suggested that principles regarding ecological civilization construction and environmental protection be included in general provisions in the codification of the civil law:

A. The principle of prevention should be included. Inclusion of the principle of prevention in general provisions of the civil code is dovetailed with the current Environmental Protection Law. As Article 4 of the new Environmental Protection Law of 2014 has clarified the principle of “coordinating economic and social development and environmental protection”, the civil code, as a basic law regulating economic and social development, surely involves the connection with relevant laws and regulations regarding environmental protection and thus should respond to the principle of prevention for environmental protection. It is suggested that general provisions of the civil code specify that “civil activities shall protect the environment and stick to the principle of prevention first” based on basic principles of the current General

Principles of the Civil Law.

B. The principle of sustainable use should be included. The principle of sustainable use of natural resources is reflected in special legislation for resources protection. For example, Article 5 of Forest Law specifies the principle of "sustainable utilization"; Article 3 of Grassland Law specifies the principle of "promoting the sustainable use of grasslands and the harmonious development of the ecology, economy and society"; Article 3 of Mineral Resources Law specifies the principle of "rational development and utilization"; and Article 1 of Water Law specifies the principle of "sustainable utilization". It is suggested that general provisions of the civil code be dovetailed with legislation concerning resources protection and specify that "civil activities shall stick to the principle of sustainable use of natural resources" based on basic principles of the current General Principles of the Civil Law.

C. Environmental rights should be considered an important part of personal rights. It is suggested that careful research be carried out on green personal right system and environmental rights be included in relevant provisions of personal rights in the process of civil codification. Generally, human live in the environment, so personality interests of human, such as life and health, are closely tied to environmental quality. As modern civil law increasingly values humanism and ecological civilization system is comprehensively promoted in the construction of all aspects in China, "ecological man" who "can see mountains and waters and remember the nostalgia" should be confirmed in civil codification. On the other hand, in order to truly strengthen the sense of responsibility and mission for ecological civilization construction, the civic obligation of environmental protection should be also specified. It is suggested that the civil code specify that "citizens shall have environmental rights. Environmental rights and interests on sunlight, clean air and clean water, among others, shall be protected by law; it is prohibited to harm environmental rights of citizens by deliberately discharging pollutants, destroying ecology and other means".

D. Environmental rights should be included in regulations on real right and that use of the real right shall not undermine public and private environmental rights and interests should be further stipulated. It is suggested that careful research be carried out on green property right system in the codification of the civil code. The codification should include specifically:

(1) The environment should be defined as a public share. Environmental elements are often natural resources, which, being also economic and ecological, can not only provide natural resources of economic value, but also have eco-service functions such as purifying the environment, conserving water and soil and regulating climate, and bear public welfare. General Secretary Xi Jinping has repeatedly pointed out in his speeches that "good ecological

environment is the fairest public product and the most inclusive well-being of people's livelihood." It is suggested that the civil code establish environmental real right and clearly specify the environment as a public good and corresponding liabilities for damage and destruction of it, so as to enhance legal protection for environmental public welfare.

(2) Rational utilization of the real right of natural resources should be clarified. China has a population of more than 1.3 billion and is thus subject to relatively insufficient energy resources and weak carrying capacity of ecological environment. Economic development by immoderately consuming resources and ruining the environment will only disable energy resources to provide support, ecological environment to shoulder any burden or economic development and right protection to sustain. Only by making great efforts to change the unreasonable industrial structure, way to utilize resources, energy structure, spatial arrangement and lifestyle, respect the nature and save resources can both economic and social development and ecological environment protection be achieved. Article 7 of Real Right Law stipulates that "One shall, when acquiring or exercising a real right, comply with the law, respect social morals and may not infringe upon the public interests or the lawful rights and interests of any other person." It is recommended to further stipulate "one shall, when exercising the real right of natural resources, save resources, protect the environment and promote harmonious development of human and nature" based on the above-mentioned provision in civil codification. This is a concentrated reflect of the important position of ecological civilization construction in China's economic and social development and, more importantly, will have great effects on design of the specific real right system. For example, whilst protecting people's property rights, the law should specify necessary obligations to protect the environment and ecology, so as to achieve intergenerational justice and prevent "benefiting from ancestors but destroying the livelihood of descendants".

(3) The type and power of usufruct should be defined. Destruction of ecological environment can be owed largely to overdevelopment and extensive utilization of resources. Under the circumstances where China is subject to serious shortage of resources and ecological deterioration, civil codification should more value sustainable use of resources. To this end, it is necessary to look again at systems such as usufruct and neighboring relations in view of specific needs of ecological environment protection, so as to make clear the object, power and property of each right, strengthen the obligation of making the best use of everything and assign necessary obligations to protect the environment and ecology to real estate right holders according to the real situation in China whilst protecting property rights of civil subjects.

E. Establish sound provisions on tort liability. The current Tort Liability Law and relevant

environmental protection laws have already included tort liability system for "liability for environmental pollution" and so on, and relevant provisions should be expanded and perfected in next steps:

(1) Provisions on tort liability for environmental pollution should be further perfected. Destruction of ecosystem should be considered as a type of environmental infringement, and liability for environmental infringement should also apply to circumstances such as water and soil loss, permanent destruction of agricultural production conditions and devastation of living conditions due to exploitation of natural resources should also apply; a punitive compensation system should be established to stipulate that those who deliberately discharge pollution and cause personal injuries to any third person shall be subject to punitive damages; the public interest litigation system should be further fined to allow those who cause no obvious personal injuries but environmental pollution or ecological destruction to resort to public interest litigation, which can be filed by the procuratorate or other groups; special limitation of action should be stipulated for environmental infringement, so as to better protect victims' rights. Infringers who pollute the environment should be subject to the obligation of restitution to restore the environment and ecology.

(2) A social relief mechanism should be established for environmental infringement is expected. Efforts should be made to expand the coverage of environment liability insurance, change the legislative provision that limit liability insurance in China to sudden contamination accidents, include liability for environmental infringement caused by legal pollution discharge in the coverage of liability insurance or consider breaking through insurance coverage to include behaviors such as damages inflicted by normal accumulative pollution discharge by enterprises and damages to wild animals and plants under national special protection and natural reserves caused by pollution discharge in the scope of claims; efforts should also be made to establish a public compensation mechanism and guarantee at enterprise, insurance (industry) and national levels. Enterprises should assume the absolute responsibility for environmental infringement while insurers or the industry should assume responsibility at the second level. With respect to super-large tort cases, e.g., nuclear accident damages, the mechanism of full national compensation should be perfected.

Part IV. Reinforcing Law-based Administration and Public Compliance

Chapter I Enhancing Law-based Administration

The following recommendations are put forward to ensure the true and effective implementation of *Environmental Protection Law*:

I. Improving China's environmental regulatory system towards a coordinated and efficient system

Efforts should be made to accelerate the legislation on improving the protection of the ecological environment and strengthening government development, with focus on the establishment of a full-fledged, scientific, standardized, and effective system of administration according to law. Administrative decisions should be made in a scientific, democratic, and legal manner, to ensure quality based on scientific system, procedural justice, open process, clear responsibility. The credibility and execution of administrative decisions needs enhancement while illegal, improper, and delayed decision making should be minimized and corrected promptly. At the same time, it is necessary to safeguard and protect the citizen's right to know. The system of government information disclosure should be improved to ensure the legal access of citizens, legal persons and other organizations, increase government work transparency and promote administration according to law.

A. Optimize the environmental management system, combine centralized regulation and decentralized regulation, and integrate law enforcement and supervision

Firstly, establish a uniform Environmental Administrative Organization Law to create a clear division about the rights and liabilities of competent environmental administrative departments as well as other relevant departments.

Clarify the differences between unified monitoring and separate responsibility under the Environmental Protection Law.

Give comprehensive coordination and unified management authority to the environmental protection departments to avoid the occurrence of buck passing arising from unclear rights and liabilities.

If possible, follow the ideas of super-ministry system reform to establish a super-ministry of environmental protection responsible for unified guidance, coordination, and supervision of environmental protection activities.

Secondly, optimize the division of duty for environmental regulation between central and local governments. It is necessary to re-evaluate the effectiveness of the current system of simplifying administrative procedures and delegating powers to lower levels according to the

principle of "combining central-level supervision and local-level regulation and integrating higher-level assessment and lower-level accountability".

Launch a new round of environmental governance reform, delegate administrative licensing and regulatory power to lower levels, and give intermediary organizations a role in providing technical services. Take back supervisory and assessment power from lower levels.

Apply the principle of "accountability of party committee and government", so as to ensure the local party committees and governments maintain a positive attitude to environmental regulation and fulfill their regulatory duties. This work could be started in the early stage of the 13th five-year plan.

Thirdly, build a high-level environmental management coordinating body for the current problems, especially for watershed and cross-regional pollution problems.

For example, set up a national environmental protection committee, locating the general office in the Ministry of Environmental Protection, set up a watershed environmental protection coordination body within each watershed, and set up a coordination body within each key area for atmospheric pollution prevention and control. This work may be started in the early stage of the 13th five-year plan.

BOX 13: COMPLIANCE AND ENFORCEMENT PERFORMANCE MEASUREMENT

Many OECD countries have developed and used performance measurement indicators to measure the performance of environmental enforcement authorities since early 1990s. An OECD 2010 report analyzing the experience of ten OECD countries in the design and implementation of quantitative indicators indicated that four categories of indicators are widely used over the years: 1) inputs indicators (e.g., time, staff, funding, materials, equipment, and other resources); 2) outputs indicators (e.g., the number of inspections performed, the number of compliance promotion activities and the number of enforcement actions); 3) intermediate outcomes indicators (e.g., improved environmental management and reduced environmental impact); and 4) final outcomes indicators (e.g., improved ambient water or air quality and reduced soil contamination, etc.).

Traditionally, compliance and enforcement performance has been evaluated by inputs and outputs indicators. In recent years, many environmental enforcement authorities realize that input and output indicators alone do not reflect the effectiveness of various enforcement activities. Therefore, more meaningful outcome-based measurement indicators have been developed to focus on the improvements in environmental conditions or behaviors of the regulated community. Generally speaking, six types outcome-based performance measurement indicators are often used:

- Compliance rates;

- Measures of recidivism and duration of non-compliance;
- Pollution release indicators;
- Indicators of improved environmental management practices and reduced risk;
- Measures of effectiveness of individual compliance assurance instruments; and
- Environmental quality (final outcome) indicators.

OECD countries experiences show there are three approaches in designing outcome-based indicators of compliance and enforcement:

- Performance assessment focused on the effectiveness of compliance assurance instruments across regulations and environmental problems (e.g., US EPA measures the improved behavior of the regulated community, inspections and enforcement actions as well as ensuing pollution reductions).
- Performance assessment focused on specific environmental problems reflecting the competent authority's strategic priorities (e.g., UK, Denmark and Ireland use this approach to track high-risk industrial incidents, emissions of priority pollutants, etc.).
- Multi-tier performance assessment focused on pollutant-specific results of regulatory actions at the lower level and on the overall programme effectiveness at the higher level (e.g., Environment Canada looks first at reductions of individual regulated pollutants as a result of compliance and then aggregates them into a composite measure characterizing the environmental impact of these reductions).

