

China Council for International Cooperation on Environment and Development

Policy Recommendations from 2012 AGM

The first Annual General Meeting of CCICED Phase V was held in Beijing during December 12-14, 2012, with the theme of *Regionally Balanced and Green Development*.

The CCICED members observed that the 18th CPC Congress Meeting provided a clear roadmap towards green prosperity and a ‘Beautiful China’. At the 18th CPC Congress Meeting, it was accepted that the Government of China put Scientific Development strategy as a highest guiding principle for the modernization of China, and listed Ecological Civilization, economic, political, social development and cultural construction as the five components of modernization. The government aims at major progress in resource saving and in constructing an environmental-friendly society by 2020 when an overall well-off society target is to be achieved. CCICED welcomes this coherent approach, which promises a more rapid and substantive shift towards a new era in the relationship between people and the environment.

CCICED members believe that balanced and green development is essential for China’s scientific development and for construction of an ecological civilization. Members believe that China’s green transformation is currently at a critical stage. There remain unprecedented challenges and pressures for achieving the objectives of green development. There are still prominent problems of “unbalanced, uncoordinated and unsustainable” development, with intensifying resource and environmental constraints. These issues are reflected sectorally, regionally, and even within regions.

Although China has made great efforts in the past decade to promote regional development and has achieved impressive progress, some problems and conflicts continue to intensify: large regional development gaps, especially in providing basic public services; imbalances of regional environment and economic benefit distribution, and a lack of coordination among policies related to population, economy, resources and environment. Effective coordination and cooperation mechanisms for integrated ecological system management, air and water shed pollution control are missing among regions, provinces and cities. And there is evidence of new types of environmental issues emerging, such as those related to PM_{2.5}, and concerns about potentially unsustainable patterns of domestic consumption especially in richer parts of the country.

CCICED members have stressed the importance of addressing poverty alleviation while preserving fragile ecosystems, as a significant proportion of poor people live in these areas. There is a reliance on an extensive development mode in ecologically-fragile and lesser-developed regions, leading to potential conflicts between future environmental and development trends.

The members have concluded that, with further economic development, upgrading of industries and technologies as well as enhanced environmental protection efforts, the

conflicts and constraints between resource use, economic development, and environmental protection could lessen. However, impacts from a “catching up” and “leap-frog” development mode in central and western regions with fragile ecological environments, together with a gradual transfer of polluting industries and other factors, may make the environment and development relationship more difficult.

Overall, the double pressure of environmental pollution and ecological degradation may threaten the foundation of green development in China. A key constraint is the institutional and policy-enabling environment, which today is a bottleneck for achieving balanced, and sustainable regional development. This is a key issue that the new central government must resolve.

Based on the discussions during AGM and findings of relevant studies, CCICED proposes the following five major policy recommendations to the Government of China:

RECOMMENDATION 1. Enhance institutional and policy innovation as well as enforcement in order to promote practical implementation of ecological civilization.

China’s government has recognized and committed to deepen reforms in key sectors, eliminate ideological constraints and institutional/policy flaws for scientific development, and clearly has set out some of the tasks of institutional innovation for creating an ecological civilization. It is necessary to speed up the establishment of strategies, policies, institutions and mechanisms that are compatible with an ecological civilization, and to conduct comprehensive pilot demonstrations for practical implementation. Our four detailed recommendations are to:

(1) Define and develop mid- and long-term plans for an ecological civilization at the macro level.

Based on the reform and opening-up policies of the past 30 years and the practice of scientific development in the recent decade, there should be little doubt that China can and will achieve the target of developing an overall moderately well-off society by 2020, with significant progress in resource efficiency and environmental protection. However, according to China’s target to become a wealthy, democratic, civilized, harmonious and modernized country by the mid of this century, the next 30 years beyond 2020 is of particular importance. Therefore, China’s government should prepare for the future by initiating study of environment and development trends and characteristics beyond 2020, and systematically designing a mid- and long-term plan identifying priority sectors and key tasks ahead. China needs long-term targets to guide near-term policies.

