

Co-benefits of Pollution Control in China

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Presentation of outlines

- China's needs to address pollution control
- Potential co-benefits of pollution control in China
- Economic analysis from past research
- Brief Introduction about the Sino-Japan Cooperation on Co-benefits



China's needs to address pollution control



- Serious environmental pollution
- Not only environmental issue, but also economic, social, political and diplomatic issue
- 10% pollution reduction (6.73 million ton SO₂, 5.71 COD) during the period of 11th five year plan, compulsory indicator
- SO₂ and COD emission will be controlled by the end of 2010 (11th five year plan for environmental protection)

SO₂ emission in China (million ton)

Year	China	from industrial sector
2001	19.5	15.7
2002	19.3	15.6
2003	21.6	17.9
2004	22.5	18.9
2005	25.5	21.7
2006	25.9	



Potential co-benefits of pollution control in China

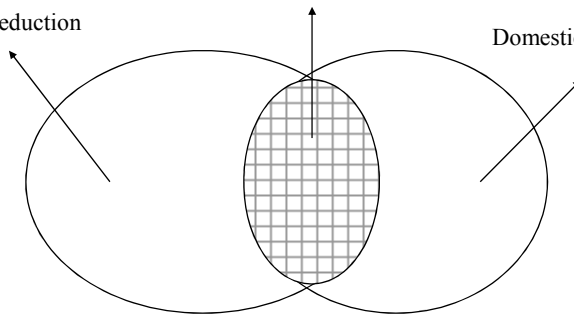


- Why we do co-benefits?
- What we have done?
- What problems existed

Co-benefits and co-control

GHG reduction

Domestic pollution control



Why we do co-benefits

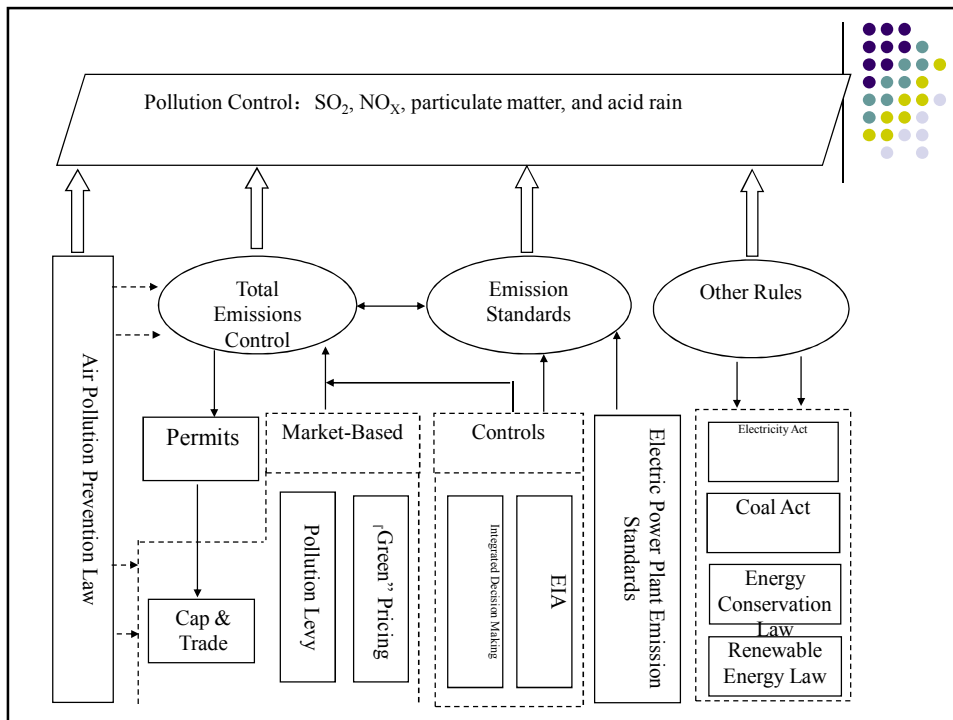


- Essence: it includes benefits of GHGs emission reduction, as well as **benefits of local pollution control** and ecological restoration
- benefit to both developing country and developed country
- Find a better way to resolve climate issues, not only technical problem, but also political manner

What we have done



- Engineering, structure, administration, **trade** measures
- Sulfur Dioxide Pollution Abatement Programs for China's Electric Power Sector
 - technology mandates
 - emission performance standards
 - total emissions control limits
 - market-based incentives and economic policies



Potential co-benefits of pollution control in China (Cont.)