From the scope of the indicators, the experiences from around the world show four types of compliance and enforcement measurement indicators:

- Comprehensive National Indicators to assess the overall effectiveness and improve management of the national environmental agency's compliance and enforcement programme. For example, the US EPA's national ECE indicators. For more information see http://www.epa.gov/compliance/planning/reuslts/index.html.
- Comprehensive Sub-National Indicators to assess the overall effectiveness and improve management of the compliance and enforcement programme of a regional or district office of the national environmental agency, a state or provincial agency, or a local municipal agency.
- Focused National Indicators to assess the effectiveness and improve management of a focused national initiative to address a specific noncompliance pattern or environmental risk. For example, Environment Canada's focused national

ECE indicators. For more information, see http://www.ec.gc.ca.

- Focused Sub-National Indicators to assess the effectiveness and improve management of a focused initiative to address a specific non-compliance patter or environmental risk at the regional, provincial/state, or local/municipal agency, use focused sub-national indicators.

However, there are some major challenges for developing and using compliance outcome indicators, including resources limitation for data collection and treatment, complexity of scope definition, difficulty of designing statistically-valid indicators, uncertainty in linking outputs with outcomes, and low comparability of indictor, etc.

It is not possible to identify a "best practice" approach or a set of "flawless" indicators. The design of the measurement indicators ultimately depends on their purpose and suitability for joint analysis with the enforcement authority's resource (input) and activity (output) indicators.

Sources:

1) OECD Environment Working Paper No. 18 (by Eugene Mazur), Outcome Performance Measures of Environmental Compliance Assurance (2010), available at: http://www.oecd-ilibrary.org/environment/outcome-performance-measures-of-environmental-compliance-assurance_5kmd9j75cf44-en

2) INECE, The Performance Measurement Guidance for Compliance and Enforcement Practitioners, Second Edition (2008), available at: http://inece.org//indicators/guidance.pdf

B. Improve accountability and supervision of party committees and governments at all levels for environment protection

There are two reasons for making the party committee and the government accountable in the field of environmental protection. Firstly, the progress of environmental protection requires the joint efforts of local party committee and local government. Secondly, in environmental management activities the local government is often held accountable for environmental pollution or accidents while the local party committee keeps out of it.

Generally speaking, major local decisions are made at the standing committee meeting or government work meeting. This means that the local party committee takes part in local environmental decision-making and so should also be responsible for the consequence of the decision-making.

The concept of "two responsibilities for one post" should be applied in the field of environmental protection because the protection of the environment is not just the responsibility of environmental protection departments alone, but also requires the cooperation of other departments. If an investment promotion department only cares about the economic benefits of an enterprise to an area and ignores the possible environmental damage it may cause, there will never be an improvement in the environment no matter how strictly

the local environmental protection department enforces the laws.

To implement the system of "accountability of party committee and government, two responsibilities for one post, and accountability of delinquent officials", the Ministry of Environmental Protection should work with the Organization Department of the CPC Central Committee and the Central Commission for Discipline Inspection (Ministry of Supervision) to formulate the procedural rules for questioning, accountability and rectification from September 2015 onwards, in accordance with the Measures for the Accountability of Party and Government Leaders for Damages to Ecological Environment (for Trial Implementation) issued by the General Office of the CPC Central Committee and the General Office of the State Council.

The procedural rules should provide for who will start the process of questioning a local party secretary, who shall cooperate, who shall investigate and collect evidence, and who shall impose punishment.

In addition, the National People's Congress and its standing committee should work for the relevant reforms, formulate the measures for the implementation of supervision and accountability for the environmental protection activities by local People's Congress and its standing committee at all levels, and require local People's Congresses and their standing committees to supervise and call the parties concerned to account for environmental problems in accordance with such measures.

BOX 14: Legal framework for Co-operative Environmental Governance and Regulation

Australian experience

Intergovernmental Agreement

Australia has a federal system of government. To facilitate a cooperative national approach to the environment, an Intergovernmental Agreement on the Environment was signed by the heads of the national government and the provincial governments in 1992.

A primary goal of the Agreement is to better define the roles of the respective governments in environment protection recognizing that environmental concerns and impacts respect neither physical nor political boundaries and are increasingly taking on interjurisdictional, international and global significance.

The national government's role under the Agreement is to –

- negotiate and enter into international agreements relating to the environment and to ensure Australia meets its international obligations; and
- ensure that the policies and practices of each province do no result in significant adverse environmental effects on another State; and
- facilitate the co-operative development of national environmental standards and guidelines to ensure that people in Australia enjoy the benefit of equivalent protection

from air, water, and soil pollution and from noise, wherever they live.

Recognising that national outcomes are best achieved through regionally tailored approaches, the Agreement provides for provincial governments to continue to have primary responsibility for the development and implementation of policies and laws in relation to environmental matters within their borders.

The Agreement includes a set of considerations and principles to guide all levels of government in developing and implementing environmental policies and programs. These include ensuring that environmental impacts are integrated into government decision-making, the precautionary principle, intergenerational equity, conservation of biological diversity and ecological integrity and improved valuation, pricing and incentive mechanisms.

It also sets out agreed, consistent approaches to specific areas of environmental policy and management. For example, the parties now collect, maintain and integrate environmental data for efficient and effective environmental management and monitoring, avoiding difficulties inherent in collating data collected with different methodologies and in different conditions. Common approaches were also agreed to in respect of resource assessment, land use decisions and approval processes, environmental impact assessment, climate change, biological diversity and conservation of the national estate.

Importantly, the Agreement provides a mechanism for establishing national environment protection standards, guidelines, goals and associated protocols (collectively referred to as "*measures*) with the objective of ensuring that -

- the Australian people enjoy the benefit of equivalent protection from air, water and soil pollution and from noise, wherever they live; and
- decisions and businesses are not distorted and markets not fragmented by variations between provinces in environmental regulation.

Legislation

Following the Agreement, a new law was passed by the national government in 1994 to set up a National Environment Protection Council made up of Ministers representing each of the provinces and chaired by a Minister of the national Government.

Under the legislation, the role of the Council is to establish national measures for the protection of the environment and to monitor and report on their implementation and effectiveness. Before measures are established and take effect, they must be examined to identify economic and social impacts and to ensure simplicity, efficiency and effectiveness in administration. Public information and public participation are also key elements of the process and these are written into the legislation as legal requirements.

Once a measure is established under this process, it is the prerogative of each government to determine how best to achieve it within its jurisdiction. Regulation is just one of a suite of

implementation tools a jurisdiction may use.

Each jurisdiction must report to the Council annually on its implementation of measures and on their effectiveness. This information must be made available to the public.

National ambient air quality standards were among the first measures to be established. Examples of the range of implementation tools that have been used by individual jurisdictions to achieve these standards include stricter emission limits on existing and proposed new industries and coal mines; programs to reduce emissions from in-service motor vehicles (*existing vehicles on the road*), gas stations and non-road diesel plant and equipment; local wood smoke programs for managing emissions from domestic wood heaters and stricter regulation of open burning.

Non-regulatory tools have complemented regulation in the achievement of the national standards. These have focused on incentives and education to bring about emissions reductions through voluntary participation and behavioral changes. Government infrastructure and planning decisions have also contributed to the achievement of air quality standards, for example by reducing vehicle use through urban planning and increasing access to public transport.

II. Independent administrative law enforcement in accordance with law, without improper interference of local governments

The independent exercise of powers by environmental protection departments according to the law has always been a key to improving the environmental management system and strengthening environmental law enforcement. Much attention has been paid to the abuse of power by these departments and to the their capture by political power.

For example, the Water Pollution Prevention and Control Law promulgated in 2008 gave the environmental protection department power to order violators to dismantle illegally built drain outlets. However, the environmental protection departments have seldom exercised this power and it exists in name only. How to solve this problem? In view of the issued *Guiding Opinions on the Pilot Reform of Vertical Management System for Environmental Monitoring, Supervision, and Law Enforcement by Environmental Protection Agencies Below the Provincial Level*, it is recommended to a) early put in place mechanism, equipment and personnel support and adapt the relevant laws to the vertical management system; b) establish a complete substantive law and procedural law to deepen the standardization of law enforcement; c) reinforce law enforcement foundation and capacity building, so that environmental legislation can be effectively implemented; d) set law enforcement access threshold and strengthen law enforcement personnel training; e) strengthen standardization of monitoring equipment and application of technical means including automatic monitoring, satellite remote sensing, and unmanned aerial vehicles; and f) improve the funding mechanism for environmental supervision and law enforcement by integrating the funds into the scope of full-range fiscal guarantee at the same level. The answer is to emphasize the independence of the environmental protection departments.

The first recommendation is to strengthen the leadership responsibility of governments, especially local governments. Require that "the local people's governments at or above the county level must assume the leadership responsibility for environmental law enforcement and regulation within their respective administrative areas" as specified in the Circular of the General Office of the State Council on Strengthening Environmental Regulation and Law Enforcement, letting the government be the backer of the environmental protection department, and thereby getting the environmental protection department out of its current predicament.

The second recommendation is to establish and improve the mechanisms for specifying government authority and responsibilities. In accordance with the requirements of the Decision of the CPC Central Committee on Major Issues pertaining to Comprehensively Promoting the Rule of Law adopted at the fourth plenary session of the eighteenth CPC Central Committee, clarify the responsibilities and authority of the environmental protection department and related departments to ensure that the government carries out all its statutory functions and duties in accordance with the law. This work may be started at the end of 2015.

BOX 15: COMPLIANCE AND ENFORCEMENT- BEST REGULATORY PRACTICE

The role of a modern regulatory agency is to enforce the law when necessary, but also to inform and educate, provide support, monitor compliance, and encourage higher performance.

Range of tools for compliance

International experience has shown that the most cost effective way to achieve compliance is through education and support, backed up by strong enforcement

There are many drivers of non-compliance and these include a lack of knowledge or understanding of the rules, unclear or contradictory rules, a low likelihood that a breach will be detected, a low likelihood that sanctions will be imposed or sanctions that are too low to act as a deterrent.

These drivers are addressed by a combination of positive motivators and incentives for compliance, (education and support, clear coherent rules, public acknowledgment of good performers), and by effective deterrents for those who break the law (a suite of escalating sanctions).

When setting policy and drafting regulations, the Hampton Review[1] of effective regulation in the United Kingdom recommended that they should be written in consultation with stakeholders so that they are easily understood, easily implemented and easily enforced.

Explicit consideration should also be given to how they can be enforced using existing systems and data to minimize the administrative burden imposed. The agency also needs to provide education and support.

Exercise of discretion - accountability

Regulatory agencies exercise discretion in compliance and enforcement as a matter of course – at the managerial level in the allocation of resources and at the field level in choosing how to respond. This is often unacknowledged and not understood.

The modern regulator explains to the community how it will prioritize its focus and target its resources. It also explains the strategies it will apply when dealing with regulated facilities so its actions and responses are predictable and consistent. It reports to the community annually on its performance and achievements.

Risk-based approach and performance measurement

In determining priorities, modern regulators adopt a risk-based approach devoting resources to areas where they will make the biggest difference and manage the biggest risks.