(2) Reform and establish institutional systems capable of creating and supporting an ecological civilization with great political commitment and drawing upon the views of the Chinese people.

Ecological civilization construction and green development are new tasks. Reform is also a complex system issue that involves various government agencies, social sectors and regions, and requires coordination of interests of various stakeholders. Ecological

civilization construction must not only focus on ecosystem and environmental protection, but also put forward ecologically friendly development principles for other social sectors. Therefore:

First, a Commission for Ecological Civilization to oversee the strategy, planning and institutional setup at the top level as well as to coordinate implementation details, should be established at the central level. The Commission should ensure that ecological civilization is indeed incorporated into economic, political, cultural and social development.

Secondly, environmental protection should be the underpinning for an ecological civilization, and environmental authorities should be the leader, supporter and key practitioner in a national ecological civilization coordination mechanism. Establishment of an integrated and comprehensive environmental authority for ecological and environmental protection with integrated functions and high efficiency could be considered.

Thirdly, the relationship between central and local government should be coordinated in terms of ecological civilization construction within the framework of overall social and economic development, with authorities, administrative responsibilities and financial accountabilities clearly defined.

(3) Promote integrated institutional innovation towards the direction of green and ecological transformation.

To ensure that the concept of ecological civilization is incorporated into various aspects—and the whole process—of economic, political, cultural and social development, integrated institutional and policy innovation at various levels and within sectors is required, with greater attention to the levels of risk present in various development initiatives. The specific directions of ecological transformation of institutions and policies are:

- Politically, establish ecological civilization-oriented government performance assessments and other evaluation and accountability systems as a lever to ensure proper motivation and governance structure.
- Economically, put forward requirements on economic spatial layouts and structures. Require resource/energy efficiency and environmental performance in line with ecological and environmental principles to promote the transformation of production modes.
- Culturally, promote values and norms supporting ecological civilization and enhance awareness and action on the part of the public.
- Socially, advocate for green consumption patterns and direct social activities and promote a change of life styles compatible with an ecological civilization.
- Ecologically, put ecosystem and environmental protection as the main body of ecological civilization construction with provision of sound eco-services and products, and improve protection of biodiversity through greater attention to

conservation and management of natural habitats on land, in fresh waters, and in marine areas and sensitive coastal habitats.

(4) Establish ecological civilization indicators, and encourage wider public participation

Ecological civilization development targets, indicators and approaches should be established, taking into account the differences between main function zones and regions. In addition, a government official examination and evaluation system supported by appropriate indicators should be established and an accountability system should be implemented, taking into account differences between regions and levels.

It is also important to clearly define the respective roles and responsibilities of government, enterprises and civil societies in ecological civilization. Government should play a leading role in designing, guiding and exemplifying ecological civilization. Enterprises should assume higher levels of environmental and social responsibilities and improve their environmental performance. It is also important to strengthen ecological civilization related information disclosure, promote effective and orderly public and media participation, and achieve a collective force in ecological civilization.

(5) Promote comprehensive pilot demonstrations of ecological civilization

Given the complexity and difficulty of ecological civilization construction and the regional differences, it is necessary to carry out comprehensive pilot demonstrations of elements of ecological civilization to form an overall framework for a national promotion of ecological civilization construction. Ecological civilization pilot projects should take into account regional differences.

Large numbers of pilot activities have been conducted at provincial, municipal, county, village and industrial park levels by various sectors and departments in China. It is necessary to draw on and consolidate these pilot activities, and to develop uniform standards and a specific indicator system supporting the construction of an ecological civilization.

RECOMMENDATION 2. Establish a balanced and green regional development strategy.

Balanced regional development is a difficult topic for all countries. Closing the socio-economic development gaps is one key side of the challenge, while securing sustainable development is the other. China should grasp the historical opportunities of scientific development and ecological civilization construction to meet these challenges mainly through implementation of green development.

