

# **ENVIRONMENTAL ENFORCEMENT AND COMPLIANCE INDICATORS IN CHINA**

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## **1 INTRODUCTION**

In China, as in other countries, the environmental requirements are reflected in the laws, regulations, standards and policies. Environmental enforcement and compliance in China is considered as meeting environmental requirements through implementing environmental laws, regulations, standards and policies. The main institutions responsible for enforcement and compliance assurance in China are the State Environmental Protection Administration (SEPA) and its counterpart Environmental Protection Bureaus (EPBs) at the regional and local level. Therefore, the indicators for environmental enforcement and compliance stand for the level of the implementation of laws, regulations, standards and policies. This paper provides brief information on the environmental enforcement and compliance indicators in China.

## **2 GENERAL FINDINGS**

Currently there are no indicators available in China that can reflect fully environmental enforcement and compliance. Some attempts have been made to introduce such indicators into the annual environmental management targets for the various levels of governments and their departments. The government is attaching greater importance of performance evaluation as environmental management is being strengthened. The State Environmental Protection Administration (SEPA) is now planning to develop a system of indicators to evaluate the environmental performance of governmental departments and their key managers.

The indicators for environmental enforcement and compliance may vary depending on the targets that are the subject for evaluation. Those which evaluate governments' implementation of environmental laws, regulations, standards and policies can be categorized into indicators for environmental quality, total load of pollution, pollution control, environmental input and capacity building. The indicators for evaluating environmental enforcement and compliance of enterprises can be categorized into indicators for compliance, discharges/emissions, environmental input and capacity building.

## **3 ENVIRONMENTAL REQUIREMENTS IN CHINA**

Environmental requirements in China require actions, measures and technologies that should be adopted by entities in accordance with environmental laws, regulations, standards and policies as well as environmental protection plans. The entities can be governmental agencies at various administrative levels and also public and private enterprises. They are required to fulfill the environmental requirements embodied in environmental laws, regulations, standards and policies.

#### **4 ENVIRONMENTAL REQUIREMENTS IN LAWS, REGULATIONS AND STANDARDS**

Environmental laws are the fundamental basis and backbone for environmental requirements. Environmental laws have been promulgated and amended since the restoration of the reform and open-up in the late 1970s. Regulations, standards and policies have been issued to cope with the increasing environmental problems brought about by rapid economic growth and urbanization. Right now, China's legal framework for environmental management includes 9 laws on environmental protection, 24 laws on natural resources management and environmental related provisions, 34 administrative rules and regulations and some 427 standards for environmental protection.

Environmental legislation has been developed very fast in recent years. The year 2002 saw great progress for environmental legislation. The Law of Environmental Impact Assessment and The Law of Cleaner Production Promotion, passed by the National People's Congress (NPC), put the PRC in the leading place in the world. Agricultural Law and Pastoral Law were issued in January 2003. However, enforcement of such laws is a very challenging task facing by the Chinese government.

#### **5 ENVIRONMENTAL ENFORCEMENT INSTITUTIONS**

SEPA and its corresponding counterparts, provincial, city and county EPBs, are responsible for the enforcement of environmental laws, regulations, standards and policies. In fulfilling the responsibility, SEPA and its counterparts have also set up supporting institutions. For example, China Monitoring Central Station and its corresponding local stations are responsible for environmental quality monitoring and supervision monitoring of polluters. Environmental Supervision Bureaus and its corresponding supervision teams are responsible for assuring compliance with environmental laws by existing polluters. They also collect pollution levies.

#### **6 IMPLEMENTATION EVALUATION OF THE LAWS, REGULATIONS, STANDARDS AND POLICIES**

##### **6.1 Purposes of Implementation Evaluation**

The purpose of evaluating environmental enforcement and compliance is to track and audit the compliance with environmental requirements of the target groups and the result of implementing environmental laws, regulations, standards and policies. The assessment will help to get to know the trends of environmental quality and pollution in a given period and area as well as to find out critical issues in implementing environmental requirements. The evaluation can also show the public and other stakeholders the accountability of governments and enterprises in the enforcement and compliance of laws, regulations and standards.