The UK Environmental Agency is considered an exemplar in risk-based regulatory practice with the transparent disclosure of its risk-based targeting, licensing and inspection approaches through the Operator Pollution and Risk Appraisal system (OPRA).[2]

EPA Victoria has recently adopted a similar risk based approach in Australia after an extensive review of regulatory best practice.[3]

Implementing recommendations of the review, the agency has published a new Compliance and Enforcement Policy explaining its methods and priorities for ensuring compliance and using its compliance and enforcement powers. This approach is standard practice for regulators today.

It has also published an annual Compliance Plan informing the community of the EPA's planned and proactive compliance activities for the year ahead. These are divided into strategic compliance activities, compliance maintenance activities and pollution response. Each category requires a different approach to risk assessment, resource allocation and problem solving.

The agency reports to the public annually on its performance in achieving the objectives of is Compliance Plan. The public is also able to read about the outcomes of EPA's compliance and enforcement activities by following it on social media and on its website.

1. *Hampton Report March 2005. www.hm-treasury.gov.uk/ media/AAF/00/bud05hampton_641.pdf.*

2. *Environment Agency UK website www.environment-agency.gov.uk*

3. *http://www.epa.vic.gov.au/our-work/compliance-and-enforcement/ce-review*

III. Strengthen and promote environmental legal responsibility, enhance public participation and supervision

A. Establish and improve the tenure accountability system

The recent Circular of the State Council General Office on Strengthening Environmental Regulation and Enforcement proposed a life-long investigation system for liabilities for eco-environmental damage. This system needs to be perfected.

The purpose of the system is to address the situation where directors and staff of environmental protection departments do not carry any responsibility for failures to enforce the law after transfer or retirement.

The new Environmental Protection Law gives environmental departments powerful teeth in the form of daily penalties and administrative detention. Up until now, the system has focused only on administrative punishments. It needs to be extended to examine the use of the powerful new tools provided by the new law.

B. Improve civil public interest litigation, establish administrative public interest litigation, and give play to public supervision

China has launched various attempts at environmental public interest litigation. The following recommendations are based on experience gained from these attempts.

Firstly, improve the system of the procuratorate filing requests for public interest litigation. There is an irresistible trend for the procuratorate itself, as the organ of legal supervision, to file public interest litigation in place of the social organization. There are differences between the procedures of litigation filed by the procuratorate and social organizations.

To improve efficiency, set up two procedures for the procuratorial organs filing environmental administrative public interest litigation. One should be for suspected illegal acts involving administrative organs. Under this procedure, the procuratorate should be able to make recommendations asking the administrative organ for rectification within a specified time. If the administrative organs think that they've done nothing wrong or refuse to rectify, then it will enter into the second procedure automatically.

According to the intra-Party regulations, before initiating environmental administrative public interest litigation, the procuratorial organs should submit the evidence for the case to the local Party committee at the same level for discussion. If the standing committee of the local Party committee coordinates successfully and the administrative organ corrects its mistakes in time, the procuratorate will not file the case. Otherwise it will. This method recognizes the organic connection and coordination between the intra-Party regulations of environmental protection and national legislation to reduce political risks.

Secondly, loosen the restrictions on social organizations filing public interest litigation. The social organizations willing and able to file environmental public interest litigation are really

limited. This undermines the whole system. The qualifications allowing social organizations to take part in environmental civil public interest litigation needs to be broadened to make it easier for environmental protection organizations to file litigation. For example, reduce the time limits for specialized environmental protection public interest activities and reduce the requirements for registration. It is recommended that registration according to law anywhere in the country should be enough.

The third recommendation is to establish a system of environmental administrative public interest litigation allowing individuals and organizations to file these cases during 2025-2030 after the completion of economic and social transition. This is a medium-term goal.

III. Strengthen capacity for implementation and enforcement

Implementation and enforcement of environmental laws requires adequate staff with capacity to do the job, adequate financial resources and the support of the public. It is necessary to build talented teams, use special funds, conduct publicity and mass education, and to introduce and develop advanced technology to guarantee effective implementation and law enforcement.

A. Set up the entry qualifications for law enforcement personnel, and strengthen training of law enforcement personnel

Implementation and enforcement is carried out by people, many of whom work at the grassroots level. If they are unqualified to do the work assigned to them, the goals of the legislation will not be achieved. The quality of environmental administrative enforcement officials directly determines the efficacy of environmental laws and regulations. Consistent with the provisions of the Circular of the State Council General Office on Strengthening Environmental Regulation and Enforcement, this reports makes the following training recommendations.

Firstly, establish the entry threshold for environmental law enforcement and regulation personnel in terms of profession, education background, qualifications and record of service, laying a foundation for the building of a qualified environmental law enforcement and regulation team.

Secondly, there should be a strong emphasis on the training of enforcement officials at the grass roots level. They are the front line of environmental administrative enforcement. Only by improving the quality of grassroots enforcement officials can we make the fundamental improvement required for effective implementation and enforcement of China's environmental laws.

Thirdly, there should be training of all the current environmental enforcement officials. Only after being tested and meeting the standards for a position, should they be able to undertake the functions of that position.

B. Reinforce public education

Publicity and mass education are important ways to lead the public to take part in environmental law enforcement. It will reinforce the authority of environmental laws, improve public awareness of the need for environmental protection, and gain public support for the work of environmental protection departments

The decision of the Fourth Plenary Session of the 18th Central Committee of the Communist Party of China (CPC), clearly resolved to "perfect the publicity and mass education mechanism of law popularization" and to "bring law-related education into the contents of constructing spiritual civilization, launch mass law-related cultural activities, perfect the public interest law popularization system of media, and strengthen the utilization of new media and new technology in law popularization to improve its effectiveness."

Therefore, publicity and mass education about environment protection must continue to be reinforced, thereby promoting and increasing meaningful and orderly public participation.

BOX 16: ENVIRONMENTAL AGENCIES IN OTHER JURISDICTIONS US EPA

The US EPA is a national agency employing 18,000 permanent staff with an annual budget from Congress of US $8 billion. It serves a population of 320 million covering an area similar in size to China.

More than half of its full time staff is professionally trained – for example, engineers, scientists and environmental protection and education specialists. Other groups include legal, public affairs, and financial and information technologists.

The agency regulates 800,000 facilities nationwide.

One of the agency's seven key themes is "embracing the EPA as a high performing organization". Staff are hired, trained and supported to enhance their performance in all areas, including in compliance and enforcement.

NSW EPA

The NSW EPA is an Australian agency at the State level employing 450 permanent staff, with a current annual budget from the State government of AUD$158 million. It serves a population of 7.5 million covering 10% of Australia. The agency directly regulates 2000 facilities across the State.

Staff have similar professional qualifications to staff of the US EPA. Core capabilities for which the agency provides on-going training include incident management, gathering evidence and conducting investigations, policy development, leadership and management.

National network to support regulatory staff

The Australasian Environmental Law Enforcement and Regulators Network (AELERT) is a

collective of environmental regulators from all levels of government across Australia and New Zealand. It provides a platform for environmental regulators to connect and collaborate in their work and is modeled on the International Network for Environmental Enforcement and Compliance (INECE).

Member officers connect through AELERT to exchange resources, knowledge and experience about environmental regulatory practice and work together to drive continuous improvement and new approaches to the 'regulatory craft'.

For example, it provides a Professional Development and Training Program coordinating and delivering a suite of accredited and non-accredited courses that are open to environmental regulatory practitioners.

Accredited courses are delivered by Registered Training Organizations to a standard set by the Australian Skills Quality Authority (ASQA) established by the National Vocational Education and Training Regulatory Act 2011. These courses are designed to assess competency against a range of skills and knowledge relating to the area of study. AELERT offers these courses in Government & Environmental Regulation, Environmental Auditing as well as in Investigations.

C. Standardize environmental law enforcement and monitoring equipment

The standardization of monitoring equipment would help the environmental protection departments to regulate a great number of enterprises with limited manpower.

The Circular of the General Office of the State Council on Strengthening Environmental Regulation and Law Enforcement recognizes, for example, for the need for equipment for investigation and evidence collection, and the need to ensure the availability of vehicles for grass-roots regulation and enforcement. More than 80% of the environmental monitoring agencies are required to be equipped with and use portable handheld terminals for the standardization of law enforcement activities by the end of 2017.

The Circular also requires technical monitoring to be strengthened, for example, automatic monitoring, satellite remote sensing, and unmanned aerial vehicles as well as improving the mechanism to ensure adequate funding by including the funds for regulation and enforcement into the financial budget. The Circular establishes a timetable for the popularization of advanced monitoring technologies among the environmental monitoring agencies, showing China's firm resolution of stepping up efforts to promote the application of advanced monitoring technologies.

As a practical example of what can be achieved, Shaoxing started the preparation and establishment of the automatic pollution source monitoring system in 2007, and it has invested 70 million Yuan for environmental monitoring capacity building as of 2011. The system has covered 80% of wastewater discharge enterprises in Shaoxing city. It monitors the waste water discharge situation of the city effectively, and masters the regular patterns of waste water discharge from pollution sources by comparing the enterprise waste water

discharge data from different seasons and times, providing an important basis for the rational use of resources for law enforcement.

D. Standardize the use of special funds for environmental protection

As environmental protection becomes more and more important and complex, the funds required also increases. Special funds are essential. The environmental protection special fund is a major initiative. This report makes the following recommendations for perfection of the environmental protection special funds.

Firstly, perfect supervision and accountability for the funds. Separate construction from management to avoid the situation where the one department is both the “chess player” and the “rule maker”.

Secondly, introduce performance audits of the use of environmental funds, evaluating both the expenditure of the funds as well as the performance of environmental protection departments and their staff.

Thirdly, establish detailed procedures for the use of funds to ensure due process and supervision.

Chapter II Enhancing Public Compliance

I. Promoting compliance of all the people and strengthening public participation

Improving the rule of law for sustainable development is a systematic project that requires the participation of all social forces. It is necessary to enhance legal awareness and law-ruling idea of the whole society, in addition to improving the legal system, strengthening administration according to law, and practicing impartial justice. There should be a social atmosphere of consciously learning and abiding by the law. The broad masses of the people need to know how to express demands and resolve disputes according to legal procedures, and use the weapon of law to protect their legitimate rights and interests. The members of Party and government organs at all levels, especially those closely related to sustainable economic and social development, should take the lead in abiding by the Constitution and laws, establish the idea of sustainable development and enhance the awareness of rule of law, and make good use of law to solve practical problems challenging sustainable economic and social development.

Sustainable development concerns the common interest of all the members of the whole society. The public is the most direct bearer, most widespread witness and most powerful judge of the actual effect of legislation, law enforcement and justice of sustainable development. It is therefore necessary to improve the supervisory capability of the public and the media, including social organizations of all kinds. Meanwhile, legislative, administrative and judicial organs of public power should take the initiative to publish relevant information and accept supervision. Favorable conditions should be created to constantly expand the scope of public participation and facilitate public access to information and supervision. Emerging Internet-based media are expected to play an active role in supervision. The

people's right to know, to participate, to express and supervise has been largely achieved through the Internet. The Government's attention and support is of great significance for the Internet-based legal supervision over sustainable development.