Our detailed recommendations are to:

(1) Establish general national principles and strategy for regional development to form a broader framework of regional green development.

1) From the perspectives of its industrialization stage, urbanization level, economic capacity, and public demand for a better environment, eastern China has the basic conditions to be the first region to achieve a green transformation. In the central and western regions, conflicts between environmental and socio-economic development are still likely to be present for some time to come. Therefore, these regions must be treated as a priority for enhanced support, but in differentiated ways, in order to avoid continuation of the old path of economic development at the cost of a fragile environment. Furthermore, the effort should lead to new approaches of national, and, ultimately, international significance for sustainable development.

2) To improve the speed and quality of such a transformation, develop and implement a green strategy or blueprint for the western region, covering infrastructure construction, human capital investment, urbanization, industrialization, pollution control and eco-services provision. Increase investment for projects that can improve the human capital in western region, enhance regional infrastructure construction and eco-services provision, and reduce poverty.

3) Based on the current Main Function Zoning Plan, various development objectives, industrial development directions and spatial layout should be more clearly aligned to specific and detailed functional zoning administrative areas in order to improve operability of this zoning. At present there is confusion since the zoning is done at a coarse-grained level. For instance, develop differentiated industrial policies based on fine-grained function zones and resource carrying capacities; and develop land and population policies according to different function zones and development objectives. Then formulate investment policies according to sectoral arrangements within the detailed functional zones, and improve the fiscal system for providing public services and protecting public goods according to local ecological and social conditions. To enforce mandatory protection, define ecological red lines for important function zones, nature reserves, sensitive land and marine areas, and other ecologically fragile areas.

4) The development of eastern China heavily relies on the energy and resources supply from the western part of the country. The payment for ecological services from the east at present is far from sufficient to cover the ecological deterioration suffered by the west. For central and western regions, establish and improve a fiscal transfer system to guide and support green transformation, and implement a payment system for ecosystem service payments from eastern areas to central and western regions.

5) Adopt the principle of “priority for resource- and energy-saving and environmental protection” in the eastern region. Develop and follow very strict environmental quality standards and related emission targets, such as imposing strict pollutant discharge standards for power intensive and high pollution industries. Enhance technological innovation and management capacities that will increase the competitiveness of green economy components and their products. Fully implement a green tax system covering environmental and resource taxes or other market-based approaches to promote behavioral change of enterprises and consumers. Increase corporate social responsibility awareness, promote green corporate governance mechanisms, and establish green enterprise alliance systems and implement green supply chain management strategies for improved voluntary measures involving business, government and end users of products and services. Seek sustainable consumption through activities such as environmental awareness raising, labeling and

information sharing; strengthen public monitoring, with much improved government information disclosure and public participation concerning development decisions, and insist on more adequate public environmental information disclosure by enterprises, financial institutions and other bodies, especially those operating at municipal and provincial levels.

(2) Develop sustainable urbanization plans, and establish urbanization modes adaptive to differentiated regional characteristics.

Exploring sustainable urbanization modes is one of the major challenges for eastern, central and western regions in their process of sustainable development. Differentiated sustainable urbanization plans should be developed for each of the regions.

The eastern region should aim to develop city clusters with international competitiveness, refine the service functions of super-large and large cities, improve the urban habitat environment, promote green transformation of super-large and large cities and create green development patterns within the small and medium-sized cities, and pay much greater attention to the construction of integrated and sustainable urban infrastructure.

Central and western regions should foster eco-cities, strengthen industrial functions of small and medium cities, enhance public service and functioning of small towns, prioritize the development of medium and small cities with advantageous locations and strong resource/environment carrying capacities, and actively tap the green development potential of current cities.

(3) Strengthen policy enforcement and establish an improved coordination and cooperation mechanism for regional green development and attainment of ecological civilization objectives.

