

Framing Effective Mitigation Through Sectoral Approach

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I. What is Sectoral Approach?

Basic Concept:

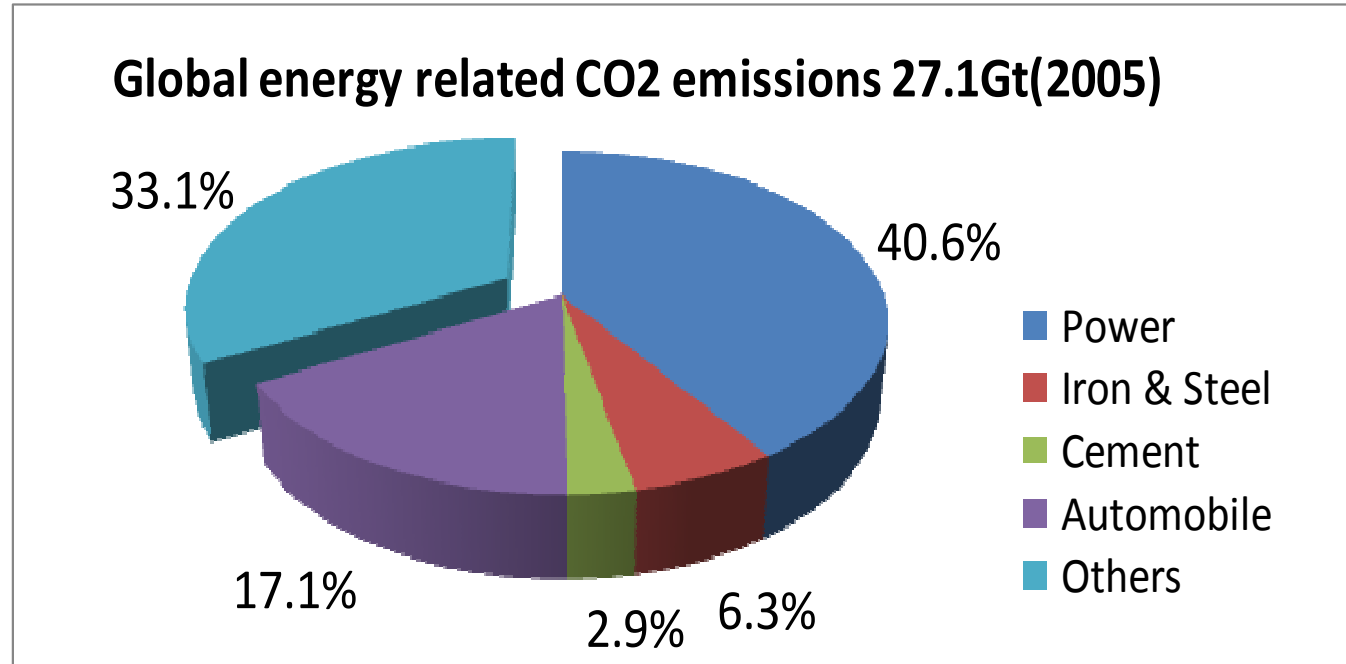
- CO2 emission in major industrial sectors cover approximately 70% of total CO2 emission.
<Major sectors> Power, Iron & Steel, Cement, Automobile
- CO2 mitigation can be achieved by efficiency improvement and wider use of non carbon energy in each sector.
- Mitigation efforts can be measured by CO2 intensity and its benchmarking
<Examples of intensity> CO2 per ton of steel, Thermal efficiency of coal power plant, CO2 per kWh, fuel efficiency of vehicle

Multiple Characteristics of Sectoral Approach:

- Technology based approach
- Bottom-up approach
- Transnational approach
- Industry-based approach

II. Which Sectors?

SA covers sectors of which CO2 emissions account for large share in the global CO2 emissions.



Source : IEA, "CO2 Emissions from Fuel combustion 1971-2005," etc₃

III. Sectoral Approach and Leakage

Preventing Leakage

- Without a common sectoral benchmark, manufactures simply move their operations to countries with less strict emission reduction obligation.

