

Markets as Enablers of Technology Transfer



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Emergence of Carbon Markets & Climate Change

- Market incentives can be used to meet objectives set by an international agreement (Kyoto Protocol)
- Role of markets as a source of solutions on global climate change is now universally recognized
- Markets encourage business community to turn problems into opportunities
- Markets key to establishing and development of **renewable energies**
- Stop states to impose inflexible regulation and prohibitions
- Allows companies to pursue state-imposed targets however they see fit

What is Green Trading?

Convergence of

- Emission reductions
- Renewable energy
- Energy efficiency

Can be defined as:

Green trading is the mechanism that helps in generating market-based incentives, and is the financial mechanism that makes it possible for markets to meet the goals of deployment of new, cleaner technology to meet rising demand for electricity, transportation, heating and cooling applications at the global level.

Market Drivers for Clean Technology Investment

- High energy prices
- Energy security
- Rapid technology shift
- Need for energy reliability
- Growing environmental concern

Barriers for Clean Technology Investments

- Rapidly changing technology
- Costs and payback periods
- Lack of economies of scale
- Non existence of a vibrant market
- Uncertainty related to policies
- Marketability of project based carbon credits
- NO reference price

Adoption of Clean Technology - What will this require?

- Awareness raising programs at national level
- Engaging private sector companies and financial institutions
- Need to develop and implement better ways of building capacity
- Rapid growth in the entrepreneurship
- Instituting efficient market systems

Role of Markets in facilitating Technology Transfer



- Getting the policy framework right
- Private sector involvement (both large scale industries & small and medium sized enterprises)
- Financing institutions come forward (need for change in the way lenders consider CDM investments)
- Increased entrepreneurship
- Easy Marketability of carbon credits
- Pricing of carbon credits
- A market place for trading parties
- Rationale decision between allowances and project based carbon credits (JI & CDM)

- Fragmented market
- OTC trade and lack of price transparency
- No efficient spot market
- Lack of price awareness among sellers
- Need for a vibrant futures market to hedge against price risk
- Lack of capacity building
- Dominated by small and medium scale projects
- Approaches have so far not been not been very systematic
- Largely focused on short-term convention related actions
- Not building sustained national capacity to deal with climate change
- Requires participation of various public and private sector stakeholders

India comes second after China in terms of primary CDM annual volumes transacted for the year 2007

Risks in CDM

- Project risk
- Delivery risk
 - Quantity deliverable
 - Timely delivery
- Price risk
- Credit risk



Futures Market & Market Vibrancy



- Better price risk management
- Better price discovery
- Encourages banks and financial institutions to come forward and finance projects
- Differential interest rates if project participants opt for price hedging mechanism
- Better decision-making by stakeholders with future price signals
- Increased supply chain efficiency as exchanges act as an alternative platform
- Help plan and take long-term projects through future price signals

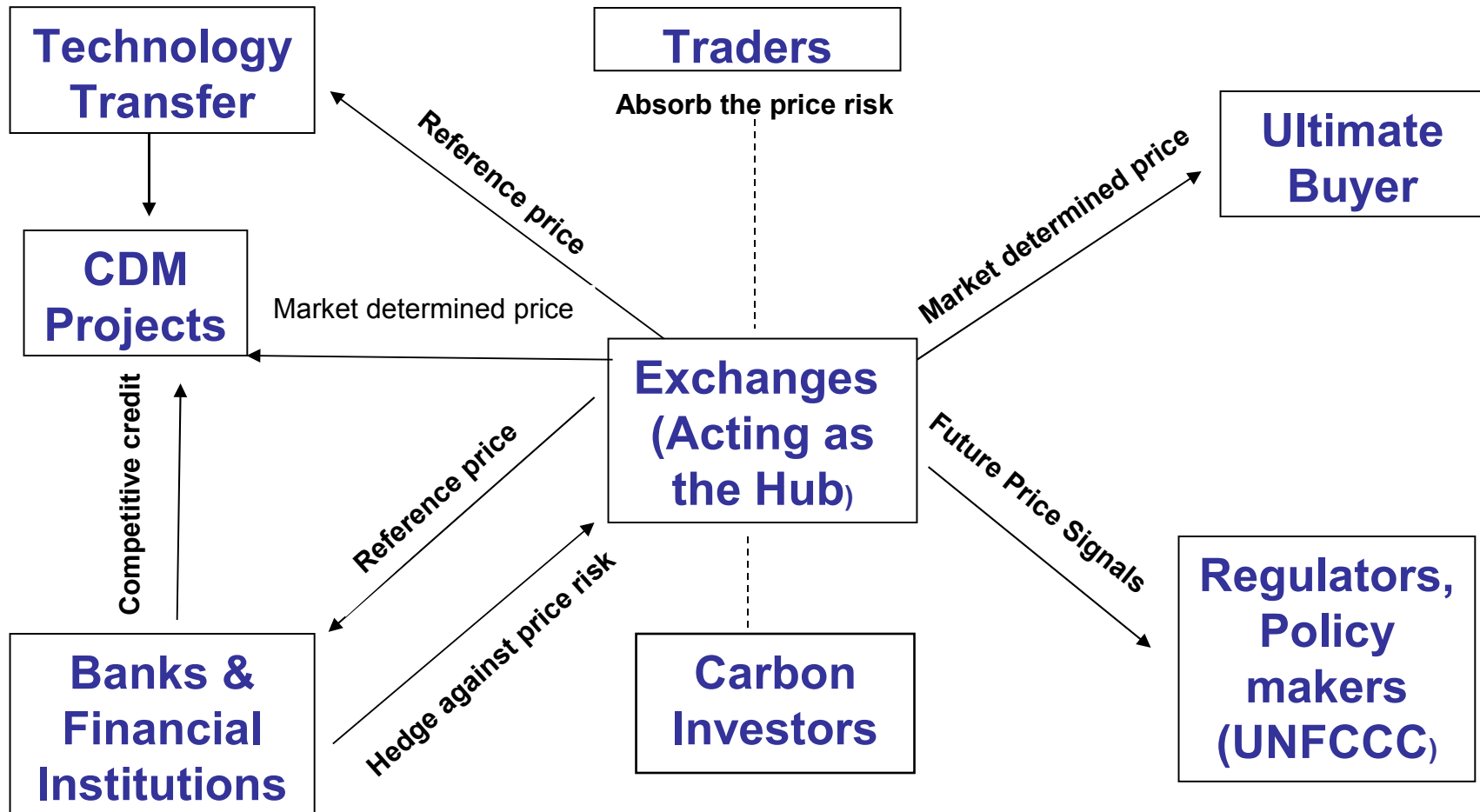
Role of Exchanges in Carbon Trading in India