1) China should establish a regional coordination mechanism and improve the capacity of central and western region governments, particularly county governments, to secure ecological civilization and green development. Together with direct investments from the government, a green development fund should be established to encourage green industries, improve the stability of ecosystems of regional concern, and support ecological construction projects. In the relatively developed eastern region, a regional environmental pollution control fund can be established to conduct environmental health risk assessment, provide compensation and resettlement of affected people, remediate the brown fields, and provide funding for pollution control.

2) Implement ecological compensation measures. A compensation fund should be determined according to the ecological function zoning in the eastern, central and western China. Eco-compensation standards need to be established based upon specific ecosystem service requirements. Fair compensation should be paid to rural residents that commit to long-term ecosystem protection. Meanwhile, extend the “polluter pay” principle to the resources and mineral development fields on a much more extensive and well-enforced basis.

3) Tighten the environmental access permission system to prevent pollution transfer

on the part of industry migration or other development initiatives such as those related to tourism or new settlements. Implement a strict environmental access permission mechanism, adopt stricter emission standards and pollution control technology requirement to prevent new pollution sources and migration of pollution industries towards central and western regions. Develop regional environmental performance evaluation and assessment methods with enhanced public participation, define indicators, and determine the green development indicators according to main function zoning and regional characteristics. Monitor and evaluate the implementation by enterprises and local governments and enhance the enforcement. Regularly disclose the enterprise and government authorities that are not in compliance with EIA requirements.

RECOMMENDATION 3. Strengthen joint control of air pollution to improve regional air quality.

Pollution by PM_{2.5} and ozone is becoming a prominent problem that poses serious threats to public health. In recent years, the PM_{2.5} concentration in Beijing-Tianjin-Hebei, Yangtze River Delta and Pearl River Delta remains at a high level. The haze days occur for 30-50% of a year, and there are ever widening gaps between the officially announced air quality and public perception. Regional air pollution has become an environmental problem that needs to be dealt with urgently, since no one city or even province can adequately address the issue on its own. Improving regional environmental quality requires regional joint prevention and control, coordinated control of multi-pollutants and multi-sources, institutional innovation of regional environmental management and strengthening of management capacity. Our four detailed recommendations are to:

(1) Integrate regional environmental capacity, optimize economic structure and layout, and establish new regional joint control mechanism.

1) Based on factors such as inter-city pollution transmission pattern and air quality status of cities with different environmental carrying capacities, key control areas that have significant contributions to regional air quality should be identified, especially Beijing-Tianjin-Hebei, Yangtze River Delta and Pearl River Delta areas. These are areas where there are serious problems of regional and compound air pollution. In these areas air quality monitoring should be strengthened, and regional environmental information sharing platform, joint review/approval system for major projects, and regional emergency response mechanisms should be established. There should be strict controls on new construction projects that are likely to introduce additional air pollutants into areas where planned targets are not being achieved at present, and where air quality is seriously deteriorating. Mechanisms that can help improve regional air quality, such as emissions trading systems, should actively be promoted.

2) Deepen industrial pollution control, advance SO₂ emission reduction, establish industrial NO_x control system focusing on power and cement sectors, deepen industrial smog pollution control, and enhance VOCs pollution control from typical sectors and sources. Multiple pollution control is essential if good air quality is to be secured.

3) A systematic environmental and resource review of domestic automobile

development plan should be conducted. Comprehensively strengthen mobile sources control, implement new vehicle emission standards at proper time to reduce the vehicle emission intensity, and adopt total vehicle quantity control in cities with serious vehicle emission pollution. Develop new sustainable urban transport system. It is necessary to further define low-emission zones and zero-emission zones in the major cities under a regional air pollution control system, and develop management measures accordingly. A total vehicle volume control policy should be explored in mega cities with population of more than 10 millions. Better air quality modeling and better emission inventories are required.

