Status and Challenges with Monitoring Facility-level GHG Emissions in China

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PARTNERSHIP FOR MARKET READINESS

3RD REGIONAL MRV TECHNICAL TRAINING

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1. Status of GHG Monitoring in China
2. Policy Objective
3. Legal and Institutional set up
4. Key features of the methodologies
5. Experience of developing monitoring guidelines
6. Lesson learned

Two dimensions of GHG MR program

National level

- Guidelines development ongoing: 10 sectors finished; 8 + 4 in pipeline
- Governmental notice released to commence GHG reporting Monitoring and reporting; limited progress on the local level

Pilot Level

- As part of pilot carbon market
- All pilots have completed GHG monitoring and reporting for the historical emission
- Most pilots completed the first compliance cycle

2. Policy objective

- Fully understand facility-level GHG emission status
- Prepare for the upcoming National Carbon Market

National Scheme

- Essential element of Carbon Market
- Fundamental to emission reporting, allowance allocation, benchmarking

Pilot Scheme

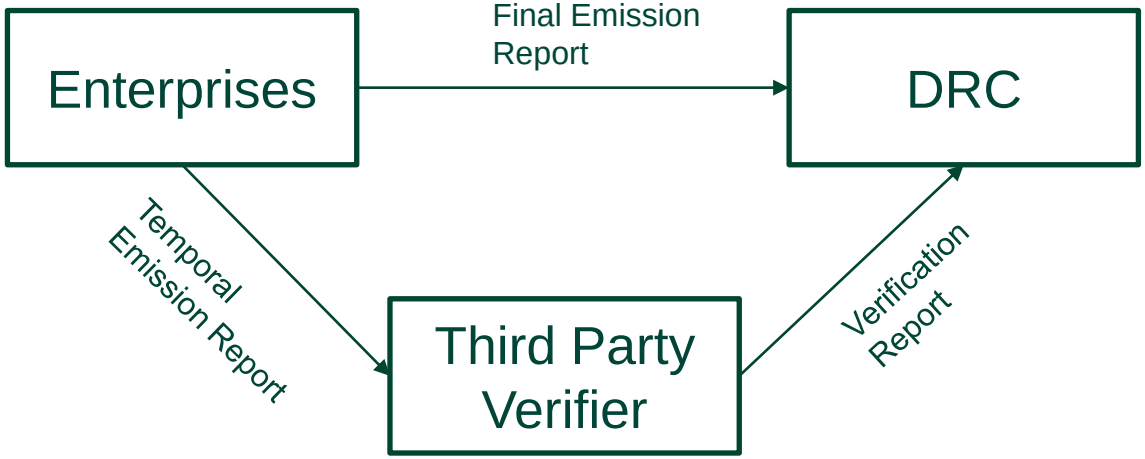
3. Legal and Institutional set up

Legal Basis

- Governmental notice- “Launch of the GHG Reporting on Enterprise Level”
- Pilot Regulations

Competent Authority

- National/Local Development and Reform Committee (DRC)



National Scheme

- Boundary
  - Gas type: CO_2/CH_4/N_2O/HFCs/PFCs/SF_6
  - Organizational boundary: Legal Person; Production and operating activities
  - Emission sources: Fossil fuel combustion; Process emission; waste management; indirect emission (electricity and heat)

- Quantification Methodology
  - Calculation-based
  - Standard method & Mass balance method

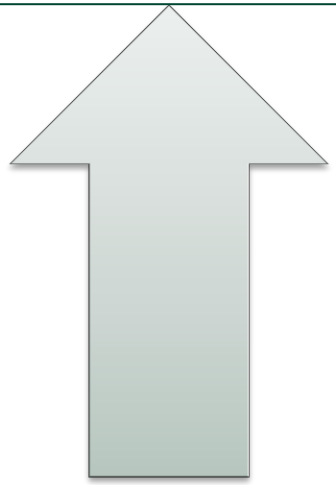
Pilot Scheme- Boundary

- Shenzhen and Hu bei: Organizational and operational boundary
- Other pilots: legal person

Emission source:

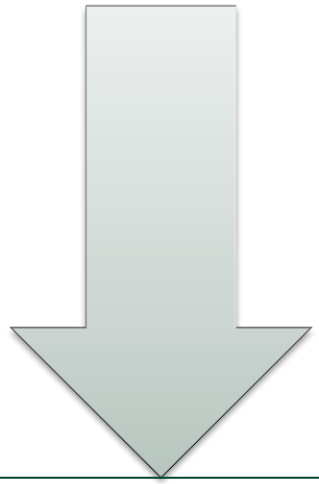
Direct emission	Common	Exclusion
Combustion	All	
Process	All	
Waste treatment		TJ, SH, SZ, HB
Mobile source		BJ, GD
Indirect emission		
Electricity	All	
Heat		BJ

Pilot Scheme- Methodology



Calculation-based

- All pilots
- National MRG



Measurement-based

- Beijing, Shanghai
- Guangdong, Shenzhen

Pilot Scheme- Data quality

Fixed requirement (except SZ)

- Activity data
  - Derived from log book
- Emission factor
  - Measure (mandatory for some sector)
  - Default
- Indirect emission data
  - Activity data: Invoice/receipt
  - Emission factor: default

Tier approach (Shenzhen)

- Similar to the EU ETS
- Set out data tiers
- Prioritize higher level
- Provide reasons to apply lower level

Case study-Power sector

- Built upon experience of EU ETS, US EPA, IPCC and WRI's GHG Protocol
- Output:
  - Setting Boundary (Installation/Operational/Organizational)
  - Accounting choice (Calculation-based/Measurement-Based)
  - Emission Source (Scope 1/ Scope 2; Desulfurization, Flare)
  - Quantification Methodology

Case study-Power sector

- Adapting to the Chinese context

Experience abroad

- Legislation plus guidance
- Tier approach
- Emission factor

- Guidelines/Standards/Regulation
- Non tier approach
- Not fitted in China

6. Lesson learned

Key issues

- Stakeholder engagement

- Technical challenges
  - Boundary determination
  - Methodology development
  - Acquisition of parameters for calculation
  - Acquisition of evidence for cross check

Thank You

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