



Center for
Clean Air Policy

Trading Programs for the Copenhagen Accord and Beyond

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Outline

- | Copenhagen Accord
- | Cap-and-Trade in Annex I (advanced economies)
- | Emission Trading in Developing Countries
 - » China
 - » India
- | Linking Intensity Trading to International Markets
- | Transition to Linked Cap-and-Trade

Copenhagen Accord

- | Agreed to by 119 countries plus EU
- | Annex 1: 2020 emission reduction targets
- | Annex 1: \$30 bn by 2012, \$100 bn/yr by 2020
 - » Includes new Green Climate Fund & private sources
 - » Role of carbon markets not spelled out
- | Developing countries:
 - » mitigation goals,
 - » increased reporting,
 - » Nationally Appropriate Mitigation Actions (NAMAs) subject to international verification (MRV) when supported by Annex 1

Cap-and-Trade in Annex I

- | EU ETS operating since 2005
 - » Switzerland (now with hybrid tax/cap may join)
- | US (and Canada): national ETS uncertain; sub-national systems underway and developing
- | Japan:
 - » Tokyo: carbon trading, relative to standards, began this month,
 - » National bill options (emissions, intensity, or tax)
- | Australian system yet to pass Senate
- | New Zealand:
 - » forestry since 2008 with cap for pre-1990 forests
 - » energy, industry, transport begin in July; ag in 2011

Emission Trading in Developing Countries

- | Mexico: expected by 2012 for the publicly-owned electricity and oil industries
- | South Korea:
 - » Public companies in Seoul begin trading this month, relative to standards
 - » National trading by 2012 and (target setting now underway for over 600 private firms)
- | China, India: some interest, but perhaps without emission caps

Emission Trading in China

- | SO2 trading across several provinces since 2002
- | Tianjin exchange:
 - » Partner with Chicago Climate Exchange
 - » SO2 & Chemical Oxygen Demand (COD) since 2008
 - » Trading in building efficiency credits by June
- | Beijing exchange building carbon trading platform with BlueNext
- | Shanghai exchange initiating trading in SO2 and COD
- | Role for trading in China's goal of reducing emission intensity 40-45% below 2005 level by 2020?

India's Mitigation Plans

- | India's goal: GHG emission intensity 20-25% below 2005 by 2020
- | National Climate Plan of 2008: goals for renewables, energy efficiency, etc
- | Trading programs for:
 - » Renewable Energy Credits (RECs)
 - » Energy Saving Certificates (ESCerts)

Background on India's Power Sector

- | After independence: under a 1948 law, power sector nationalized, largely run by state governments
- | Persistently inadequate power production amidst subsidies for consumers and agriculture
- | Since early 1990s, increased support for private generation, and especially renewables (wind)

Renewables in India's 2008 Plan

- | Goals for renewables share:
 - » 5% in 2010
 - » Rising to 15% by 2020
- | States must impose these or stricter targets on electricity distributors
- | Distributors may comply by purchasing renewable energy certificates

India: Renewable Certificate Trading

- | Ministry of New and Renewable Energy identifies eligible types of renewables
- | Renewable generators get certificate for each MWh as metered by state
- | Generator may sell electricity with certificate at existing feed-in tariff rate or
- | Sell electricity and renewable certificate separately (using power exchanges)

India: Energy Efficiency Trading

- | 714 large plants in 9 sectors:
 - thermal power, fertilizer, cement, iron and steel, aluminum, pulp and paper, textiles, soda ash, and railways:
- | Each plant: a 3-year energy intensity reduction norm
 - » Least efficient firms to make greatest improvements
 - » Certificates (toe) traded around these norms
- | Intensity measures audited and cross-checked with tax and other government data
- | Certificates traded on power exchanges, perhaps exchangeable with RECs
- | Additional sectors to be added in second period (refineries, chemicals, sugar, airports, seaports)

Linking Intensity Trading To International Carbon Markets

- | Compared with India's program, need to:
 - » Convert energy measure to emission intensity
 - » Scale up norms to sectoral intensity baselines (implying more winners and losers)
- | Intensity baselines used to earn international sectoral offset credits
- | International credits as internal enforcement device
 - » Avoids need for a separate domestic certificate
 - » Provides more stable international market

Advantages for Developing Countries of No-Lose Linked Intensity Trading

- | Firms exceeding intensity baseline:
 - » pay their government only for emissions above baseline
 - » Less effect on marginal cost of output than cap-and-trade
- | Firms that beat the baseline:
 - » Earn a credit for each ton below (unlike simple no-lose pass-through approach)
 - » Can finance projects with forward sales of credits
- | Firms face the full international carbon price to motivate emission abatement
- | Production incentive favors firms beating the baseline

Intensity Trading: A Transition to Linked Cap-and-Trade?

- | Experience with linked trading based on intensity baselines
- | Eventual system: emission caps with linked allowance trading
- | Developing countries get extra allowances; sell them instead of offset credits
- | All firms face
 - » same marginal cost of carbon;
 - » full carbon cost effect on output prices
 - » but a leveled carbon playing field

Thank you!

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