It is suggested that China create a social atmosphere of consciously learning, obeying and using the law. The members of Party and government organs at all levels, especially those closely related to sustainable economic and social development, should take the lead in abiding by the Constitution and laws, establish the idea of sustainable development and enhance the awareness of rule of law, and make good use of law to solve practical problems challenging sustainable economic and social development. It is recommended to make environmental courses widely available in universities.

II. Building the corporate environmental information disclosure system

For enterprises, the ultimate goal of production and operation is to maximize profits. When the price of environmental pollution is not enough to offset the profits, they will inevitably cover up environmental pollution information in pursuit of short-term interests at the expense of environment. In the view of the government, environmental protection and economic development are confrontational. The disclosure of environmental information may lead to a decrease in attractiveness of local investment, deficit or even bankruptcy of polluting enterprises, and consequently reduction of government's fiscal revenue which is by no means expected by the government. With an advantage of information over the public, enterprises generally do not take the initiative to publish unfavorable environmental information, unless forced by administrative power and public pressure. The current *Measures for Environmental Information Disclosure* provides voluntary disclosure of environmental information for general enterprises and mandatory disclosure for those included in the list of polluting enterprises. In other words, citizens can only apply to the government for access to corporate environmental information. However, such information is generally classified as commercial secrets and will not be disclosed, unless the consent of the right holder or the government requirement on the grounds of significant harm to the public interests.

In view of this, the Task Force believes it necessary to build an environmental information disclosure system for enterprises. The disclosure of corporate environmental information, by either environmental protection departments or enterprises, is of high significance for safeguarding citizens' environmental right and public rights, fulfilling corporate social responsibilities, and protecting the environment. In general, the legislation of corporate environmental information disclosure needs to address issues including a) low legal status, b) intersecting, overlapping and conflicting provisions; c) vaguely defined scope of disclosure; d) limited forms of disclosure which undermines public access to information; e) lack of relief mechanisms and perfect accountability; and f) lack of strong incentives and preferential policies. In addition, the disclosure of corporate environmental information is subject to restrictions from trade secrets, state secrets and personal privacy. It may also entail business risks which force enterprises to take a variety of measures. In the event of an environmental emergency or when the country enters a state of emergency, enterprises shall disclose information in a timely manner to safeguard safety and property rights of the public and

maintain social order. For damage to legitimate interests suffered due to disclosure of business secrets at this point, compensation should be provided by economic market players benefiting from the disclosure. Apart from voluntary and mandatory information disclosure, it is recommended build an environmental contract based system of agreed information disclosure to the specific parties who bear the obligation to keep confidential, in order to solve the conflict between trade secrets and the right to know. The corporate environmental information disclosure list is favored, including classification of information and degree of openness, to standardize the way to disclose information. The relief, penalty and incentive mechanisms should be improved for parties involved in the disclosure of corporate environmental information.

BOX 17: INFORMATION, PARTICIPATION AND ACCESS TO JUSTICE

Successful implementation and enforcement of environmental law is the duty of public authorities. The European Union and especially Germany have developed legal instruments for access to information, participation and judicial review building public and government confidence in effective implementation and enforcement.

Based on the Aarhus Convention (Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters),
which came into force 2001, the European Union and their member states adopted several legal acts which:

1. Oblige public authorities to provide access to environmental information for private individuals without having the duty to claim an infringement of interest or right (passive information) and
2. Oblige authorities, other public offices in the parties‘ sphere of influence, and international organizations to publish documents with environmental impacts (active information).
3. Give the right for the civil society (private persons) to participate in approval procedure with the aim of permitting large-scale projects with environmental impacts.
4. Provide access to justice for individuals with an infringed interest or right and non-governmental organizations to control the approvals of large-scale projects.

Free access to all relevant accurate data, and actively publishing that data, has enabled civil society to monitor public authorities and their enforcement practices. The produced transparency has improved decision-making and promoted not only trust in the authorities’ actions but also acceptance of its decisions.

Legal remedies are provided because without them, there would be a risk that the first (access to information) and second pillar (participation) of the Convention would peter out with no effect, and other environmental requirements would not be monitored.

NGOs

In order to avoid improper use of the right of access to information, participation and access to justice, the German law requires NGOs to apply for governmental recognition. The German Environmental Appeals Act provides a list of requirements. An association must be recognized if it:

- predominantly promotes the objectives of environmental protection according to it by law
- has corresponding activities
- existed for a minimum period of three years
- guarantees proper performance of its functions
- pursues public benefit purposes
- allow any person who supports the objectives to become a full right member of the association with an exemption for umbrella organization.

The recognition is issued by the Federal Agency for Nature Conservation.

Upstream bureaucratic supervision

In Germany, the task of monitoring agency compliance and enforcement actions is not simply left to individuals and NGOs. Supervision of public authorities at the local level is also carried out by public authorities at the regional or state level (upstream-supervision).

Part V Beefing up the Judiciary Safeguard for Ecological Environment

Chapter I Reforming the Jurisdictions of Environmental Damage Cases Across Administrative Areas

The environmental problems that break out in recent years show the new features of large area and wide range of influence. For example, fog and haze is not unique to a city or a province and usually occurs in several provinces.

At present, courts are often not capable enough to carry out environmental cases across administrative areas. In order to break the traditional mode of trial, the intermediate courts of many provinces and cities have set up environmental tribunals in an effort to practice cross-regional jurisdiction, which points out the direction for the trial of environmental resources cases.

Under the existing system, cross-jurisdictional trial is undoubtedly a very sensitive issue. According to the law, courts are established in line with administrative divisions and have jurisdiction of cases in certain administrative areas. In other words, courts do not have the jurisdiction of cross-administrative cases. The similar provisions are seen in the trial of criminal cases, civil cases, and administrative cases. Paragraph 2 of Article 37 of the *Civil Procedure Law of the People 's Republic of China* stipulates that "where there is a dispute of two people' s courts over jurisdiction reported to the higher level after failure of negotiation, the jurisdiction shall be determined by the intermediate people's court, if the courts are under the same prefecture or city, or the supreme people's court if the two courts are under the same province, autonomous region or municipality directly under the central government. Where the two courts across provinces, autonomous regions or municipalities fail to reach an agreement through the consultation with the supreme people's court, the jurisdiction shall be determined by the Supreme People's Court in a timely manner." Environmental tribunals in Qingzhen, Guiyang are set up in accordance with watersheds. The jurisdiction of disputes across districts and counties within the city is designated by the Intermediate People's Court, and beyond the city, by the Provincial Supreme People's Court. To solve the problem of large geographical scope, Qingzhen City Court adopts a "Circuit Trial" approach to hear cases on site. The judicial practice ushers in the transition from designated jurisdiction to exclusive jurisdiction of cross- administrative environmental cases.

I. Problems facing the jurisdiction over cross-administrative environmental damage cases

A. Administrative divisions in the jurisdiction

Environmental problems usually have a wide range of influence and, in many cases, the "source" and "incident" are found in different administrative regions. Therefore, environmental tribunals set up according to the traditional administrative divisions often fall into the trap of jurisdiction and authority. The principle of designated jurisdiction under Article 37 of the *Civil Procedure Law* seems to provide a basis for environmental tribunals to deal with environmental problems in trans-boundary watersheds. As a matter of practice, the Supreme Court of Guizhou has designated two environmental tribunals in Guiyang to administer environmental cases involving the "two lakes and one bank" beyond the administrative area of Guiyang. If environmental tribunals are in full swing, the designated jurisdiction of watershed environmental cases will become a heavy task. For example, the environmental problems in the Huaihe River Basin affect the interests of the four neighboring provinces, and the jurisdiction by environmental tribunals in any of the provinces, even if designated by the Supreme People's Court, is bound to face objection. Environmental tribunals, as an integral part of ordinary courts, cannot overcome the chronic obstacle caused by administrative divisions.

In practice, Wuxi Environmental Tribunal, established in strict accordance with the traditional administrative divisions more than a year ago, has trialed very few cases, leaving the impression of little function. The widespread environmental tribunals in Yunnan Province are

also worrying. Is the environmental tribunal adaptable to the current needs of environmental justice? It may be more appropriate to set up "environmental circuit courts" in watersheds. The Environmental Tribunal of Guiyang City accepted two cases in August 2010, of which one concerns water pollution in Fuquan, Qiannan and the other concerns air pollution in Liupanshui City. The affected people turned to environmental tribunal heard from the media as the local environmental protection departments prevaricated and delayed the cases for all kinds of reasons. Nevertheless, the environmental tribunal cannot fully resolve the problems due to geographical constraints.

Drawing on the experience of other countries while considering the operation of environmental tribunals in China, we believe that China should separate jurisdiction and administration in the establishment of environmental tribunals. In other words, instead of administrative divisions, environmental tribunals are set up according to juridical divisions based on statistical population, number of disputes, traffic and communications. They form an environmental judiciary system across provinces and cities (counties). It effectively alleviates local protectionism while following the laws of nature and thus resolves the dilemma of jurisdiction in the specialization of environmental justice in China.

This is how the US Federal Courts operate, with some courts spanning several states while some states having multiple federal circuit courts. Although the appointment of state court judges and funding are determined by the state legislature, there is, in practice, no local protectionism which owns to the division of jurisdiction. Where the parties are citizens of different states, unless specified in the contract, suits can generally be filed to federal courts. The judge appointment and appropriation of federal district courts and federal appeals courts are completely determined by the central government and have nothing to do with the local government, ensuring the federal court judges will not be controlled by the local administrative organs. If from the same state, but different cities and counties, citizens can sue in local courts whose magistrate appointment and appropriation are decided by the state legislature. This basically avoids local protectionism caused by the same administration and jurisdiction. Once judicial districts are outlined, the work is to define the jurisdiction of environmental tribunals within the judicial districts in accordance with the principle of centralized jurisdiction and designated jurisdiction.

BOX 18: Legal measures against trans boundary pollution in the European Union

The European Union’s essential provisions for the fight against trans boundary air pollution are laid down in directive 2008/50/EG on ambient air quality and cleaner air for Europe, issued May 21st 2008 , and directive 2010/75/EU on industrial emissions (integrated pollution prevention and control) , issued November 24th, 2010.

The directive 2008/50/EG follows a subject of protection related planning approach, meaning that it aims at the protection of air quality by the determination of emission limits. The directive 2010/75/EU, in contrast, has a source related approach: It pursues the protection of air quality through the determination of emission limits for industrial installations.

The conceptual differences are perpetuated in the legal instruments.

Clean air plans as an instrument to combat trans boundary air pollution

For the enforcement of emission limits or standards, directive 2008/50/EG obligates public authorities to set clean air plans, containing effective measures, whilst directive 2010/75/EU addresses operators of industrial installations and obligates them to meet emission limits in operation. The competent authorities have repressive instruments as well by which they can enforce the lawful operation of the installations.

According to Art. 25 of directive 2008/50/EG, member states, that are affected by trans boundary air pollution, are obligated to cooperate and take joint measures if necessary.