4) Promote multiple high quality energy sources such as natural gas, low-sulfur diesel, LPG and electricity to replace coal. Regional coal consumption growth should be strictly controlled. There should be a continuous increase in the percentage of high-pollution fuel forbidden zones in urban built-up areas.

(2) Revise relevant laws and regulations to provide legitimate guarantees for regional air pollution control.

The existing Air Pollution Control Law cannot adequately address air pollution control under the current situation. It needs to be revised to provide legitimate support to relevant policy measures for new types of pollutants. First, PM_{2.5} and ozone should be treated as the new core need of air pollution control. Besides the further deepening of industrial pollution control, focus should also be put on pollution control of non-point sources of smog such as small and medium boilers, dust, restaurant emissions, decoration painting, small engines, as well as mobile sources such as vehicles. Also pay attention to non-vehicle mobile sources, and include emissions from ship, plane, train and off-road equipment into the coverage of air pollution control laws. Second, keep ambient air quality improvement as the key objective of air environmental management, and clarify the responsibilities and obligations of local government for the compliance of air quality. Third, strengthen the punishment of violators with a view to make non-compliance more expensive than compliance.

(3) Strengthen pollution control and implement multiple-pollutant synergic control

Establish total amount control method with improvement of air quality as core objective, implement synergic emission reduction of multiple pollutants such as SO₂, CO₂, NO_x, particulate matter and VOCs, etc., and coordinate emission reduction and energy conservation policies. Deepen industrial pollution control, advance SO₂ emission reduction, establish industrial NO_x control systems focusing on power and cement sectors, deepen industrial smog pollution control, and enhance VOCs pollution from typical sectors.

(4) Increase investment and strengthen science and technology development, and implement a strong national clean air action plan as soon as possible.

It is urgent to establish a special fund at the central government level for air pollution control, enhance the support of science and technology, and implement a national clean air action plan. Establish investment mechanism with diversified investors and modes to direct and encourage active investment from local governments and

enterprises on air pollution control. Carry out special studies on generation mechanisms, source analysis and control approaches for air pollution in different regions.

RECOMMENDATION 4. Strengthen marine environmental protection and construct a more balanced approach to becoming a marine power.

While China's marine economic development is accelerating, there has been intensive pressure on the marine environment, with the most critical example being the Bohai Sea. Specifically, with increasing large-scale offshore oil exploitations, the risk of marine oil spill is rising and marine oil spill incidents occur frequently. This problem is exacerbated since there are serious problems of contaminants entering the ocean from the rivers, and also across-the-board, large-scale, rapid-paced land reclamation activities. Also other sectors are expanding, for example aquaculture and tourism, leading to conflicts in use of the marine environment. There is an urgent need to reform the current marine environmental management mechanism, coordinate marine resource development and environment protection, and achieve integrated marine-land economic development and environmental protection. In order to improve marine resource development capability, and to more effectively protect the marine ecological environment, and to approach the strategic goal of China becoming a sustainable marine economy and power, our four detailed recommendations are to:

(1) Speed up the formulation of a robust national marine development and environmental protection plan.

This plan should be based on existing land and marine function zoning plans and national-level development strategies of coastal governments, cover all the coastal zones, and identify fundamental policies and strategies for handling the relations between the marine development and marine environment protection. The plan should integrate the overall planning of offshore areas with plans for coastal provinces, and establish marine economy and environmental protection areas in the Yellow Sea and the Bohai Sea, the East China Sea and the South China Sea.

Based on the integration of industrial distribution planning in existing land and marine functional areas, one should formulate and revise the coast layout planning of key marine industries and major sea-related industries (especially, offshore oil and natural gas, coastal nuclear power, coastal or port chemical industry, coastal or port irons and steels, coastal real estates), pay special attention to marine ecosystems that preserve high ecological value, but are highly vulnerable to human activities, and incorporate such planning into overall coastal and marine spatial plans. China should also focus on international relationships within marine development and protection, and participate and take the lead in cross-border international and regional cooperation.

