

The Development of Pollution Charge in China

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Pollution charge is a very popular market-based instrument (MBI) that polluters are required to pay, on the basis of their pollution emissions, damage cost caused by polluters and given charge rates set by related departments of government. In general, pollution charge can provide polluters with economic incentives to reduce pollution, while raising fund to install environmental infrastructures. At present this instrument has been believed to be a real practice of the well-known *Polluter Pays Principle* (PPP) which was adopted firstly by the Organization of Economic Cooperation and Development (OECD) in 1974 and it has been applied in about 100 countries of the world. PPP is also expanded from domestic environmental issues to global environmental concerns.

In 1978, pollution charge was firstly proposed by the leading group of environmental protection of the State Council in a leading group report submitted for approval to the Central Committee of Chinese Community Party. In 1979, this proposal was firstly written into *the Environmental Protection Law*, which was the first law for environmental protection and pollution control in the People's Republic of China. It requires that all institutions and enterprises must pay pollution discharge fee according to their emissions volumes and concentration of discharged pollutants exceeding the national standards of pollution discharges.

By the end of 1981, the demonstration of pollution charge had been conducted in some cities of 28 provinces and municipalities since the first piloting program was carried out in Suzhou of Jiangsu Province based on *the Environmental Protection Law* (1979). Summarizing up the experience of these demonstration programs in different provinces and cities the State Council issued the *Tentative Provisions on Pollution Charge* (the State Council Order (1982) No. 21) in 1982, in which the purpose of pollution charge, the pollution charge rates and formulas and the management of fund from pollution charge had been defined. As a basic regulation of pollution charge this provisions played an important role in providing fund for reducing environmental pollution and building the environmental management capacity of local environmental protection bureaus (EPBs) over the last two decades. According to this regulation

local EPBs at municipality and county levels are in charge of the collection of pollution fee, the allocation of charge revenue funds and the supervision of enterprises' pollution performance.

A research report on the increasing of SO₂ pollution and acid rain was paid much attention by the Government of China (GoC), which was put forward by the Chinese Research Academy of Environmental Science (CRAES) and China Environmental Monitoring Center in 1990 (CEMC). In this report *a two control areas*, acid rain control area and SO₂ emission control area, was defined according to the pH value of rain and urban air quality of SO₂ concentration, covering about one third of China's territory. In order to reduce SO₂ emission from power sector SO₂ emission charge was adopted by the State Council in 1992, and mainly levied on coal burning power plants located in *two control areas* as SO₂ emission from utility sector had amounted to 46% of total national SO₂ emission.

Because of serious pollution pressure, the very low charge rates and improper fund allocation policy for pollution charge a strong voice of reforming this instrument continuously appeared to the public and related departments of government since the early 1990s. Many policy scientists argued that low charge rates in fact provided polluting enterprises with a *legal* right to discharge pollutants. As a result, most enterprises preferred to directly discharge pollution rather than install facilities to reduce pollution, therefore pollution became more and more serious all over the country. Based on a publication of the World Bank, *Clear Water and Blue Sky: A Challenge for China in 2020*, it was estimated that the economic damage cost caused by air pollution in China amounted to more than 7% of GDP in 1995.

Under the above background the World Bank reached an agreement with GoC to finance a technical assistance project of one million US dollars for former National Environmental Protection Agency (NEPA) in 1994, that is, the project of *the Design and Implementation of Pollution Charge System in China*. This technical project was organized by CRAES and led by Prof. Yang Jintian and me when I was only 30, in which about 20 research institutes and 322 researchers took part and about 20,000 samples of polluting enterprises all over the country were collected in order to identify the potential effect on different charge targets. Eventually this project was completed in 1997 and more than 30 research reports with about 4000 pages in total were presented to NEPA which is responsible for the implementation of pollution charge. In 2000 the leading

group of project presented a detailed proposal of pollution charge reform to the State Council and this proposed reform plan was circulated within related departments of State Council over two years.

On December 29th 2002 former Vice Premier WEN Jiabao hosted a special State Council meeting on pollution charge at Zhongnanhai, approving a program of pollution charge reform jointly presented by the State Environmental Protection Administration (SEPA), Ministry of Finance (MOF) and National Development and Reform Commission (NDRC). Since July 1st 2003 a new pollution charge policy was brought into effect through out the country, which is different from the former charge instrument in four aspects as follow: 1) the new one covers all pollution emitted from enterprises, while the former one covered only discharged pollutants exceeding emission standards; 2) the charge base of new policy is total mass of pollutants, while the former concentration of pollutants; 3) the charge unit in new policy is pollution equivalent, e.g. 1 pollution equivalent equals to 1kg COD or 0.95 kg SO₂, whereas the former the times of exceed of pollution concentration; and 4) the new policy levy on all pollutants emitted, the former the pollutant which is of the highest times of exceeding discharge standards. Finally, about 100 pollutants are listed in the new charge scheme, in which emitted pollution is required to convert to pollution equivalents (PEs) and charge fee are calculated based on PEs and unit price of each PE.

According to new pollution charge policy about 10% of collected fund goes to the public budget of central government and, 10% provincial government and 80% municipalities and counties. This new allocation of revenue fund provides central and provincial governments with an incentive guideline to lower governments, to deal with some environmental issues between provinces and of river basins. For example, SEPA and MOF can make use of funds collected from local pollution levy to subsidy four provinces, Anhui, Henan, Jiangsu and Shandong, in constructing municipal wastewater treatment plants in Huaihe river basin since Huaihe river has been a most polluted river in China and selected by Chinese government as a key river basin to clean up over last decade.

With the rapid economic development and urbanization and the expansion of resources depletion in the later of 1990' s, a third pollution peak came up in China, both SO₂ emission and discharge of chemical oxygen demand (COD) increased dramatically by more than 30% and both of them ranked the first in the world. Meanwhile the progress of installing

municipal wastewater treatment and waste disposal plants was unable to meet the demand of pollution control because of insufficient fund for pollution abatement. Therefore, a new pollution treatment charge scheme was proposed by SEPA and NDRC in the earlier of 2002 to raise fund from the public. Consequently, this proposed scheme was approved quickly by the State Council, and then implemented in about 20 provinces in 2003. This charge scheme requires all citizen and household to pay treatment of household wastewater and rubbish to cover the treatment cost of municipal wastewater and waste. Nowadays you may find that if you stay in Beijing your drinking water bill has doubled than before, as you have to pay a wastewater treatment fee at about 1 Yuan RMB per ton of water you consume every day.

In 2003 the charge target of this policy has covered most pollution issues, such as industrial wastewater discharge, industrial air emission, industrial and hazardous wastes, municipal wastewater and household waste. About 1000 environmental supervision stations have collected about 70 billion Yuna RMB in total over last 25 years. Only in 2003, about 700,000 enterprises and institutions were charged nationwide, and more than 6 billion Yuan RMB was collected, the revenue of which increased by 120% than that in 1996.

It is concluded that with the reform and improvement for about 25 years Chinese pollution charge system has become a very powerful and useful instrument for environmental management. At the same time, although there is long way for us to improve pollution charge it can be expected that in the future this policy will play an increasing important role in both financing pollution reduction projects of enterprise and supporting capacity building of local EPBs. In a saying of the World Bank, Chinese pollution charge policy can be believed to be a model of applying economic instrument in environmental protection in developing countries.