Trans boundary air pollution in the sense of the directive is given, when emission limits are exceeded in consequence of considerable cross border pollutant transport. Art. 25 of directive 2008/50/EG mentions the development, passing and enforcement of joint or coordinated clean air plans as one form of cooperation among others. The authorities and the public of the neighboring states are furthermore to be informed, if limits are being exceeded.

Industrial installations related protection against transboundary air pollution

According to directive 2010/75/EU, air pollution caused by industrial installations is first of all a reason for the determination of suitable provisions, particularly critical values and permission requirements, through EU regulation, which precedes national regulation.

Trans boundary air pollution caused by industrial installations is therefore already considered in the standard setting of critical values. Furthermore, measures for the reduction of trans boundary air pollution are to be included by the competent authorities in the permission at the greatest possible extent.

Authorities of the member states are furthermore asked to combine permissions for industrial installations with suitable obligations to avoid trans boundary pollution. Especially Art. 26 of directive 2010/75/EU regulates the handling of trans boundary effects of the operation of industrial installations: A member state, in which an industrial installation that causes trans boundary air pollution is located, is obligated to provide the relevant documents – for example the application for the permission and the results of an environmental audit – to the affected member state and its public.

The affected member state and its public have the right to raise objections to the permission. The member states have to implement those European provisions into their national law.

B. Specialized technical problems in environmental damage cases

Environmental cases often span several administrative areas. In practice, pollutants discharged by two or more polluters flowing through the river often overlap and accumulate in the river basin, eventually leading to environmental problems. It is difficult to identify polluters responsible for such complex pollution or extent of responsibility of polluters. The victims, compared to perpetrators, tend to be vulnerable groups, and as ordinary members of

the community, know little about keeping and obtaining evidence. In accordance with Article 74 of the *Supreme People's Court's Opinion on Several Issues Concerning the Application of the Civil Procedure Law of the People's Republic of China*, it is the responsibility of the defendant to present evidence in environmental damage cases. Even so, the victim is required at least to prove the damage, which often depends on the support of scientific and technical evidence and is subject to a number of economic and technical conditions, making filing and wining a suit difficult. Judges generally encounter difficulties in the trial of environmental cases and make judgments based on environmental damage assessment and appraisal. However, in China, there are neither authoritative assessment agencies nor clear laws on assessment and appraisal procedures, standards and methods. As a result, chaos arise in reality that assessment agencies draw sharply different conclusions based on different standards, which often make the judge at a loss.

It should be made clear that the assessment opinions serve as only a kind of evidence and a tool for the judge, and by no means replace the court decision. To bridge the 'knowledge gap' formed by scientific evidence and resolve the judicial risk brought by uncertainty in fact identification, it is necessary to improve the corresponding legal mechanisms that combine reviewing science-based evidence and meeting other value requirements of legal procedures.

II. Recommendations on jurisdiction over cross-administrative environmental damage cases

The *Outline of the 4th Five-Year Reform Plan of the People's Court (2014-2018)* points out that it is necessary to "explore the establishment of judiciary system properly separated from administrative divisions", including the establishment of environmental tribunals. It is a move to overcome such drawbacks as localization of justice and inequality of litigation and judicial resources, while addressing the particularity of environmental cases.

A. Extent of jurisdiction defined according to the environmental region and its characteristics

Environmental factors are systematic, fluid and holistic, increasing the possibility of cross-administrative environmental cases. The jurisdiction according to administrative divisions may artificially divide natural functional areas such as regions and river basins, and undermine the investigation of facts, hearing of cases and resolution of disputes. In light of this, administrative divisions should be played down and ecological functional zoning respected, and regional governance should be taken as the core of environmental supervision and governance. The newly amended *Environmental Protection Law* stipulates in Article 20 that the state shall establish the coordination mechanism for joint prevention and control of environmental pollution and ecological destruction in key regions and river basins across administrative areas and implement unified planning, standards, monitoring, and measures." The *Opinions of the Supreme People's Court on Strengthening the Trial over Environmental Resources in an All-round Way and Providing Strong Judicial Safeguard for the Construction of Ecological Civilization* (SPC [2014] No. 11) (hereinafter referred to as the Opinions)

further called for "gradually change the model of jurisdiction that divides naturally formed watersheds and other ecological systems and exploring the establishment of special juridical agencies based on watersheds and ecological functional zones across administrative areas while considering the natural attributes of environmental factors such as water and air and the amount of environmental resources in each region." Therefore, the jurisdiction of environmental resource cases particularly needs to break the traditional pattern of civil, administrative and criminal jurisdictions and follow the appropriate division of labor and power of courts at the first instance, to achieve systemic response and solution to disputes. The key premise is to straighten out the relationship between judicial divisions and administrative divisions and then to resolve the connection between the three traditional kinds of litigation.

B. Fiscal guarantee policy according to the nature of central power

The power and expenditure responsibility of major livelihood cases including inter-provincial environmental pollution cases and judicial affairs including administrative litigation cases involving provincial governments shall be centralized. As there are no corresponding local environmental resources courts and administrative courts, commissioned jurisdiction and designated jurisdiction can be applied. The cases shall be handled by a cross-administrative tribunal unrelated to interests and a superior court unrelated to interests shall act as the Court of Appeal. The corresponding expenditure shall be centralized and all the involved properties turned over to the central treasury. The funds for handling cases shall be safeguarded by the central fiscal budget, or included as a special item (subsidies for environmental cases) in the project expenditure of the departmental budget of the Supreme People's Court. In addition, special funding channels should be safeguarded by the central fiscal budget for major political cases or criminal cases involving leaders at provincial and ministerial levels, as well as complex and difficult criminal cases with national influence, if handled off-site as designated by the Supreme People's Court. First, based on the existing resources, the grass-roots courts are still basically set according to county divisions. The jurisdiction of cases subject to local influence needs adjustment through the improvement of upgraded jurisdiction and designated jurisdiction. Second, combining with provincial-county reform, appropriate adjustment should be made to the jurisdiction of intermediate courts by establishing, if necessary, cross-administrative tribunals, to achieve the appropriate separation from administrative divisions. Third, reform will be made to promote the unified management of courts below the provincial level. The system of "unified management, two-level guarantee" will be implemented. The properties of local courts shall be brought under the unified management of courts at the provincial level and above, to strengthen the central and provincial management responsibilities, while the expenditure shall be shared, depending on the responsibility.

C. Promoting specialized trial of environmental damage cases

With regard to the path of realizing judicial specialization, the Opinions of the Supreme People's Court stipulate that in the light of actual needs, local conditions and progressive work, specialized judicial bodies on environmental resources shall be set up. There are

currently the four trial modes, namely environmental resource tribunal, environmental resource court, environmental resources circuit court and environmental resources dispatch court. In local judicial practice, environmental resources tribunal are more seen and experienced.

China's judicial specialization of environmental resources relies on the construction of environmental resources trial courts. Environmental resources tribunals have been set up under the Intermediate People's Courts, Higher People's Courts and Supreme People's Courts, considering the universal and professional nature of environmental resource cases and the requirements of "two-trial final judgment system", as well as the provision of Article 6 of the Interpretation that "first instance environmental public interest litigation cases shall come under the jurisdiction of the Intermediate People's Court or above of the damage-doing place, result-suffering place, and domicile of the defendant." In view of the uneven distribution and specialization of environmental resource cases, environmental resources tribunals are not necessary for all grassroots people's courts. The Intermediate People's Court may set up one or several environmental resources tribunals in the grassroots people's courts with defined jurisdiction according to the number of cases and the burden of protection. At the same time, the "three-in-one" integrated trial mode should be established. It has been agreed that the criminal, civil and administrative cases of environmental resources are heard by environmental resources tribunals and the "three-in-one" trial mode is favored by the Supreme People's Court. According to the Opinions of the Supreme People's Court provide favorable judicial protection opinions," said: "(we should) actively explore the centralized trial of f criminal, civil, administrative cases of environmental resources. Combining local realities, we should actively explore the centralized jurisdiction of environmental resources cases by special organs and optimize trial resources to achieve specialized trial. Where the centralized trial is not realized, attention should be paid to strengthening the coordination and communication among criminal, civil, and administrative judicial organs". The above-mentioned opinions of the Supreme People's Court should provide guidance on trial mode for environmental resources tribunals of local people's courts.

Chapter II Promoting Public Interest Litigation against Environmental Damage

I. Situation of environmental public interest litigation

A. Limited cases and difficulties in filing cases, obtaining evidence and implementing the verdict

Environmental public interest litigation is more complex and faced with many problems, compared with environmental civil litigation. The narrow scope of environmental public interest litigation leads to a small number of environmental resources cases or even an embarrassing situation of no case. First, environmental public interest litigation cases are narrowly filed and accepted. According to statistics, there were less than 60 environmental public interest litigation cases nationwide during 2000-2013, the national. The situation

improves since the implementation of the newly amended *Environmental Protection Law*, but some local courts insist environmental disputes be resolved by government departments, and are reluctant to accept such cases very difficult to hear. Even if accepted, a case may end up with nothing definite due to intervention from local governments. In 2015, totally 62 cases of environmental public interest litigation were accepted for first instance, including 56 civil cases and 6 administrative cases, but only 20 were concluded, including 17 civil cases and 3 administrative cases. In January 2016, there were 7 newly accepted first instance cases of environmental public interest litigation, including one administrative case. As of the end of January 2016, totally 50 environmental public interest litigation cases came to the trial of first instance, including 46 civil cases and 4 administrative cases, with 3 civil cases and 2 administrative cases filed by the prosecution. As of the end of February 2016, the national courts were hearing 49 cases, including 45 civil cases and 4 administrative cases, with 3 each filed by the prosecution. After the pilot was carried out, the national courts accepted 3 civil cases and 6 administrative cases of environmental public interest litigation brought by the procuratorial organs and closed 3 cases. Second, it is difficult to collect the evidence. For victims of environmental pollution, the collection of evidence is almost a "task impossible". If the local government supports polluting enterprises, the local environmental protection bureau will not provide plaintiffs with pollution data for public interest litigation. In addition, the plaintiff is often rejected when requesting assessment of losses to seek compensation. And the lack of the assessment of losses becomes an important reason that the court determines the plaintiff lose the suit. Third, the verdict is hardly implemented. Implementing the verdict as required is even more difficult than filing a case and collecting evidence. In some cases, enterprises refuse to fulfill the obligation of environmental compensation on the grounds of loss. In some cases, environmental disputes go on for several years and a large number of environmental violations cannot be timely punished and corrected, leading to continued overall deterioration of the ecological environment.