(2) Strengthen legislation, law enforcement and governance mechanisms of marine environment management.

The institutional and regulation system for offshore oil field development approval

and supervision should be improved with emphasis on environmental assessment as articulated in the *Environmental Impact Assessment Law* and *Regulation on Environmental Impact Assessment of Planning*. There is a need to improve the information disclosure system, establish a unified mechanism of receiving and publishing information, strengthen enforcement of the *Regulations on Open Government Information*, and ensure the public's right to know. It is important to establish and improve the cost bearing system for emergency responses, explicitly identifying the party/parties responsible for the accident and the costs of emergency responses.

The following actions should be taken. Clearly define the liability of enterprises for preparing emergency response plans. Revise relevant laws based on lessons learned from international experience—require the operator and oil company to take the primary responsibility to meet any emergency. The government's reaction to emergency should be supplemental. Develop a more complete set of applicable specifications to enterprises for access permission, operation, and for disaster response. Strengthen corporate environment awareness and responsibilities. Corporate environmental protection capacity will be considered as an essential condition for approval of enterprises' involvement in any activity by marine development. Local maritime courts and procuratorates should be instructed to clearly address enterprises' legal responsibilities regarding pollution and damages of marine environment arising from their operation. This should discourage enterprises taking any chances. Enhance the prevention of environmental risk from marine-related enterprises, clearly regulate enterprises or other beneficiaries from overdevelopment and illegal development activities, and set in place other sector-specific mechanisms to avoid marine accidents.

Furthermore, there is a need to strengthen the enforcement and supervision capacity of the marine administration authorities, form a unified offshore law enforcement team, establish China's marine environment administrative supervision and law enforcement system, and strengthen the supervision and enforcement of the environment impact assessment system for marine development activities.

(3) Establish national marine emergency response planning system for major environmental incidents.

Based on *National Marine Functional Zoning (2011-2020)*, existing *Emergency Response Plan for Oil Spill in Offshore Oil Exploration and Development* and *Emergency Response Plan for Accidents and Disasters in Offshore Oil and Natural Gas Activities* should be consolidated, and a National Emergency Response Plan for Major Marine Environmental Incidents should be established by joint effort of relevant departments. The system should formulate special emergency response plans and on-site emergency handling plans for various levels and types of potential marine environmental accidents from all risk sources, and define the responsibilities of

relevant departments and personnel for various stages of accidents (i.e., before, at the beginning of, during, and after, accidents).

(4) Strengthen the capacity building of science and technology in marine environmental management.

China should require oil and gas operators to invest in regional and national funds for marine environmental research with the aim of strengthening science and technology research on marine environmental management. This will support overall strategic planning of coastal zones and marine spaces, increase capacity for ocean and coastal emergency responses, help improve marine environmental management laws and regulations, developing marine environmental monitoring and early-warning systems, and improve marine ecological loss evaluations and remediation efforts.

RECOMMENDATION 5. Establish long-term mechanisms with environmental quality improvement and risk prevention as objectives to promote strategic transformation of environmental management and human health protection.

It should be clearly articulated in all environmental laws, regulations, and any documents that comprise China's National Environmental Management System that the ultimate goal of the environmental system is to protect public health and the ecosystem. To achieve this goal, ambient environmental quality standards should be designed based on the scientific understanding of the pollutants' effects on human health and ecosystems and in cooperation with implementing agencies. These ambient environmental quality standards should be assessed, revised, and updated so that they are in line with the latest scientific findings. Environmental monitoring standards and regulations should be developed to accurately measure ambient conditions against the quality standards.

Our nine detailed recommendations are to:

(1) Link emissions control targets directly with achieving specific environmental goals.

A clear distinction must be made between ambient standards designed to maintain pollutant concentrations at environmentally protective levels, and national or regional pollution caps designed to limit total pollutant loadings and control trans-boundary flows. The two policies must be integrated to avoid antagonistic effects especially if market-based implementation policies are applied. Implementation policies should be established that link the interim targets and the improvement of air and water quality.

