Moving towards national wide domestic emission trading scheme (ETS) in China

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Outline

What We have done?

What we will do?

What we have learned so far?
What We have done?

Overview of Carbon Trading Pilot in China
7 ETS Pilots in China

Population: 20%, Energy: 25%, GDP (Gross Domestic Product): 33%
World’s second largest carbon market starts?

- Total volume of 2013 allowances of 7 Pilots is **1.24 billion tons**
- Rank 2\(^{nd}\) worldwide, behind EU ETS
Carbon Price Overview in the Pilots

Daily Price of Online Trading
(Yuan/ton)

- Shenzhen (SZA13)
- Shenzhen (SZA14)
- Shenzhen (SZA15)
- Shanghai (SHEA13)
- Shanghai (SHEA14)
- Shanghai (SHEA15)
- Beijing (BEA)
- Guangdong (GDEA)
- Tianjin (TJEA13)
- Tianjin (TJEA14)
- Tianjin (TJEA15)
- Hubei (HBEA)
- Chongqing (CQEA-1)

Compliance Deadlines
Accumulated Trading Volume (million tons)

- Shenzhen
- Shanghai
- Beijing
- Guangdong
- Tianjin
- Hubei
- Chongqing

Compliance Deadlines in 7 pilots

Compliance Deadlines in 5 pilots
• As of August 7, 2015, the total trading volume of 7 pilots is \(40.77 \text{ Mt}\), and the total value is 1.224 billion \(RMB\).
Trading Overview in the Pilots

Turnover Rate
(Spot Market Only)

- Shenzhen: 12%
- Beijing: 9%
- Hubei: 6%
- Shanghai: 2%
- Guangdong: 2%
- Tianjin: 1%
- EU-ETS: 2%
- RGGI: 5%
## Coverage of the pilots

<table>
<thead>
<tr>
<th>Pilots</th>
<th>Covered sectors</th>
<th>Threshold (tons)</th>
<th>Covered entities</th>
<th>Percentage of covered emission, %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shenzhen</strong></td>
<td>Industrial sectors (Power, Manufacturing, etc); Buildings</td>
<td>3,000</td>
<td>635</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Buildings</td>
<td>10,000 m²</td>
<td>197</td>
<td></td>
</tr>
<tr>
<td><strong>Shanghai</strong></td>
<td>Industrial sectors (Steel, Chemical, Petrochemical, Power, etc)</td>
<td>20,000</td>
<td>191</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>Non-industrial sectors (Airports, Ports, Hotels, etc)</td>
<td>10,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Beijing</strong></td>
<td>Power, Heat supply, Cement, Petrochemical, other industrial sectors, Service</td>
<td>10,000</td>
<td>415 (2013); 543 (2014)</td>
<td>49</td>
</tr>
<tr>
<td><strong>Guangdong</strong></td>
<td>Power, Cement, Petrochemical, Steel</td>
<td>20,000</td>
<td>184 (2013); 193 (2014)</td>
<td>50</td>
</tr>
<tr>
<td><strong>Tianjin</strong></td>
<td>Power, Heat supply, Chemical, Petrochemical, Steel, Oil and gas production</td>
<td>20,000</td>
<td>114</td>
<td>60</td>
</tr>
<tr>
<td><strong>Hubei</strong></td>
<td>Industrial Sectors</td>
<td>60,000 tce (Comprehensive Energy Consumption)</td>
<td>138</td>
<td>35</td>
</tr>
<tr>
<td><strong>Chongqing</strong></td>
<td>Industrial Sectors</td>
<td>20,000</td>
<td>242</td>
<td>NA</td>
</tr>
</tbody>
</table>
Characteristic of the pilots ETS

1、Starting price impacted the whole market in first compliance year

2、Market liquidity relates to the policy

3、Awareness and preparedness of covered entities influences trading

4、Trade volume in compliance duration takes great proportion

5、No direct linking between price and market liquidity

- Performance of first compliance year witnessed strong government involvement in ETS pilots
- Lack of price discovering mechanism
- Lack of transparency in terms of data availability
What We will do?