B. Administrative public interest litigation limited due to narrow scope of environmental public interest litigation

Many problems arise in environmental public interest litigation cases due to ambiguous scope of such litigation. For example, Article 58 of the newly amended *Environmental Protection Law* provides that: suits can be brought to the people's courts for acts involving environmental pollution, ecological damage, and damage to the public interests. This provision expands the scope of environmental public interest litigation defined by Article 55 "Litigation on Environmental Pollution that Harms Social Public Interests" of the *Civil Procedure Law*. It clarifies that public interest litigation can be instituted against the behavior of ecological destruction and also expands the scope of environmental civil liability. In addition, according to Article 64 of the *Environmental Protection Law*, there are two types of environmental damage cases: a) environmental pollution and b) ecological damage, which sharply differ in filing standards, jurisdiction levels and scope, and evidence rules and principles. In practice, environmental pollution cases account for the majority, and there are mature trial rules, trial procedures and excellent trial examples. The situation of ecological damage cases is more embarrassing: small number and no trial experience. However, the trial of such cases most

reflects the characteristics of judicial trial on environmental resources, and differs from that of traditional civil, criminal and administrative cases. Where there is no ecological damage case, more emphasis will be put on the implementation of systems for risk prevention, environmental impact assessment, and planning and inspection. Where such case is filed, efforts should be made to achieve maximum restoration of the original landscape of the ecological environment and even improvement and optimization. To maintain and enjoy a beautiful environment is the basic right of mankind, but also the ultimate goal of judicial trial on environmental resources. Pure environmental damage cases do take the specific act of discharge and infringement as a constituent element, property damage as the evaluation criteria, and property compensation as the purpose. The provisions of the *General Principles of Civil Law*, *Law on Tort Liability*, and *Environmental Protection Law* apply to environmental damage cases, but this does not mean the same application to other ecological damage cases.

C. Principles of public participation and prevention first not well implemented

Given the extensive and social damage entailing environmental pollution and ecological destruction, the strength of the government solely is not enough to protect the environment and needs to be joined by public participation. The principle of public participation is established by Paragraph 3, Article 2 of the Constitution of the People's Republic of China which stipulates that "the people shall manage state affairs, economic and cultural undertakings and social affairs in various ways and forms in accordance with the law." Public participation in environmental protection includes participation in environmental legislation, administrative law enforcement and judicial practice. Environmental public interest litigation is more than a simple means of litigation, and it serves as an important system for the public to get involved in environmental governance and the process of solving public nuisance. The public use of judicial means to solve the problems of environmental pollution and ecological destruction will enhance public awareness of environmental protection and faith of safeguarding their own environmental rights. This will create a good public foundation for environmental public interest litigation. Therefore, it is urgent to establish an environmental public interest litigation system which can encourage public participation in environmental governance. Environmental public interest litigation also serves as a safeguard for the "principle of prevention first" defined in the environmental law. Compared with private interest litigation, public interest litigation and the final trial do not necessitate the fact of damage. Based on reasonable judgment of potential harm to public interests, litigation can be brought requesting the wrongdoer to bear the corresponding legal responsibility. This can effectively protect the national interests and social public interests from damage by nailing violations in the bud. In environmental public interest litigation, this preventive function is particularly significant and important. As the environment once destroyed is difficult to restore, the law makes it necessary to allow the citizens to apply judicial means to exclude environmental damage before occurrence or completion, thus preventing environmental public benefits from uncountable loss or damage.

China is no exception that environmental protection has been mainly done by the executive authorities. It has been implementing the single-track operation mechanism for national

environmental governance. Environmental protection departments of governments at all levels, in the name of the state and legal form, fully exercise, supervise and manage environmental protection, as well as forecast and make decisions on environmental protection of the whole society. Practice has proved that the mechanism fails to provide practical and effective protection of the environment. While citizens do not have environmental litigation rights, the act of environmental violations is little constrained. In reality, some local administrative organs indeed connive at and ignore, for the economic sake, a variety of short-term behavior harmful to the environment. And such short-term behavior exerts environmental impact on the whole society, but does not directly affect the interests of any single citizen. In this case, citizens are not eligible for litigation according to the current *Civil Procedure Law* and *Administrative Procedure Law*, and hence there is simply no oversight for the most dangerous government actions. This single-track operation mechanism which excludes the participation of citizens has intensified the environmental problems in China. Phenomenon such as sole reliance on law enforcement of the executive authorities, administrative monopoly of environmental law enforcement, and insufficient environmental law enforcement will continue to exist.

D. Inadequate legal provisions on plaintiff eligibility

The amended *Civil Procedure Law* of 2012 stipulates for the first time the environmental civil public interest litigation system. Article 55 provides that "legal authorities and relevant organizations can bring cases to the people's courts against acts of damaging the public interests such as environmental pollution that infringes upon the legitimate rights and interests of many consumers." This still does not shake off the shackles of the traditional rules on plaintiff eligibility. It should also be noted that Article 55 treats "environmental pollution" as a cause of prosecution and does not consider the act of ecological destruction. "Legal authorities and relevant organizations" has not been detailed at the national legislative level thereafter. This seriously hinders the application of the provision in practice, and makes it basically "zombie terms".

The situation did not change until the amendment to the *Environmental Protection Law* released on January 1, 2015. According to Article 58, social organizations which "have been lawfully registered in the civil affairs departments of the people's governments at the city level or above" and "specialized in environmental protection public benefit activities for more than five consecutive years with no illegal records" can initiate environmental public interest litigation. Judicial practice shows that this strict and "high threshold" does not reduce the sole reliance on administrative law enforcement to protect the environment. In the process of promoting environmental public interest litigation in China, the traditional rules of plaintiff eligibility are still making trouble.

On May 5, 2015, the 12th Meeting of the Leading Group of the Central Committee for Comprehensively Deepening Reform discussed and adopted the *Pilot Program for Public Interest Litigation by Procuratorial Organs*, making arrangements and requirements public interest litigation brought by procuratorial authorities. On July 1, 2015, the *Decision of the Standing Committee of the National People's Congress on Authorizing the Supreme People's*

Procuratorate to Conduct Public Interest Litigation Pilot in Some Areas was passed at the 15th Meeting, which requires the Supreme People's Court to formulate the implementation measures. The *Implementation Measures for the People's Court Pilot Trial of Public Interest Litigation Cases Brought by the Supreme People's Procuratorate* was unveiled On February 25, 2016 and came into effect on March 1, 2016. The policy of authorizing procuratorial organs to bring public interest litigation and the implementation methods of the Supreme People's Court reflect the deficiencies of the new *Environmental Protection Law* and *Civil Procedure Law*. The actual effect of gradual "decentralization" remains in doubt.

The established environmental public interest litigation systems in the world allow citizens and organizations to initiate public interest litigation against environmental damage. The public use of judicial means to solve the problems of environmental pollution and ecological destruction will create a solid public foundation for environmental public interest litigation while enhancing public awareness of environmental protection and faith of safeguarding their own environmental rights. The United States citizen suit is the product of public participation.[21] The current legal provisions on environmental public interest litigation plaintiff qualification lag behind the needs of judicial practice, hindering citizens from environmental public interest litigation and effective environmental protection.

II. Promotion of environmental public interest litigation

A. Improving the environmental public interest litigation system and relaxing the plaintiff eligibility

The reform of environmental public interest litigation system after the new amendment to the *Environmental Protection Law* depends not only on the soundness of the litigation system and rules, but also on the official support for prosecution based on strict environmental law enforcement. In China, the procuratorial organs belong to the judicial organs and serve as legal supervisory organs. They provide legal supervision over civil litigation activities and have the power to supervise law execution of the administrative organs. The right to public interest litigation given to the procuratorial organs can safeguard the legal authority of the Constitution and national and public interests.

The newly amended *Environmental Protection Law* defines public interest litigation, but does not provide related procedures. Although courts have attached importance to the establishment of environmental public interest litigation procedures, the regulations vary on plaintiff qualifications, burden of proof, and adoption of evidence formed in law enforcement, including inquiry records, test reports, monitoring data, expert testimony and appraisal conclusions. This undermines judicial unification and hinders the promotion of environmental public interest litigation.

Therefore, it is necessary to perfect the public interest litigation system as soon as possible. Efforts are needed to formulate detailed implementation rules and methods, establish fund

[21] See Michael S. Greve, The Private Enforcement of Environmental Law, 65 Tulane Law Review 339 (1990); Neil A. F. Popovi, The Right to Participate in Decisions that Affect Environment, 10 Pace Environmental Law Review 683 (1993).

system, and encourage active participation of environmental social organizations. This will facilitate the orderly development of environmental public interest litigation and increase public participation and judicial openness of trial over environmental resources. In the process of trial, courts should insist on fairness and put forward the correct advanced viewpoints with the law as the basis and the facts as the yardstick. Meanwhile, media is favored to spread the spirit of environmental resources law and guide public participation.

Plaintiff eligibility is a core issue in environmental public interest litigation. The regulations on the qualification of plaintiffs differ in countries, but the general trend is to widen the scope. Plaintiff qualification is also the most controversial issue in China's theoretical and practical circles. The clarification made by the Supreme People's Court in 2016 still fails to restrain the appeal of the theoretical circle for the right to environmental public interest litigation to citizens and organization. The severe restrictions on social organizations that can bring environmental public interest litigation imposed by the *Environmental Protection Law* impact to a certain extent the healthy development of environmental public interest litigation.

B. Supporting public participation in environmental protection through convergence of environmental judicial litigation and non-litigation procedures

For a long time, China has mainly relied on administrative supervision to protect the environment at both policy and legislative levels, regardless of the public and government departments. The idea does not fundamentally change in the newly revised *Environmental Protection Law*. Public participation in the field of environmental justice is extremely limited in the aspects of both depth and breadth. Faced with increasingly sharp social contradictions caused by environmental pollution and ecological destruction, China has placed increasing emphasis on environmental protection. The 17th CPC National Congress incorporated for the first time ecological civilization into its Report, following the material civilization, spiritual civilization and political civilization. The 18th CPC National Congress elevated the undertaking "to build a beautiful China to achieve sustainable development of the Chinese nation towards a new era of socialist ecological civilization" to the national strategic level. Foreign judicial practice shows that environmental justice plays a decisive role in the protection of ecological security and prevention of environmental pollution. The combination of environmental law enforcement and environmental justice is more effective than environmental law enforcement solely. Public participation is an important component and measure to facilitate the healthy development of environmental governance. It will help to make up for the shortcomings of environmental law enforcement and effectively promote the implementation of laws and policies and the theoretical and practical development of environmental laws. This will inject an impetus to environmental rule of law towards ecological civilization in the pursuit of the strategic objective of "building a beautiful China".

Alternative dispute resolution mechanisms are often used in foreign environmental judicial practice, in order to speed up the trial of cases and reduce the cost of litigation. Mediation has been widely applied. For example, the Vermont Court of the United States has tried to introduce the mechanism in environmental resources cases since the late 1990s. In the current practice, unless convincing reasons, the conciliation procedures will be applied after

environmental resources cases are accepted. The data show that more than a third of environmental resources cases are mediated and two-thirds settled through mediation. The mediation mechanism helps the court to resolve more than 20% of the cases. This speeds up dispute resolution and saves judicial resources while cutting costs for litigants. While the New South Wales Land and Environment Court in Australia has been exploring a diversified dispute resolution mechanism for environmental resources cases, such as the use of the Court as a dispute settlement center which applies different approaches to handle cases accepted. The practice enhances the efficiency of the justice system while promoting individual equity.[22]

BOX 19: The NSW Land and Environment Court

The NSW Land and Environment Court has comprehensive jurisdiction in environmental matters. For example, it can issue orders against private and public enterprises to prevent ecological damage and to restore the ecological system. It can require government institutions to implement environmental laws in accordance with the requirements of those laws. The Court also has jurisdiction to review the quality and legality of government decisions to approve or refuse projects by the private sector. This is by far its largest volume of work. Government institutions, citizens and NGOs have the right to bring cases to the court and to participate in court processes.

