China’s national emissions trading program

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Policy measures for addressing CO\textsubscript{2} emissions

- National energy conservation program
  - Targets + subsidy

- Measures for renewable energy
  - Targets + Feed-in tariff + Electricity surcharge/tax

- Electric vehicles program
  - Targets + Subsidy

- Energy performance standards for
  - Power generation sector
  - Manufacturing sector
  - Building sector
  - Transportation sector

- Energy taxes
  - Fossil resources tax
  - Transport fuel tax

- Public R&D supports
  - Central government
  - Local governments
Major policy gaps and/or deficiencies

- There is a lack of *a primary carbon pricing policy* program for addressing climate change;
- Market-based energy policy: Too much reliance on subsidy
  - Public finance sustainability
  - Cost-effectiveness
  - Fairness/equity
- Command-and-control policy: deficiencies in implementing energy performance standards
  - Inadequate MRV
  - Insufficient punishment for non-compliance
The recent development of energy and climate policy measures is featured by “trading”.

- **Renewable energy policy**
  - Transit from feed-in tariff to feed-in premium;

- **Electric vehicles program**
  - The subsidy from the Central Government is to be phased out in 2020
  - An approach similar to that adopted by California is under discussion

- **National energy conservation program**
  - Subsidy was terminated by Ministry of Finance in 2013;
  - Energy permit trading program has been considered

- **National emissions trading program**
  - Was launched in December 2017 and is under construction
Some unique circumstances for China’s national ETS construction

- **Emissions**
  - *Over 70%* of China’s energy-related emissions come from energy sectors and manufacture sectors;
  - *Over 70%* of China’s electricity is used in manufacture sectors;
  - Approximately *50%* of China’s coal is used in the power generation sector.

- **Energy market conditions**
  - The price of electricity, heat, natural gas, gasoline and diesel is heavily regulated;
  - The increased mitigation costs in these energy sectors are difficult to be passed on the users and consumers.
China’s national ETS: an overview

Coverage
- 8 sectors covering the power sector and the main manufacturers:
  - electricity/heat, iron & steel, non-ferrous metal, construction material, petrochemical engineering, chemical engineering, and civil aviation.
- Emission: *direct emissions* from the burning of the fossil fuels and *indirect emissions* associated with the uses of electricity and heat.

Threshold
- Threshold: 26000 tons CO2 emissions per year
- Number of enterprises regulated: approximately 7500
- Total emissions (direct): *4.5 billion tons* or a half of China’s total energy-related emissions

Allowance allocation methods
- Primary allocation method: *Output-based free allocation*
- *Auction* is to be encouraged.
China’s national ETS is essentially a multi-region and multi-sector tradeable performance standard (TPS)

\[
\text{CAP} = \sum_{i=1}^{M} \sum_{j=1}^{N} S_j \times Q_{ij}
\]

Where

- \(S_j\) — The national emission performance standard for sector \(j\);
- \(Q_{ij}\) — The actual physical output of sector \(j\) in province \(i\);
- \(M\) — The number of the provinces and/or cities covered by ETS; and
- \(N\) — The number of the sectors covered by ETS.
Example: the approach for setting a sectoral benchmark or performance standard.
It will start with the *power generation* and ultimately extend to 8 sectors, covering one half of China’s energy-related carbon emissions by 2025.
Some issues to be addressed

- ETS legislation
- Construction of ETS platforms
  - Trading platform
  - Registration
- ETS design
  - Sectoral benchmark development
  - Innovative auction options
  - Market stability mechanisms
  - Offset mechanisms
  - Integration of regional pilot ETS with the national ETS
- New capacity building
  - Training of provincial and local climate change governmental officials
Thank you for your attention.

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