19 March 2007

Hon. Audrey Eu
Chairman
Environmental Affairs Panel
Legislative Council

Dear Ms. Eu,

Thank you for inviting Clear the Air to submit the opinion on the "Implementation Framework of the Emission Trading Pilot Scheme for Thermal Power Plants in the Pearl River Delta Region (Pilot Scheme)", I am pleased to present my findings in this issue.

Emission trading has been implemented internationally for quite some times already. The United States is the pioneer (though still not satisfied why it does not join the Kyoto Treaty) and has achieved success in controlling the acid rain. It has made significant result by reducing the emission of SO_2 by 33% between 1993 and 2000.

The government of China has also concerned of the acid rain problem. Since the 70s, it has already put "the control of acid rain" in the national major scientific projects. During the 80s, it has begun to develop burning coal technology and desulphurization technology. Starting from 92, there is a pilot run on collecting SO_2 charges in 2 provinces and nine cities. "The law for preventing and managing air pollution" has been announced in 1995 requesting the power plants to use low sulphur content coal, new factory has to install desulphurization system or other control measures. In 1996, it has amended the concentration level of SO_2. In 1998, the SO_2 charges has increased tremendously to ¥0.2/kg, coal burning power plants are not allowed to be built in the urban or sub-urban area. All new plant using coal with sulphur content over1% has to install desulphurization system. In 2000, it has revised the law and restated the pollution charges and the penalty for over emission. It has stepped up the charges in 2003 to ¥0.21/kg, ¥0.42/kg in 2004 and from July 2005 to ¥0.63/kg. NOx is charged at ¥0.63/kg.

As for the emission trading, the Chinese government has aware of the scheme and the advantages such as to reduce the cost of treating pollution, increase the technology

level and facilitate the industry to go towards low pollution level and high efficiency. Therefore, during the period of 1990 and 1994, it has already made a trial in 16 major cities. But it was in a small scale and lack of system. Besides, there is no law governing the scheme and there is no proper mechanism for the emission permit system. The quota is not allocated in a fair and scientific way. Besides, there is no efficient monitoring system. So the result of the scheme is not as expected.

Since the US has achieved success in controlling the acid rain through emission trading, the Chinese government has contacted Environmental Defense to sign the agreement to made the feasibility study and implement the some pilot projects. In Sept 2001, Nanchang of Jiangsu has made the first emission trading. In Mar 2003, there are research on the control of the total emission quantity and initially set up a standardized, fairer quota allocation method and the trading mechanism on $SO_{2.}$ A more extensive pilot project has been implemented in Shangdong, Shangxi, Jiangsu, Henan and Shanghai, Tianjian, Liuzhou and Huaneng Group, named as 4+3+1. On the same year, two plants from Jiangsu Taichang and Nanjiang has made the first cross district emission trading.

In theory, emission trading has been debated on the effectiveness and feasibility. On practice, the US and the EU have also proved its feasibility. China has also in certain extent proved that this is workable and has made progress. However, after several years implementing 4+3+1, the policy and system of emission trading has not yet established properly. The main reason is that the law is not being enforced properly. There are gaps in the policy, the law shows only the principle and there are no corresponding details to support it e.g. the control of total quantity, the emission permit, etc. There is no sufficient financial resources to back up the scheme, allowance, grants, loan concessions do not match with the need. Besides, there is no proper discussion among the trade to voice their concern so there are a lot of conflicts of interests during the implementation. Please refer to the report written by Environmental Defense for more details. The information can be a good reference to avoid similar problems.

Since China has developed in high speed, there is ever increasing demand on electricity. The power plant in China is mainly fueled by coal. This explains why even after the continuous effort of the government, the acid rain is still very serious and not under control. China is no. 1 in SO_2 emission. In 2004, the total emission of SO_2 was 22. 55 million tons, power plant emission was 14 million tons. It is estimated that in 2010 the total emission of SO_2 will be 30 million tons and power

plant will be response about half of it. The aim of the government is to become a newly developed country in 2020, in order to get rid of the acid rain, the maximum allowance of SO_2 emission will be 1.2 to 1.4 million tones. We can imagine that this will be a difficult task and there are a lot of burdens put onto the power plant. I believe that Hong Kong can play part of it by contributing its valuable experience on legal spirit, free economy framework, professional knowledge on financing, law, auditing to the emission trading so as the make the implementation carried out smoothly.

Talking about Guangdong alone, the acid rain zone covers 110,000 sq. km, which is over 10% of the total acid rain zone in China. 63% of Guangdong was being put into the acid rain control area by the State. The concentration is 0.025mm/cu. m. Acid rainfall 42.4% (I don't know whether it is similar situation in Hong Kong as I cannot find the latest information). The economic loss is over ¥5 billion. The SO_2 emission from Shajiao power plant in Dongguan has affected 60% of the agriculture activities and also the health of the residents there. Over these years, the desulphurization projects in Guangdong province has been very slow and did not reach the emission reduction target set by the government. It is in a way due to the great demand in electricity, the plant has no time to schedule for the desulphurization projects. On the other hand, the huge amount of investment is also the reason why the enterprises do not proceed on this. Good news is starting from 2004, there are more power plants like Shajiao power plant, Guangzhou power plant, Guangzhou Ruiming power plant has made millions of investment into the desulphurization system. The Guangdong government has planned to spend ¥7 b illion to help plants to install desulphurization system. It is estimated that beginning from this year, there will be a reduction of 300,000 tons of SO_2 emission.

In the Eleventh five years plan, it is also stated clearly the control of total emission and the emission trading. It is also stated that by end of 2007, all power plants should have installed the automatic continuous emission monitoring systems. For those plants with desulphurization system, the electricity price can add ¥0.015 to the normal price.

After years of development, the desulphurization technology has been to good standard, there are certain domestic companies that can install the system to the power plants. Almost 80% of the projects are now done by local firms. The price is also lowered to ¥ 800 -1000/kw to as low as ¥400 or even lower. Therefore the investment on this can be greatly reduced.

In view of all these development, it can be said it is quite ready to implement the emission trading and to put on more details on the policy and implementation plans. With the proper implementation and prior discuss with the trade on their concerns and needs, emission trading can be said to be the catalyst to help control acid rain and pollutants emission.

As for the pilot scheme, I like to put forth the following points for discussions:

In the appendix II, there is the calculation of the base target, this part should be the main concern of the power plants, in order to avoid conflicts, does the power plants (both Hong Kong and Guangdong) aware and accept the calculation formula?

In appendix IV on the flow chart, the feasibility report has to be written by a consultant, will this consultant need to fulfill certain qualifications?

Moreover, as for the automatic continuous emission monitoring system, is it necessary to form a unique standardization on the quality control in order to ensure a fair result?

Before closing, I wish that this pilot project a success and become an exemplar to other similar projects.

Yours sincerely,

Ada Sinn
Clear the air