##### **6.2 Targets Subject to be Evaluated**

The Government and enterprises are the key groups that are responsible for implementing environmental laws, regulations, standards and policies. Increasingly, a third

group, the public, is becoming more important in environmental management<sup>1</sup>. Therefore, governments and enterprises should be the main targets for evaluation of the progress in the implementation of laws, regulations, standards and policies.

Governments and enterprises have different responsibilities in the environmental enforcement and compliance. According to China's Environmental Protection Law, local governments are responsible for the environmental quality of their jurisdictions. They are responsible for regulating the enforcement of environmental laws, regulations, standards and policies. Enterprises should comply with environmental laws, regulations and standards during their establishment and production.

### 6.3 Indicators for Implementation Evaluation

In China, indicators are generally classified into two types, quantitative and qualitative. Though quantitative indicators are considered most needed, easier to be understood and more concise, the qualitative ones are equally important and needed in cases where parameters cannot be easily quantified.

Since governments and enterprises have different responsibilities in the implementation of environmental laws, regulations, standards and policies, they are evaluated by different set of indicators to reflect their performance. Environmental quality, pollution discharge, environmental input and environmental management capacity all affect environmental performance. Therefore, the indicators for evaluating governments' environmental performance are classified into indicators for environmental quality, for regional total load control, for environmental input and for the capacity building.<sup>2</sup>

The indicators for enterprises' environmental performance are those for compliance with environmental laws, regulations, standards and policies as the enterprises have a straighter and simpler responsibility in the implementation of environmental laws, regulations, standards and policies.

Based on the previous discussion, the selected indicators for environmental enforcement and compliance are listed in the following table.

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<sup>1</sup> The participation of the public has changed the traditional two-way management into tricycle management that involves government, enterprises and the public.

<sup>2</sup> The capacity building here refers to the development of the capacity for environmental management. This includes the development of environmental institutions such as number of institutions and number of staffing and their management capacity. Such as the ability to manage a program/project.

Indicators Used for the Assessment of Governments Performance

Category	Indicators	Unit
Environmental quality indicator	Daily average of air TSP	Mg/ m <sup>3</sup>
	Annual daily average of SO <sub>2</sub>	Mg/ m <sup>3</sup>
	Annual daily average of NO <sub>x</sub>	Mg/ m <sup>3</sup>
	Water quality compliance rate of drink water source	%
	Water quality compliance rate of urban surface water	%
	Average regional environmental noise	dB(A)
	Average traffic main line noise	dB(A)
Total load indicators	Reduction rate of total volume of wastewater	%
	Reduction rate of total load of COD discharge	%
	Reduction rate of total volume of waste air emissions	%
	Reduction rate of total load of SO <sub>2</sub> emission	%
	Reduction rate of total load of soot emission	%
	Reduction rate of total load of total solid wastes	%
Pollution control indicators	Discharge compliance rate of Industrial waste water	%
	Compliance rate of automobile exhaust gas	%
	Comprehensive utilization rate of Industrial solid waste	%
	Hazardous waste disposal rate	%

Indicators Used for the Assessment of Performance

Environmental input indicators	The percentage of total environmental protection investment over GDP	%
	The percentage of total public environmental investment over total environmental investment	%
Capacity building indicators	Environmental supervision institutions	No.
	No. of people working in for environmental supervision	No.
	Rate of "three synchronies" implementation	%
	Rate of pollution levy really collected over that supposed to be collected	%
	Operation rate of pollution control facilities	%
Compliance indicators	Percentage of dischargers and emitters compliance with discharge/emission standards	%
	Percentage of the treatment facilities with normal operation	%
Discharge/Emission indicators	Total volume of wastewater discharged	M <sup>3</sup>
	Total load of COD discharge	Ton
	Total volume of waste air emitted	M <sup>3</sup>
	Total load of SO <sub>2</sub> emission	Ton
	Total load of solid waste discharge	Ton
Environmental Input indicators	Total environmental investment spent	Yuan/year
	The percentage of total environmental investment over its gross output value	%
Capacity building indicators	Percentage of the capacity of wastewater treatment facilities being utilized	%
	The percentage of solid wastes being comprehensively utilized	%

