

SO₂ emission trading pilot programs and lessons for CO₂ MRV

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Outline

- Historical Review
 - Pilot Works
 - Lessons for CO2 MRV
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The MRV in emission trading program

Monitoring :

- Who?
- Do what?

Reporting

- Report to whom?
- Open what, to whom?

Verification

- who
 - how
 - Transaction verification: what can be recognized as valid credit? (based on performance standard? Or EIA?)
 - Emission verification: CEMs, monitoring data, material balance calculation)?
 - Frequency?
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Policies Relevant to MRV in China

□ Environment monitoring

- 1983/2008, management rules on environmental monitoring
- 2005, Management rules on Automatic Monitoring of Pollution Sources

□ Emission reporting and registration

- Designed to support PLS in 1982, confirmed by Law of EP, elaborated in 2003 PL Regulation
- Annual reporting

□ Pollution permit system, 1988

- Jurisdictional principle, 2 yr valid term, no national permit
- national regulation drafted in 2007, not approved, more advanced in water than air

□ Total emission control, 1996

- National Environmental Protection plan set up the TEC program
- Allowance allocation → emission reduction task allocation (2008)

□ Information publicity

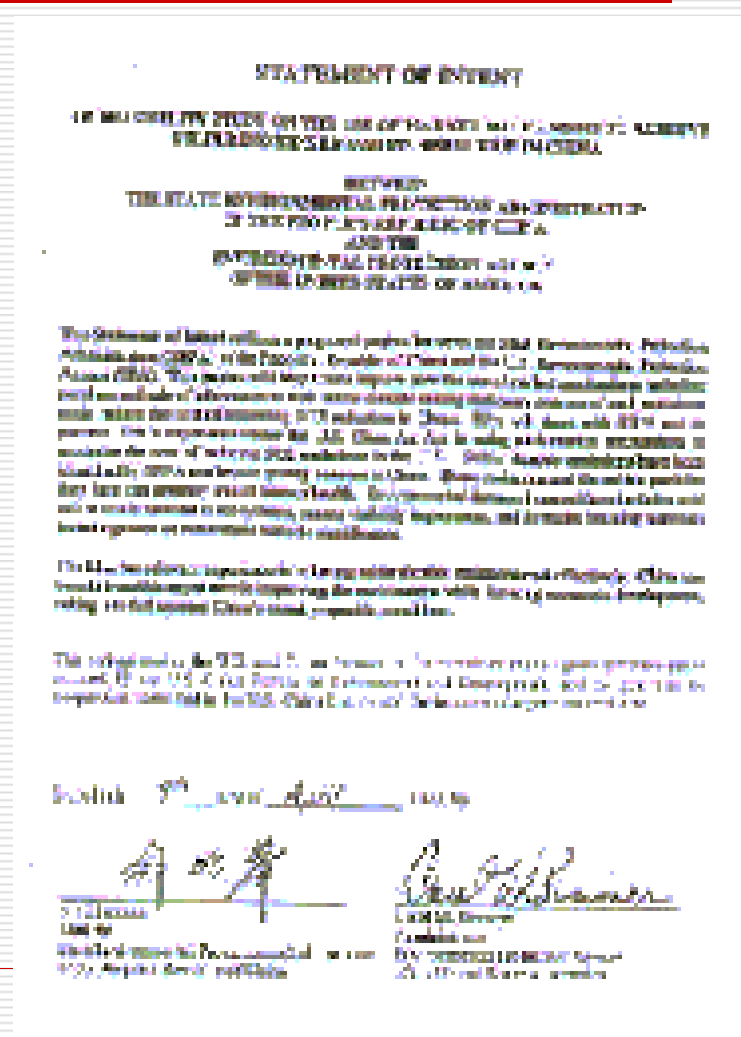
- 2008, management rules on environment information publicity

Historical Review: stage I (early 1990's)

