*Xianli Zhu*

# THE WAY FROM SO2 TO CO2 EMISSION TRADING SUCCESS STORY IN THE DEVELOPED COUNTRIES AND THE INITIAL EXPERIENCES WITH SO2 EMISSION TRADING IN CHINA

Xianli Zhu: UNEP Risø Centre, Risø National Laboratory, P.O. Box 49, Roskilde 4000, Dk
Tel: + 45 4677 5170, Fax: + 45 4632 1999, e-mail: xianli.zhu@risoe.dk

**Overview**

Emission trading has proved to be an effective market-based instrument for environmental problems in developed countries. In the USA and Europe, there is a long history of SO2 emission trading. Today, the application of emission trading has evolved from national SO2 emission control schemes to national and regional CO2 emission trading schemes.

CO2 emission trading systems are being established in Japan, the United States, Australia, and the UK. The EU emission trading scheme, started in 2005, has so far proved to be quite successful. The linkage of these national and super-national emission trading mechanisms is taken as an important approach in the current stalemate of international climate change negotiations. In USA and Australia, developed countries that consider mandatory emission mitigation targets unacceptable, there are local and national initiatives about CO2 emission trading. With the current stalemate of negotiations for a Kyoto-type cap and trade scheme, many experts consider linking-up different national emission trading markets are a key and feasible component for future international climate mitigation actions.

This paper for will try to answer the following questions: can the successful story with emission trading be transplanted to developing countries? Will it possible for the big GHG emitters in the emerging world, like China, to use emission trading as an effective instrument for contributing to global climate change mitigation?

It will start from reviewing the history of SO2 and CO2 emission trading in developed countries and analyze the major strengths of emission trading, and the key factors for its success. Then it will probe into China's initial experiences with emission trading.

The rapid rise of its energy production and consumption, especially in the form of dirty coal, is causing severe environmental problems. China is now the biggest SO2 emitter on earth and according to the WHO, 8 out of the 10 cities with most severe air pollution worldwide are found in China. The Chinese government started pilot programs of SO2 emission trading in 1990 among coal-fired power plants in 6 cities. Now almost two decades have passed, it is far from ready for the establishment of nationwide SO2 emission trading scheme. In 2005, emission trading was for the first time recognized by the Chinese central government as an option for SO2 and other pollution control.

This paper will proceed with explain the slow progress with SO2 emission trading in China and try to find out how EU can boost the establishment of a SO2 emission trading scheme in China, in preparation for introducing emission trading scheme as an instrument for stimulate the participation of China and other big emerging countries in the future international climate change actions.

**Methods**

Case study, comparison and analysis

**Results**

Emission trading schemes, if properly designed and implemented, can help market players achieve emission reduction targets at lower costs. Its success implementation depends on many factors, including complete and coordinate institutional arrangements, enough participants and competition, proper price signals, and the creation of well-functioning monitoring system, as well as market transparency

**Conclusions**

In the ongoing international debate about future international climate regime design, one of the often mentioned carrots for the participation of major developing countries is the synergies of GHG emission mitigation and local environmental pollution control. China has set ambitious target for energy efficiency improvement, renewable energy development, and pollution control. As the China, like other big developing countries, strongly object to undertaking mandatory GHG emission targets in the coming decades. Domestic emission trading schemes that can help address the energy security concern and local pollution in a cost effective way, while at the same time have GHG mitigation side-benefits, will be promising.

China is already set binding energy efficiency improvement targets for its industrial enterprises and local governments. Emission trading provides an instrument for realizing these targets in a more cost-effective way. In view of the enormous climate change mitigation of the ongoing Chinese efforts for energy efficiency improvement, the developed world, especially the EU, with their decades of experiences with emission trading, can help China speed up the introduction of emission trading as a way of encouraging climate change initiatives in developing world.

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