1. Co-benefits of the west-east natural gas pipeline project

The west-east natural gas pipeline project is a very large energy project arranged during the 10th Five-Year Plan period, to supply abundant natural gas to Middle-east regions in China, such as Shanghai, Jiangsu, Zhejiang, Henan, Anhui, etc., which are in short of such resources.

Methodology: Estimation of the Environmental Co-benefits through Comparison between the emissions of two Scenarios:

NGS: emission projections when “west gas” is used (by newly built projects and fuel-switching projects)

BAU: emission projections under the situation of similar energy service supply without this natural gas transmission project

AIM-LOCAL/CHINA model was used in this research.

Potential co-benefits of pollution control in China (Cont.)



Results:

- significant environmental co-benefits, reduce the emission of such GHGs as CO₂ while significantly reducing such air pollutants as SO₂
- Co-benefits increase along with the growth of natural gas supply
- To be concrete, during 2003-2020, 3.12 million tons of SO₂ and 34.75 million tons of CO₂ can be reduced.

Potential co-benefits of pollution control in China (Cont.)



2. Co-benefits of air pollution control policies on CO₂ emission control—Shijiazhuang case

Results: Compared with the year 2000, SO₂ emission in 2010 will be reduced by about 61%, CO₂ emission will be reduced by 1.2%; SO₂ emission in 2020 will be reduced by about 77%, CO₂ emission will be reduced by 5.3%.

Potential co-benefits of pollution control in China (Cont.)



3. China SEPA-US EPA cooperation project-- IES

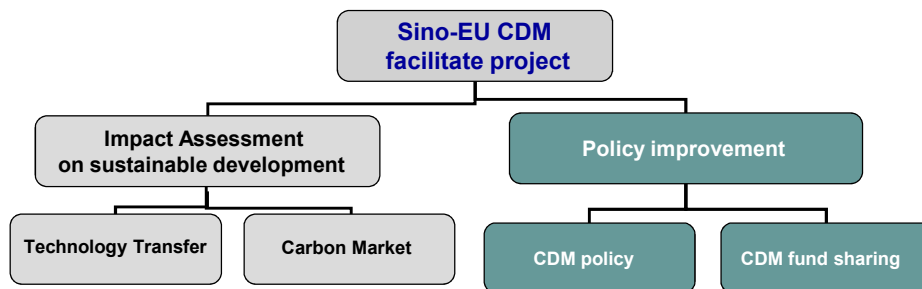
- Phase I —Shanghai case
- Phase II —Beijing case
- Phase III—National Assessment
- Phase IV —co-control policy study
- Phase V —under designing

Potential co-benefits of pollution control in China (Cont.)



- 4. climate trade and energy saving and pollution reduction funded by MEP
 - Macro climate trade policy and pollution reduction
 - CDM project and energy saving and pollution reduction

5. Sino-EU CDM facilitate project



6. co-benefits of TEC policy



- In conducting Total Emission Control (TEC) policy, CO2 emission will reduced 2-18 million ton every year

What problems



- After MEP, co-benefits will be emphasized, but:
 - Not achieve sustainable development in host countries as expected in CDM projects
 - Money for kick-off
 - Barriers existed in technology transfer
 - NOx project in Shanxi province;
 - Wind power project in Jiangsu province
 - supply market, not demand market

Economic Analysis from Past Research



- Benefit-Cost Analysis of Energy Saving and Pollution Abatement Measures in China's Electric Power Sector—Sino-US Joint Economic Study (JES)
 - The installation of flue gas desulfurization (FGD) equipment and the shutdown of small coal-fired boilers are two key policy approaches
 - The quantifiable health and non-health benefits of controlling SO₂ emissions from existing power plants will outweigh the costs by a ratio of more than 5 to 1 with significant additional benefits that were not assessed. A limited analysis demonstrated that if the government were to implement a cap and trade program to encourage power plants to find the most cost-effective approach for reducing emissions, the cost of achieving the same benefits would be at least 16 percent lower.
 - The macroeconomic impact of SO₂ pollution abatement from the electric power sector is an estimated **reduction in GDP of about 0.09% in 2010**. However, accounting for the small-boiler shutdown and other energy saving policies would increase the overall impact on GDP of about **0.26%**. The combination of policies may even have a positive effect on GDP.
 - Together, the energy saving and pollution abatement policies provide a **win-win solution**: strong, sustainable economic growth with environmental protection

Sino-Japan Cooperation on Co-benefits



- Joint Communique of Japan and the People's Republic of China on cooperation of energy and environment
- Letter of intent for cooperation on co-benefits
- Kick-off Meeting was held on April 14, 2008
- Panzhihua, Sichuan, as a model city
- Technical Workshop will be held in October in China

Thank you very much!