- Stage 1. Pilot Works under permit system
 - 1991 NEPA started pilot works on emission permit in 16 cities.
 - 1994, 6 cities are allowed to do pilot works on emission trading by NEPA, including Baotou, Kaiyuan, Guiyang, Taiyuan, Liuzhou and Pingdingshan.
 - Mostly are Emission off-set between non-point source and point source or between point sources, no price in most cases
 - Air pollution permit system never really been strictly implemented
 - some local regulations were set up
 - Focus on how to implement permit management on local level to get flexibility
 - Reporting and emission verification framework has been formed, but monitoring is not

Historical Review: stage II(1998-2006)

- Stage 2. Pilot projects under Total Emission Control
- How to support development project
- Under TEC program
 - Monitoring will be paid more attention
 - PLS is not strong to support TEC
- 1999, Sino-US Joint Study on MBIs to Reduce SO2 Emission(1999,4-2002,11)
 - Emission Trading is the key element of this study
 - To prepare knowledge and demonstrate emission trading with pilot projects



Pilot Study in stage II

- 2002 Pilot study of Emission Trading in 7 Provinces /Cites
 - SEPA selected Shandong, Shanxi, Jiangsu, Henan, Shanghai, Tianjin, Liuzhou to do pilot works
 - cap-and- trade model, more cases happened btw sources, the concept of property right are set up
 - To explore technical support needed by the emission trading
 - To design and draft management documents, including method for allowance allocation, monitoring plan, trading scheme
 - monitoring and reporting are explored
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Pilot Study in stage II: cases

- Jiangsu Province(2002-2003)
 - Focus on power sector for emission trading
 - Technical and management documents have been prepared by provincial government
 - Tentative methods of Power sector SO₂ ETS management, 2002
 - Several trading cases happened



- 2002 Taicang Power Company-Nanjing Xiaguan Power Plant, 1.7million RMB for 1700 tons SO₂.
 - 2003, State Power Changzhou- Zhenjiang Bili Power Plant, 3 million RMB for 2000 tons SO₂.
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Pilot Study in stage II: cases

□ SO₂ Emission Trading in Taiyuan

- Sponsored by ADB and Shanxi Government
 - Implemented by RFF and CRAES
 - a trading scheme with elements of allocation, transaction procedure, tracking, monitoring and reporting, was designed
 - Management rules of Taiyuan on SO₂ ET, 2002
 - Allowance allocation on a 5-yr term; require CEMs, quarterly reporting
 - 26 enterprises joined in, but few transaction happened.
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Historical Review: stage III (2006-)

- Driven by more strict Total Emission Control
 - emission reduction target of 10% in 11th FYP and 8% in 12th FYP
 - Need flexibility to allow new project development
- High attention from State Council
 - Emission trading was taken to be an important tool for achieving emission reduction goals
 - Pilot projects on emission trading were listed in working agenda in state council's working report of 2009 and 2010
- Multi-ministries involvement
 - MOF/MEP set up pilot project in 10 provinces/ city on compensation for the use of environment and emission trading
 - MOF, MEP, NDRC issued guidance on the pilot work
 - 1 billion funding support on the construction of transaction platform, monitoring system, tracking and verification system
 - State Council Office, The central office of the organization committee (SCOPSR) send investigation groups to examine the pilot work

Historical Review: stage III (2006-)

□ National level pilot

- Jiangsu, Zhejiang, Tianjin, Hubei, Hunan, Inner Mongolia, Shanxi, Chongqing, Shaanxi, Hebei (10 provinces)

□ Voluntary action

- Shanghai, Beijing, Liaoning, Chongqing, Shenzhen, Heilongjiang, etc. (more than 10)