Creating Legitimate Incentives for Emission Reduction

- Many manufactures have no alternative production measures through which they can achieve substantial emission reduction.
 - ✓ Power sector can reduce emission by shifting fuel while iron/steel sector doesn't have such alternatives.
- With fair and achievable targets, manufactures can justify their continuous efforts of emission reduction. Otherwise, they simply buy cheaper credits or move their operation.
 - ✓ It could create big impacts on “corporate attitude” in the long run.

EU-ETS Phase 3 applies Sectoral Approach to benchmark setting for sectors exposed to leakage risk.

IV. How to Develop Ideal Global Benchmark?

Experience of APP (Iron & Steel TF)

- Asia-Pacific Partnership promotes sector-specific cooperation among 7 countries including China and India.
- Concrete “down to ground” cooperation projects could create good opportunities for confidence building and data correction.

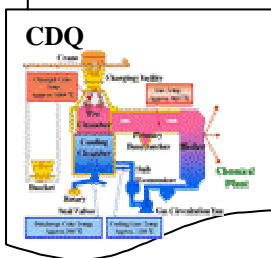
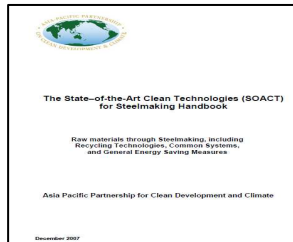
Compile the State-of-the-Art Clean technologies (SOACT) for Steelmaking Handbook .

Estimate CO2 reduction potential based on BAT/BP.

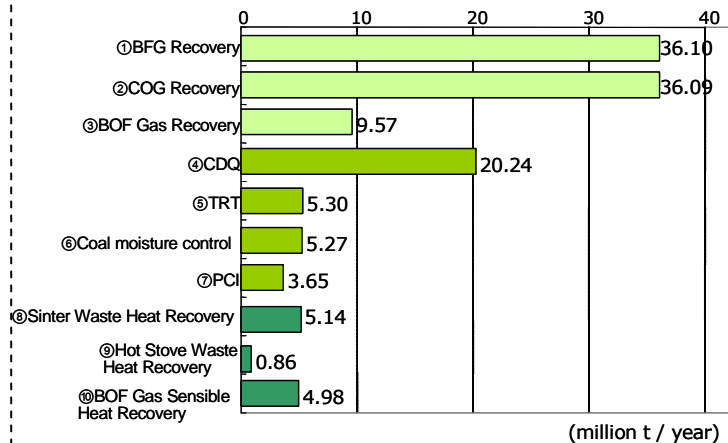
Dispatch experts to steel plants for appropriate advice

Determine the priority of technology for transferring.

Guideline for SOACT deployment



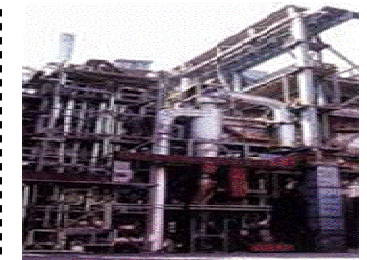
64 technologies



CO2: 127 M ton/year by 10 key technologies



- Performance diagnosis in FY2007&2008
 - 3 plants in China
 - 3 plants in India



Chinese steel plants are installing technologies* based on the performance diagnosis' advice. 5

- Develop the guideline for SOACT deployment

*E.g. Flue Gas Cleaning System for sintering machinery exhaust gases

V. Future of Sectoral Approach

- Develop Sectoral approach as essential foundation for implementing the Copenhagen Accord; MRV, Technology Mechanism, Finance Mechanism etc
- Sectoral Approach is an effective measure to ensure comparable efforts within a competitive sector.
- Creating comparable and effective sectoral intensity benchmarks, enabled by reliable data collection on a sectoral basis, is the key for successful implementation.
- Experience of setting benchmarks for sectors with leakage risk under EU-ETS Phase 3 would provide good lessons.