## 7 EVALUATION OF COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

The evaluation of the implementation of environmental laws, regulations, standards and policies by the governments and their departments is usually linked to the evaluation of annual management targets. At the end of a year, the higher-level government evaluates the performance of the government at the lower level. At the same time an evaluation is carried out within the governmental agency regarding the performance of its departments. The performance data obtained is compared with the targets set up at the beginning of the year. Internal evaluation meeting and external auditing are ways to carry out such evaluation. The results are recorded and used as supporting documents for promotions and bonuses.

The evaluation of governments' implementation of environmental laws, regulations, standards and policies is sometimes linked to activities such as development of "environmental model" cities<sup>3</sup> and build-up of "ecological cities."<sup>4</sup>

Self-reporting by enterprises, as well as regular or random supervision checks conducted by relevant environmental authorities, are the ways for the evaluation of enterprises' compliance with environmental laws, regulations, standards and policies. In such cases enterprises are required to file reports on their pollution discharge on a regular basis to environmental authorities.

There are various enterprise appraisals at national, local and sectoral levels. The appraisals related to environmental protection include: National Excellence Enterprises for Environmental Protection, National Excellence Units for Energy-Saving, National Advanced Enterprises for Environmental Protection, National Advanced Enterprises for Public Health, Clean and Civilized Enterprises appraised by the Ministry of Chemical Engineering, Garden Enterprises appraised in Beijing and Shanghai, 1989 Top Ten Worst Environment Enterprises and 1990 Best Environment Enterprises appraised in Shenyang. These appraisals can be briefly divided into two kinds: those promoted by governments and those by the public.

The appraisal of National Advanced Enterprises for Environmental Protection was initiated by National Environmental Protection Agency (a governmental department now upgraded to SEPA) in 1989. The candidate enterprises are initially recommended by municipal EPBs and examined on the spot and recommended to NEPA by provincial EPBs. An appraisal committee is organized and comprised of representatives from NEPA departments, China National Environmental Monitoring Center and other ministries of the State Council. The committee carefully examines and appraises the candidates one by one,

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<sup>3</sup> The Environmental Model City Indicators are used to as benchmarks to evaluate whether a city is a model city or not after several years of development according to plans. It consists of indicators of social and economic conditions, environmental quality and those of management. Air pollution index and Compliance rate of water sources for centralized water supply; Compliance rate of urban water function zones are examples of indicators applied.

<sup>4</sup> There are different sets of indicators for an ecological province, city and county/area. The set of indicators for the build-up of an ecological province is divided into four categories of indicators, that is, ecological economy, social development, ecological environment, ecological culture, which consist of 11 subcategories of indicators such as level of economy, productivity and efficiency of resource utilization and a number of indicators. Pollution intensity of main pollutants, per capital green land and ratio of environmental investment in GDP are examples of indicators applied. The indicators may vary from province to province since provinces have different background, development pattern and unique environmental issues.

and winners are finally granted the title of National Environmental Protection Advanced Enterprise, with awards and honorable certificates. The appraisal work highlights the advance, uniqueness, and authoritativeness of the enterprises. All the applicants should have obtained the title of environmental protection advanced enterprise or other similar title approved by sectoral authorities at provincial or ministry level. By 1997, six batches of appraisals have been carried out and more than 500 enterprises obtained the honors. In 1996, NEPA reexamined the National Environmental Protection Advanced Enterprises in years 1989 and 1990, and re-awarded 183 enterprises with effective period of four years. Other enterprises had the original title cancelled, including eight that could not meet with the requirements of advanced enterprises, and six that have stopped production.

## **8 DATA ISSUES**

Data is crucial for the indicators to precisely reflect the enforcement and compliance. Environmental monitoring stations and environmental statistic and information centers are responsible for collection and verification of data. Data quality is very crucial to the enforcement evaluation but there are problems with ensuring adequate data quality. In such cases, officials in charge cross check data to control the quality.

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