Outlook for National ETS
How to Evaluation the Carbon Market?

Evaluation criterion

1. Trade volume, market size, market liquidity?

2. Experience accumulated, system building, Capacity Building, Awareness Raising?

Road map of National ETS

Bottom up, Regional ETS link to national wide (from Pilot to National ETS)

Top down approach, national overall design
National ETS is Accelerating

- Newly announced timeline is 2016, faster than what expected earlier

- ETS system design is under way in a well coordinated manner. Major notable progress achieved in terms MRV, registry and CCER. First national ETS regulation outlined structure and outline of the national carbon market.

- Trading commodities and market supervision are under close watch by China Securities Regulatory Commission. Objective is clear for introducing carbon futures trading.
Estimation of National Carbon Market

- Emission: 3~4 billion tons
- Carbon Futures: 60~400 billion RMB
- Carbon Spot: 1.2~8 billion RMB
- Carbon

Futures: 60~400 billion RMB

Emission: 3~4 billion tons

Carbon Spot: 1.2~8 billion RMB
Roadmap of National ETS

**National**
- 2014
  - draft proposal of National ETS Regulation
  - release MRV guidelines
  - strengthen infrastructure building
- 2015
  - release National ETS Regulations
  - promote history data reporting and verification
- 2016-2019
  - Phase I:
    - launch of National ETS implementation
  - annual allocate allowance
- After 2019
  - Phase II:
    - expand coverage
    - improve ETS
    - research linkage to international ETS

**Local**
- organize capacity building
- identify key enterprise list and organize history emission reporting and verification
- allocate allowance based on national rule
- annual reporting, verification and compliance
- involve in national ETS improvement and innovation based on local situation

**Enterprise**
- participate in capacity building
- develop internal carbon emission accounting and reporting system
- fulfill reporting obligation and cooperate on verification
- fulfill emission reporting and compliance obligation
- Non-covered enterprises could also get involved in carbon market through CCER trading
- improve carbon assets investment and management
- voluntarily participate in carbon market trading and decrease emission reduction costs
- involve in ETS improvement and innovation
What We have Learned so far?

Some of our experience & Lessons
What we have learned so far?
--in General

- Learning by doing, there's still a long way to build capacity
- Infrastructure, e.g., Registry, MRV, benchmarks, is essential
- No best, only suitable
- Practice is more important than theoretical & academic discussion
- Early progress in pilots gives confidence for establishing the national ETS
What we have learned so far?
--Scope & Coverage

- Scope 1 (Direct emission) and Scope 2 (Indirect emission from electricity) are all included in the 7 pilot ETS, it is an innovative practice of ETS worldwide.

- 40% to 50% coverage of total emission seems to be better than less or more, especially at beginning.

- The principle of twenty/eighty (20% to 80%) could also be found in China ETS, more focus should be put on 20% largest emission sectors or companies, that is why the phase 1 of national ETS will only cover 5 (Plus 1 or 2) largest emission sectors such as Power, Metal, nonferrous metals, chemical industry, build material.
• *No Cap, No Trading* is a very important principle in ETS, but it is Not always right: there is no principle that could be applicable everywhere since ETS is still too young to our world.

• The carbon price should be determined by the market (an invisible hand), it is very difficult to set effective market control mechanisms since it is very hard to set the boundary between government and market, especially at the very early stage of China ETS.
What we have learned so far?
--Allocation Methods

- Grandfathering Type II (Based on historical carbon intensities) seems better than Grandfathering Type I (Based on historical emission) to avoid Windfall Profit, especially in energy sectors.

- Benchmark is a good allocation method, it can be combined with Grandfathering method.

- Ex-post adjustment could be adopted in some sectors considering their actual productions changed a lot, which could avoid too much surplus allowances.

- Auction based allocation method should not be encouraged at initial stage of ETS.
Thank you for your attention!

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