□ Local Exchange Centre set up: Beijing, Tianjin, Shanghai, Wuhan

□ Local regulations or management documents issued

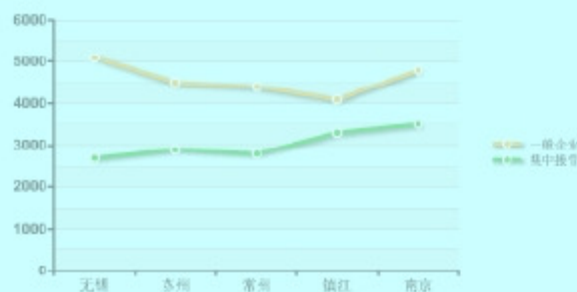
Recent Progress on Pilot works: Jiangsu

- ❑ Emission trading management center set up by Provincial EPB, exchange centers were set up in cities
- ❑ Emission trading system (emission quota applying and buying system, emission checking system, quota trading system) set up
- ❑ Monitoring (CEMs) and management capacity was build up
- ❑ Quarterly verification and alarming for sources controlled by MEP, others annually
- ❑ Verification of transaction by Trading management authority (established by EPB); verification of emission by EPB
- ❑ quota payment fee (e.g. 2240 RMB/t, year for SO₂) + high transaction price (e.g. 20000RMB/t)
- ❑ Low transaction.



江苏省太湖流域主要水污染物排污指标交易平台

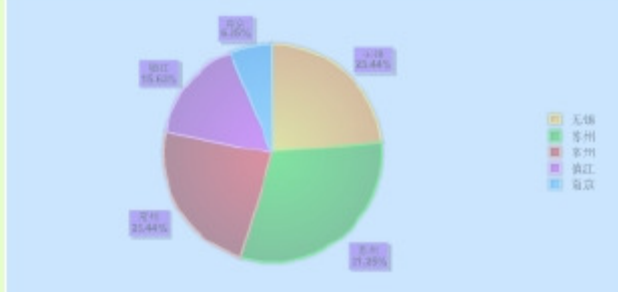
最新COD交易价格表



当月交易量及累计量



交易量比例图



有偿取得公告

more

行政区	企业名称	指标(吨)
南京市	南京红太阳股份有限公司	189.0

交易公告

more

出售单位	购买单位	交易数量(吨)
常州老三集团有限公司	南京红太阳股份有限公司	42.0

政策法规

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- 关于印发《江苏省太湖流域主要水污染物排放指标有偿使用收费管理办法(试行)》的通知
- 江苏省太湖水污染防治条例(新)
- 中华人民共和国水污染防治法
- 关于执行《水污染防治法》第73条和第74条“应缴纳排污费数额”规定有关问题的通知

Summary on pilot works

- More a Credit trading, rather than allowance trading

 - Each transaction has to be verified by EPB
 - Only permanent reduction is valid for trading
- More focus on compensation/payment for the use of environment, rather on allowance trading
 - Hot Primary market, cold secondary market
 - Local governments are active for the revenue (rent of the environment capacity)
- Legal support needed:
 - Payment for Emission (Charge) + Pollution Levy
 - Which level should get the rent?
 - Permit system need to be strengthened
- Multi-stratified management on SO₂ ETS (provincial, city, county)
- MRV has been improved

What can we learned from the MRV in SO2 emission trading program

□ Monitoring :

- Monitoring has been improved by TEC requirement and the pilot ETS
 - Self monitoring+ examination monitoring by county/city/provincial EPB at a frequency of no less than once every quarter
 - CEMs Data quality: Concentration data is good, the gas flow data is not accurate enough
 - Monitoring capacity is in short if all sources are included
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What can we learned from the MRV in SO2 emission trading program

□ Reporting

- Self-reporting monthly
 - Emission data reported to EPB, but multi data sets not consistent (btw emission reporting data and emission reduction data)
 - Not open to all enterprises, neither to public. Social supervision mechanism is not in place
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What can we learned from the MRV in SO2 emission trading program

□ Verification

- Transaction verification has been set up.
 - CEMs data quality checked every quarter
 - Emission verification frequency is not high enough for most sources controlled by county EPB;
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New progress

- March 22, 2012, announce carbon trading pilot in this year by NDRC...
 - Local pilot did not provide enough lessons for emerging into a national program
 - Energy statistics not consistent
 - Whom should be involved step by step?- depends on capacity of MRV
 - EPB's role?
 - Two separate trading system? Integration of SO₂ and CO₂ control
 - Relation with the carbon tax under discussion
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Thank you!