The Court also has a criminal jurisdiction and can make a wide range of orders for the punishment of offenders. In addition to fines and imprisonment, it can order the offender to make good any environmental damage and to pay costs to anyone who has suffered loss. It can also order the offender to publicise the offence and to carry out a specified environmental project in a public place or for the public benefit.

The Court operates as a multi-door courthouse. This means it can deal with the multiple facets of an environmental dispute between parties without the problem of jurisdictional limitations. Specialization and in- house experts give the Court a better appreciation of the nature and characteristics of a dispute and help it to screen, diagnose and refer cases to the most appropriate dispute resolution mechanism. This has the advantage of avoiding full –blown litigation that is costly and slower.

Alternate dispute mechanisms available to the Court include mediation, conciliation and neutral evaluation. Essentially, these are processes in which the parties, with the assistance of an impartial expert develop options, consider alternatives and try to reach agreement. The difference between the mechanisms is the role of the impartial expert and the extent to which that expert can influence the outcome. Court technical experts generally perform the role of the impartial expert to ensure quality, effectiveness and efficiency, however, accredited external experts may also be appointed by the Court in certain circumstances.

Seventy- one percent of cases that come to the Court are resolved without the need for a court hearing. Court hearings are required for criminal cases.

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[22] See Li Zhiping: Specialization of Envrionmental Justice in Foreign Countries: Experiences and Challenges, *Law Science Magazine*, Iss 11, 2012, pp. 116-117.

"Considering the characteristics of social contradictions in the new era, it is necessary to build a scientific and systematic litigation and non-litigation dispute mediation mechanism that reflects the advantages and characteristics of various ways to litigation and non-litigation dispute resolution including courts."[23] In this regard, the Supreme People's Court issued the *Opinions on Establishing a Perfect Litigation and Non-litigation Dispute Resolution Mechanism* on July 14, 2009. We should attach great importance to incorporating the people's mediation, referred to as the "Oriental experience" by the Western society, into the practice of environmental resources tribunals.

C. Supporting the people's procuratorates to file environmental public interest litigations, in an effort to promote environmental governance and social justice

The *Decision of the CPC Central Committee on Major Issues Concerning Promoting the Rule of Law in an All-Round Way*, adopted at the 4th Plenary Session of the CPC Central Committee, put forward "exploring the establishment of prosecution instituted public interest litigation system", providing guidelines for the procuratorial organs to use the right to prosecute to safeguard public welfare. In order to strengthen the protection of the public interests of the state and community and urge law-based administration and strict law enforcement, China has introduced the *Decision of the National People 's Congress Standing Committee to Empower the Supreme People' s Procuratorate to Carry Out Public Welfare Litigation Pilot in Some Areas*, *Pilot Program for Public Welfare Litigation Filed by Procuratorial Organs*, and *Implementation Plan for the Pilot Program for Public Welfare Litigation Filed by the People's Procuratorates*. In the economic and social normal with increasingly grave problems such as severe environmental pollution, frequent environmental infringements, and inadequate judicial relief, it is of positive significance to achieve a breakthrough in environmental public interest litigation filed by the procuratorial organs in the field of ecological environment and strengthen the research on theoretical basis and system construction of the research.

Firstly, in strict compliance with pre-litigation procedures, the procuratorates are required to urge the statutory organs to file the civil public welfare litigation before they do so. It is suggested that the qualified organizations in the jurisdiction bring the civil public welfare litigation and procuratorates provide support as requested according to law. The organs and relevant organizations under the law shall, within one month after receipt of the letter of urged litigation or the procuratorial proposal, go through the formalities in accordance with the law and reply the procuratorate in writing in a timely manner. Before instituting an administrative public interest litigation, the procuratorate shall, first of all, send the relevant administrative organs an procuratorial proposal that urges them to rectify the illegal act or perform the duties according to law. The administrative organs shall, within one month after receipt of the procuratorial proposal, handle the matter in accordance with the law, and reply the

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[23] Wang Doudou, Yu Nayang: Intepretation of the Opinions on the Establishment of A Sound Contradiction and Dispute Resolution Mechanism that Combines Litigation and Non-litigation Procedures, http://www.ptsf.gov.cn/sfyw/rmdj/jczcfg/20090806/b1508.aspx, last acessed on April 15, 2016.

procuratorate in writing in a timely manner.

Secondly, the procuratorate can bring civil public interest litigation after the pre-litigation procedures, where the public interests remain in the state of infringement because the statutory organs and relevant organizations fail to or no organizations are qualified to do so, or where the public interests of the state and the community are still in violation because the administrative organ refuse to rectify the illegal act or fail to perform the statutory duties.

Thirdly, the business departments of the procuratorate shall transfer materials relevant to potential clues of civil or administrative welfare litigation cases, if any, identified in the performance of their duties, to the civil and administrative procuratorial organs. In the process of handling civil or administrative public welfare litigation cases, the civil and administrative procuratorial organs shall promptly transfer the cases to the duty crime investigation department if they find clues of corruption, bribery, malfeasance and other crimes committed by state functionaries; or to to the investigation supervision department if other criminal clues are discovered.

Chapter III Establishing an Environmental Damage Assessment and Appraisal System

A growing number of environmental damage disputes arising in recent years involve special problems such as pollutant identification, damage assessment and causality which often need to be judged from the professional and technical point of view. As a result, assessment and appraisal becomes important means of support for the trial in the people's courts. Scientific, authoritative, objective and impartial appraisal results lay a sound foundation for fair adjudication, and further the protection of legitimate rights and interests of victims and resolution of disputes according to the law.

I. Main problems facing environmental damage assessment and appraisal

A. Diversified kinds of assessment and non-unified technical and qualification standards

The current assessment and appraisal system for environmental damages encompasses identification of environmental damage in agriculture, breeding and wild fishery, forensic appraisal of marine environmental damage, indoor environmental quality testing, forest environmental damage assessment, and identification of hazardous waste. It is difficult for experts to carry out forensic appraisal across the fields as the applicable technical standards vary.

The technical specifications for assessment and appraisal are also deficient and contradictory. The assessment and appraisal of environmental damage involves many administrative departments of environmental resources, covering environmental protection, agriculture, land, forestry, and ocean. Drafted or being drafted by these departments, the technical specifications with different emphasis define the scope of environmental damage and assessment methods in a different way, or even fail to include technical standards in some

aspects. It will inevitably lead to unharmonious practical operations and contradictions between appraisal opinions, increasing the difficulty of trial for courts lacking in expertise. This will undermine the influence and attraction of assessment institutions and impair the healthy development of environmental damage forensic institutions.

Qualification standards are not unified. There are currently no unified qualification standards and evaluation criteria for environmental damage assessment institutions. In practice, many institutions engaged in environmental damage assessment and appraisal have qualification in certain aspect and do not have the capability and experience to assess environmental resources and environmental damage, so they cannot provide authoritative and impartial technical support for environmental justice.

B. Low access threshold and decentralized management

At present, the management of environmental damage assessment and appraisal falls into the responsibility of administrative departments including environmental protection, agriculture, land, forestry, ocean, and fishery. As a result of decentralized management, there are no unified qualification standards and low threshold of access. Good and bad assessment institutions spring up, giving rise to disorderly competition. In practice, some institutions do not comply with the laws, regulations and standards or lack integrity, and as a result, the appraisal opinions produced fail to meet procedure and quality standards, causing complaints. At the same time, environmental damage assessment institutions, in small number, are not under unified administrative supervision of the judicial organs and do not form a standardized national environmental damage assessment and appraisal system.

C. Long cycle, high cost, and inadequate credibility

Environmental pollution is typically wide-range, perishable and diffusible, and the state changes over time especially when there are more pollution factors and faster spatiotemporal changes. Environmental damage assessment and appraisal requires long time objectively because of work complexity, including pollutant identification, cause analysis, accumulation factor elimination, loss analysis and assessment and damage quantification. As the chemical composition and concentration of pollutants are constantly changing, if sampling and assessment are made timely, the results may fail to accurately reflect the real situation, and in some cases, repeated assessment may be required or the conclusions are not adopted. This will lead to a large increase of both time and financial costs of assessment. In addition, assessment is further prolonged due to unharmonious standards, decentralized management and limited capacity, which makes it difficult to adapt to the time limit of the case. Environmental damage assessment and appraisal entails considerable costs, considering the great input, long cycle and high technical requirements. The service may be overcharged in the absence of charge standards. The victims of environmental damage are mostly natural persons lacking financial strength and even organizational plaintiffs are in the initial stage of development. In environmental public interest litigation, they usually bear pressure from cumbersome appraisal procedures and high appraisal costs. In some cases, the appraisal fees are even exceed the amount of litigation object claimed by the parties. This will undoubtedly become an obstacle hindering environmental damage victims from litigation.

Currently, there is a widespread lack of specialized and credible environmental damage assessment institutions. Environment damage appraisal, representing unification of law and science, should be very professional and authoritative as important content of national environmental law enforcement and judicial proof system. However, in reality, authoritative and scientific assessment is absent in many cases of serious environmental pollution because of the lack of specialized assessment institutions. The court that judges the cases of environmental tort dispute often faces difficulty in finding the qualified assessment institutions. In addition, with inadequate access to environmental protection information, the timely and accurate assessment and appraisal is also challenged as the accredited institutions lack the corresponding scientific and technical equipment, environmental monitoring technologies and professional personnel targeted at new and complex environmental damage.

II. Establishment of a sound environmental damage assessment and appraisal system

A reasonable and scientific assessment and appraisal system for environmental damage directly influences not only the specialization, fairness, authority and credibility of forensic identification, but also the development of environmental law enforcement and judicature. It is also the key to the healthy development of environmental damage assessment and appraisal industry.

A. Improving the assessment and appraisal system by standardizing the establishment, qualifications and standards of assessment institutions

Environmental damage assessment and appraisal refers to activities, done by legally qualified appraiser, of technically analyzing the causal relationship and quantifying and evaluating the damage caused by environmental pollution. It serves as a source of evidence and basis of verdict for law enforcement and judiciary judgment according to law. A scientific, normative and reasonable assessment and appraisal system for environmental damage is an important component of promoting the rule of law in China. The Ministry of Environmental Protection tried to define the qualifications and specifications for environmental damage assessment and appraisal in the *Opinions on Assessing and Appraising Environmental Damag*e and *Recommended Methods for Quantifying Environmental Damage (Version I)* issued in May 2011. But on the whole, the current standards, covering qualification of assessment institutions, technical specifications and document authoritativeness, lay behind environmental justice, law enforcement and the community's existing and potential needs. More importantly, as a number of ministries are involved, it is recommended that the State Council develop unified regulations on the establishment and qualification of assessment institutions, encompassing technical specifications, technical methods and working procedures. The regulations will ensure scientific, reliable and credible assessment, increase the access threshold, and define a unified management mechanism, thus improving the environmental damage assessment and appraisal system.