It is recommended that MEP organize comprehensive research on the environmental carrying capacity of key national development zones and preferred development zones and on the assimilative capacity of river basins. In addition, efforts should be spent in developing sectoral caps for the major industrial source sectors such as electricity, cement, iron and steel and automobile industries.

(2) Develop, maintain and update scientifically sound pollution inventories.

Inventories should be established for air and water pollution sources as well as contaminated sites and sites where chemicals and hazardous substances are located as feed stocks or products. A science-based inventory will enable China to establish criteria for prioritizing and cleaning up the worst sites.

(3) Strengthen institutional capacity at all levels.

At the central level, it is important to integrate water management authorities which are currently scattered among over 10 ministries. MEP should be designated as the lead coordinating agency, with support from the other ministries.

At the regional level, it is recommended to expand the six MEP's Regional Environmental Supervision Centers into Regional Environmental Quality Management Centers.

At the local level, governments should develop and publish mid- and long-term strategies on environmental quality and emissions reduction control, as well as a detailed implementation plan to achieve the ambient environmental standards. Sanctions should be applied in case local governments fail to meet established requirements. Meeting these targets should become the key components of the environmental performance contracts signed by the local government officials.

(4) Improve coordination between ambient air quality standards, vehicle emissions standards and fuel standards.

Continuous efforts should be made to increase incentives for low emitting vehicles and disincentives for high emitting vehicles. The air quality impacts of transportation infrastructure need to be evaluated as part of the planning and permitting process. Authority should be conferred to MEP for fuel quality standards development.

(5) Strictly enforce Environmental Impact Assessment and "Three-Simultaneous" requirements.

Environmental impact assessments (EIA) should be conducted on major government policies, and social and economic development plans. Independent analysis and verification must be carried out to ensure their scientific validity. The public should be given full access to the complete text of EIA reports and be allowed ample time for comments. The construction of projects should not begin until all EIA requirements have been satisfied and a permit issued. In addition, it is necessary to revise the existing legal requirements.

(6) Improve permitting system.

Connections must be established between permit issuance and total emissions control targets to ensure attainment of environmental quality standards. New sources discharging pollutants covered by total emission control requirements must offset their added incremental discharges.

Enterprises should not be allowed to start up or continue to operate without pollutant

discharge permits, and be supported by monitoring, reporting and inspection requirements as established by the government.

(7) Increase penalties for non-compliance and enhance monitoring and inspections.

The responsible party should pay the costs of environmental damage to people or property, or economic losses. Compensation should also cover the costs of reasonable measures taken to prevent or limit environmental damage and for clean-up and restoration of the environment to its previous state.

China must first establish stringent requirements for monitoring (including electronic monitoring), reporting and certification. This should include specific regulations governing quality control and quality assurance.

(8) Improve environmental information disclosure and public participation.

Environmental information should be made available to the public in a timely and accurate manner. Data on air quality in key cities will be disclosed in form of forecast and daily report. Online monitoring data on the quality of surface water should be disclosed every four hours. Data on section water quality in key river basins will be disclosed weekly. Lists of key projects subject to national pollution reduction mandates should be disclosed. Sensitive information such as heavy metal and landfill pollution should be published and followed up in a timely manner. Information on large environmental incidents, as well as the treatment and follow-up measures, should be released in a timely manner. Name lists of key emitters and emitters who violate laws should be disclosed.

(9) Promote the use of market mechanisms.

China needs to increase the use of market-based economic incentive tools such as taxes, emissions trading, and natural resource pricing and establish supporting policies, institutions, and guidance for each of the market-based policy alternatives under consideration. Complimentary laws and regulations and public participation must also be in place. Furthermore, setting up a Clean Production Fund will help provide incentives for existing and new enterprises to adopt clean production methods.