

Where Air and Power Sector Policies Intersect in a Carbon Constrained World

How China's Clean Air Law Can Integrate Energy and Environmental Regulation

International Workshop on China's Clean Air Act

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Power Sector Overview

- Energy + Environmental policies inextricably linked
- Power sector is the largest stationary source of air pollution, growing rapidly
- Earliest stages of reform, type of restructuring and market rules still pending
- Global experience shows restructuring raises huge environmental risks and opportunities



Opportunities for Environmental Regulation in Power Sector Reform

- Restructuring will affect the use and value of new and existing power plants
 - Changes provide risks and opportunities
- Restructuring will affect investment in DSM
- Environmental policies should support good energy policies, i.e., differential pricing, EPP, EPS, IRP, etc.



Air Quality Management in the Era of Climate Change

- Global trend toward a climate change framework for the power sector
- Requires central MEP engagement in energy sector policy
- Critical opportunity to lay groundwork in the Clean Air Act



Good Record of E+E Policies in China

- Generation Performance Standards
 - g/kWh basis rewards efficiency
- Removing disadvantages to clean generation
 - Pilot markets compensate FGD



Good Record of E+E Policies in China

- Environmental Dispatch
 - Load clean plants first
- Shared Emissions Data
 - Real-time emissions data sent to MEP and SERC
- Retiring Coal Plants
 - Closing small dirty plants
 - Operating life enforced for medium plants



Additional Steps for MEP

- Stringent pollution controls for existing plants
 - Reduce competitive advantage of the grandfathering effect
- Support comprehensive carbon control in power sector
 - Support policies that address carbon directly; EPPs, MMS, etc.
 - Cap-and-trade design



Additional Steps for MEP

- Environmental policies for other coal users
 - Promote CHP and polygeneration
- Multi-pollutant output based standards
 - SO₂, NO_x, PM, Hg, CO₂
 - Greater cost-effective planning and investment decision making



Additional Steps for MEP

- Policies that integrate energy and environmental rules
 - Enhance implementation and enforcement
 - Power market system operator as central coordinator of environmental regulation



International Lesson #1: Multi-Pollutant Approaches

- Multi-pollutant regulatory framework
 - SO₂, NO_x, PM, Hg, CO₂
 - Especially with CO₂ regulation trends, tax or cap
 - More cost-effective than a pollutant-by-pollutant approach
 - Enhances long-range macro planning
 - MORE



Int'l Lesson #2: GHG Emissions Performance Standard (EPS)

- China's small plant closure policy is essentially an efficiency standard for existing coal plants
- Adopt continual tightening of standards for existing power plants AND expand to new power plants
- International trend is for EPS minimum performance standard for power plants



Int'l Lessons #3: Developments in California Climate Action

- Recent progress implementing AB32:
Portfolio Approach
 - Invest in all cost-effective EE
 - New grid company business model
 - Aggressive RPS, 20% by 2010, 33% by 2020
 - LASTLY: Economy wide cap-and-trade



U.S. Regional Cap-and-Trades: RGGI

- Effective Jan 1, 2009
- First Auction Sept 25, 2008
 - 6 out of 10 states
 - 12.5m allowances
 - \$3.07 clearing price
 - \$36.8m generated
- 70-100% of proceeds earmarked for energy efficiency investment
- Next auction Dec 10, 2008; quarterly auctions as of 2009



Recommendations for China's Clean Air Act

1. Establish a multi-pollutant framework, including CO₂ and other GHGs
2. Create and fund strong institutional links with policymaking and implementation divisions of NEB, MEP, SERC, NDRC, etc.



Recommendations for China's Clean Air Act

3. Establish specific environmental mandate in power sector reform, regulation, and pricing
4. Adopt comprehensive pollution prevention measures, including energy efficiency, renewables, CHP, low carbon policies, output-based EPS for electricity generation



Recommendations for China's Clean Air Act

5. Consider a practical “Carbon Path” or a trajectory of GHG emissions across regions and sectors, long-term horizon, with incremental, disaggregated goals