It is also suggested that environmental damage assessment institutions should be established on a neutral and professional basis to eliminate the nature of administrative power and level existing in the appraisal system. "Two-level dual" management will be practiced that state and provincial environmental protection departments and judicial administrative departments are

responsible for technical and administrative management. In specific, environmental protection department develop work procedures, technical methods and specifications for environmental damage assessment. The responsibilities of judicial administrative departments include registration of assessment institutions and personnel, register preparation and publicity, change and revocation of qualifications, and handling violations of assessment institutions and personnel. The "dual" management model is practical in the current context.

B. Perfecting the work mechanism to reduce costs and enhance credibility

In view of the present situation of environmental damage assessment and appraisal, the work mechanism needs improvement to let experts play the due role and improve the credibility of assessment and appraisal opinions.

First, there should be an expert pool that provides advices on the trial of major difficult cases, difficult professional issues, and development of regulatory documents. The involved parties shall have the right to require experts to appear in court and express their views, and the applicants that meet the requirements shall be notified in a timely manner so that experts can provide in court opinions that help the judge with the professional issues.

Second, if possible, the judge can make decisions or preside over the mediation with regard to such problems as difficulties in environment damage assessment, costs higher than or clearly unmatched with the amount requested by the parties. Where the deliberation of the judge applies, the judge shall first explain and then listen to the arguments of the parties concerned on the conditions and scope of deliberation so as to make the proceedings fair and the reasons transparent. The practice in intellectual property trials can be drawn on that technical experts are hired as judge assistants or technical ombudsmen, and together with the judges, form the trial team, to make up for technical capability.

C. Dual censorship system emphasizing both legality and scientificalness of appraisal opinions

The first is legality review to strengthen the legitimacy investigation. Appraisal opinions shall not be used as a basis for determining the facts and giving the verdict unless legitimized by courts. The censorship encompasses the investigation to a) legitimacy of appraisal institutions, including qualifications of appraisal institutions and assessors and avoidance of related assessors; b) process legitimacy, including appraisal cases commissioned and accepted in compliance with the law, signing of the appraisal agreement, and assessors' fulfillment of the obligation to explain; c) legitimacy of matters. Assessors are only responsible for making judgments on factual matters, so what to be assessed should be a matter of fact rather than others; d) legitimacy of instruments. The format and content of forensic instruments shall meet the standards of the Forensic Appraisal Procedure and Specifications for Forensic Appraisal Instruments.

The second is scientificalness review relying on an expert assistant system. Expert assistants hereof refer to people with expertise commissioned by litigants to be involved in litigation and serve for the interests of the litigants on the basis of objective statement and respect for science. The responsibility of expert assistants is to help the litigants to exercise the right to

question on appraisal opinions in the court, and considered as adjudicator of litigation, expert assistants do not enjoy independent litigation status in the litigation. The act of expert assistants does not necessarily produce certain legal consequences. The court decides whether to adopt the views of expert assistants according to comprehensive evidence and specific circumstances of the case. The rights of expert assistants mainly include the right to understand the case situation, right to express their views, right to help ask the assessors, and right to reasonable fees. Expert assistants have the obligation to meet the scientific requirements for views put forward, to appear in court, to accept the inquiry of the judge and the litigants, and keep confidential.

Chapter IV Tightening the Environmental Criminal Penalty System

Given increasingly serious environmental damage with economic development, environmental problems have become the hot spot of social concern. The civil and administrative means are not enough to prevent and solve such problems effectively, and to this end, many countries adopt more and more criminal means to punish acts harmful to the environment. Facing very prominent environmental crimes, China also has an urgent need to employ the criminal law to protect the environment and put an end to environmental pollution and ecological damage.

I. Legislative situation of environmental damage crimes

China's criminal law does not explicitly stipulate environmental damage crimes, mainly in the macro aspects, especially legislative principles and concepts. For example, the law does not draw on the practice of the western developed proven effective to protect the environment and combat environmental crimes. For example, the "principle of causality presumption, principle of strict responsibility and potential damage offense" is not reflected in the theory of crime constitution. Some natural factors are not included in the scope of criminal law protection, such as grassland resources and natural scenic spots, and there are no provisions of water and marine pollution crimes. The penalties for crimes that may also cause great damage to environmental and ecological interests are not elevated to level of environmental protection.

A. No applicable principles of causality presumption and strict responsibility

The traditional theory of causality is challenged in the recognition of causality and accountability of environmental crime. As a new type of crime with great social harm, environmental crime differs sharply from common crime. Noticeably, relying on general technical means, knowledge experience and traditional criminal law theory, it is very difficult and complex to identify the cause and effect relationship, and often requires esoteric scientific and technical expertise. The causality between the facts and the damage and the degree, content and course of damage are too unclear to prove the subjective negligence. The principle that no offense means no crime and no criminal responsibility is important to follow in our criminal law. According to the traditional principle of subjective and objective consistency, the positive direct and accurate identification that an "act" is bound to lead to the "results", i.e. in strict accordance with the provisions of criminal causality, will allow for many environmental crimes free from the criminal law, adding difficulty in pursuing the

criminal responsibility.

B. No provisions of potential damage offense

It is not difficult to find out that China's current criminal law defines environmental offenses, except for a few offenses, as consequential offenses rather than act offenses. In other words, criminal penalties will be applied only when an offense leads to serious consequences such as major environmental pollution accidents and heavy losses of public or private properties. Obviously, the current criminal legislation which imposes penalties for consequential offense rather than act offense is bound to indulge many crimes that may cause serious harm to the environment and should be subject to criminal sanctions. It greatly weakens the role of the criminal law in the prevention of environmental pollution and protection of the ecological environment. As a result, the criminal law is often inadequate to punish the perpetrators and combat environmental crime. In order to protect the public interests and prevent crimes, the provisions of potential damage offense that define acts potentially harmful to the environment as environmental crime should be introduced.

II. Improvement of legislation on environmental damage crime

With regard to environmental crime, the punishment in China has been not compatible with the crime, or more specifically, obviously lighter than should be. It can be mainly attributed to the traditional criminal classification standards and inadequate recognition of the importance to prevent pollution, protect the special value of natural resources and maintain ecological balance. To change the situation of serious damage to the ecological environment, we must comprehensively enhance criminal legislation on environmental damage, increase the penalty for environmental crime, and practice the principles of strict liability and causality presumption. This will enable due sanctions against environmental criminals and reduce potential criminals, thus better prevent crime and protect the environment. Meanwhile, the change will lead to increased efficiency and reduced costs of litigation.

A. Improving the criminal protection system by adding new environmental crimes

Crime of water pollution. With regard to the pollution of the water environment, the applicable provision of criminal law addresses the crime of destroying environmental resources under the crime of hindering the order of social management. There are almost no basis for criminal sanctions against consequential offense, as well as against act offense and potential damage offense. In view of serious threat brought by water pollution to people's social and economic life and personal health, to define water pollution offense as an independent crime will facilitate the use of criminal sanction measures to strengthen the protection of the water environment.

Crime of marine pollution. Marine pollution is characterized by diverse sources, wide range, high persistence, and serious harm to aquatic plants. China's marine pollution has become very serious, such as red tide in the Guangdong coast and Bohai Bay. China's criminal law includes marine pollution offense into the crime of major environmental pollution, as in Article 44 of the *Marine Environmental Protection Law*. However, considering the special nature, to define marine pollution offense as a single crime is very necessary.

B. Establishing the principles of causality presumption

The causality is studied and established in the criminal law to determine whether the actor should bear the criminal responsibility for the harmful result. The traditional criminal law theory generally applies the causality theory in the strict sense which defines the criminal causality between the act and the harmful result. In China, ordinary criminal cases can be resolved by using the traditional causality theory. However, it is necessary to apply the reasonable kernel of the principle of causality presumption to environmental damage crime cases. The adoption of this principle in criminal legislation is also a common practice in all countries. Therefore, it is suggested to establish the principle of causality presumption in environmental crimes to make a switch from consequential offense to act offense in the constitution of a crime. A crime shall be constituted once the damage act or other environment destroying act are committed. In this regard, judicial practice often precedes legislation. For example, the Intermediate People's Court of Bijie Prefecture of Guizhou Province has applied the principle of presumption of causality to investigate the criminal responsibility of the main perpetrators of pesticide environmental pollution.

C. Adding provisions of potential damage crime to let the criminal law playing the screening role

Potential damage offense in the environmental law refers to the act harmful to the environment in violation of the laws and regulations and enough to cause pollution or damage to the environment, leaving at risk the natural ecological environment, other people's health or public and private property. Though no actual harmful consequences caused yet, the dangerous state has been created which makes the act constitute an environmental crime completed. The "potential damage" hereof is not a subjective imagination or speculation, but an objective existence. It is targeted at the human environment rather than a specific person. The two forms of potential damage offense are commission and omission. It is urgent for criminal legislation to include potential damage offense into environmental damage crime. As far as the characteristics of environmental crime are concerned, once started, the act will present a real and potential threat to the environment. If not provided in the legislation, potential damage offense will result in serious damage to the environment, making it difficult or even impossible to restore ecosystem balance. The introduction of provisions of potential damage offense will prevent environmental crime from appearing in a dangerous state, so that the environment can be protected in time. These provisions let the criminal law serve as prediction and guidance and make up for provisions on act offense and consequential offense.

In the field of environmental crime legislation, the established system is far from perfect and needs further exploration and improvement. The principles each in the legislation are established to meet the objective needs of the society and subject to continuous improvement in accordance with practical experience and objective changes. They are by no means considered from a fixed point of view. It will be a general trend to make legislative breakthrough in the criminal law escorting environmental protection.

In this regard, useful exploration has been made in judicial practice. For example, the Amendment to the Criminal Law (8) changes the "crime of major environmental pollution

accident" to "crime of environmental pollution" and revises the provisions, leaving room for further explanation. However, it remains difficult to conclude that the "crime of environmental pollution is an act offense committed". However, the discharge, dumping and disposal of radioactive wastes, waste containing infectious pathogens, and toxic substances, by way of secretly created underground pipes or wells, pits, cracks, and caves, shall be identified as "serious pollution of the environment", according to Article 1 (d) of the *Interpretation of the Supreme People's Court and the Supreme People's Procuratorate on Several Issues Concerning the Application of Laws in Criminal Cases Involving Environmental Pollution*. This specific explanation, in essence, makes a swith from consequential offense to act offense in the constitution of a crime. Once committed, the act of " discharge, dumping and disposal of radioactive wastes, waste containing infectious pathogens, and toxic substances, by way of secretly created underground pipes or wells, pits, cracks, and caves" has become "serious pollution of the environment" and thus constitutes the "crime of environmental pollution", without need to prove specific damage caused by such act (such as a certain number of casualties or a certain amount of economic loss).

（四）完善刑法环境犯罪的规定，适当提高环境犯罪的刑期

中国《刑法》第三百三十八条规定的污染环境罪法定刑偏低，最高只有七年有期徒刑，提升法定刑配置，至少配置到最高十五年有期徒刑，甚至无期徒刑。实现刑罚与污染环境犯罪行为的社会危害性相当，适应当前加大对环境污染犯罪惩治的现实需要。