The development of the carbon market in China

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Introduction and Background

- Rapid Economic Growth ➔ Population Growth
- Pollutions (GHG) ➔ Global Warming
Introduction and Background

- Kyoto Protocol
- Established a trading system for greenhouse gas emissions worldwide
- China, which produces one-fourth of the world's carbon-dioxide pollution, signed the Kyoto Protocol on 29\textsuperscript{th} May, 1998
What is the Carbon Market?

• How does it work?
Overall of the Carbon Market

- **Primary carbon market**
  - Companies & Government

- **Secondary market**
  - Companies & other market participants
Overall of the Carbon Market

- **Liquidity**
  - Trade domestically and internationally

- **Regional**
  - No globally unified carbon market

- **Fast growing market**
  - Total volume of project-based transactions and allowances is US$ 63 billion in 2007, and total value transacted US$ 126 billion in 2008 (Doubled)

Statistics from the World Bank
• Economic point of view - Cap and trade

Extra Allowances (permits)
Extra Emissions

CO₂

Mitigation Cost

Emissions

E1 E Cap E2 E Max

(Free + Paid)
• Overview of the Carbon market
Case study - Carbon Market in China

- Chinese government approved seven pilot emission trading scheme in October 2011.

Five Cities: Shenzhen, Beijing, Tianjin, Shanghai and Chongqing

Two Provinces: Guangdong and Hubei
## Carbon Market in China

<table>
<thead>
<tr>
<th>Emission Trading Scheme</th>
<th>Lunching Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shenzhen</td>
<td>18\textsuperscript{th} June, 2013</td>
</tr>
<tr>
<td>Shanghai</td>
<td>26\textsuperscript{th} November, 2013</td>
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<tr>
<td>Beijing</td>
<td>28\textsuperscript{th} November, 2013</td>
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<tr>
<td>Guangdong(Province)</td>
<td>19\textsuperscript{th} December, 2013</td>
</tr>
<tr>
<td>Tianjin</td>
<td>26\textsuperscript{th} December, 2013</td>
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<tr>
<td>Hubei(Province)</td>
<td>2\textsuperscript{nd} April, 2014</td>
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<tr>
<td>Chongqing</td>
<td>TBD (near future)</td>
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</tbody>
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- China is still at the infancy stage
Carbon Market in China

- Chinese government wants to cut the carbon intensity by 40%-45% per GDP CO2 emit by 2020 compared to 2005 levels.
- Shenzhen ETS
  - Covered 635 industrial companies, which emitted 31.7 million tons of carbon dioxide in 2010
  - 200 public buildings
  - Total trading volume of CO2: 200,000 ton, with accumulated trading amount of $6.5 million until March, 2014
Carbon Market in China

- How to set the cap?(Shenzhen ETS)
  - An electronic system, which automatically give the carbon emitting quota(cap)
  - Shenzhen Notary public Office is participating during whole process
  - Since the market is still in the beginning stage, most of the quota is free
Carbon Market in China

- Carbon Price (on average on 2\textsuperscript{nd} April)
  - 79.97 Yuan/ton($12.898) \quad \text{Shenzhen CEEX(China Emission Exchange) Total 1929 ton Carbon emissions traded}
  - 57 Yuan/ton($9.177) \quad \text{Beijing CBEEX Total 700 ton Carbon emissions traded}

- Carbon Price in Australia during 2013/14(fixed)
  - 24.15 Australian dollar($22.29)
pros

- Efficiency (Ex: companies reduce emission by using clearer way to produce)
- Government revenue (Ex: Auction for the allowances)
- Use the economic way to solve the environmental problem
**pros**

- More CDM projects (Clean Development Mechanism)
- Under the protocol Mechanism
- Project-based market
- Win-win for both sides
- There are 1385 approved CDM projects in China (ex: wind power station)
**Cons**

- Encourages coal and oil industries use more than before due to the cheap carbon permits
- Carbon offsets encourage companies to cheat
- Chinese Market structure and Trading system remain to be perfected
Solutions

I. Human Resources
II. Encourage more companies to join the market
III. Establish related policies and laws for the carbon market
Barriers

I. Lack of Sufficient Human Resources
II. Companies are lack of awareness of emission market
III. Lack of Legal Policy Support System
Recommendations

I. Training Plan for Key Personnel
II. Increase Publicity and Education to Promote Energy-Saving Emission Reduction
III. To Perfect the Legal System and Strengthen Market Supervision
The End

Thank you!