- Provides a reference price
- Links buyers and sellers
- Increased awareness among CDM project participants with regard to markets
- Capacity building is encouraged
- Place to sell CERs
- Well established market encourages increasing entrepreneurship
- Links India Carbon Market to Global CDM Community
- Increased comfort levels for both sellers and buyers
- Provides value chain for optimizing real time returns
- Effective tool for transacting carbon assets (cost, efforts, standardization)
- No credit risk
- Credibility of price

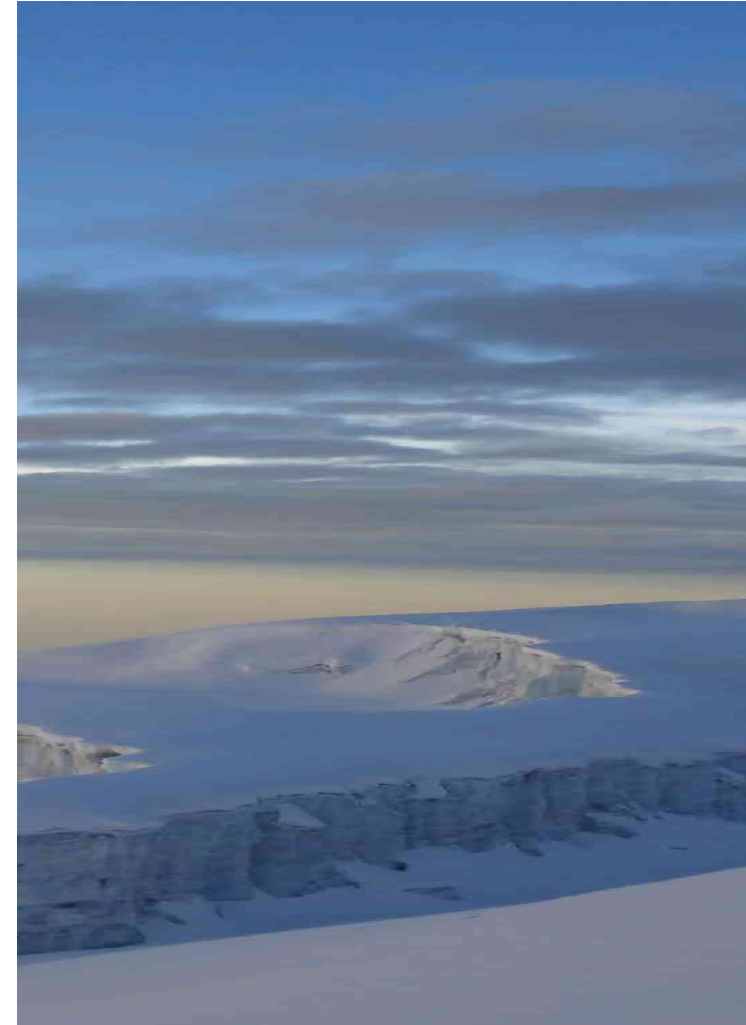
Exchange – Acting as Hub

(After the advent of Exchanges)



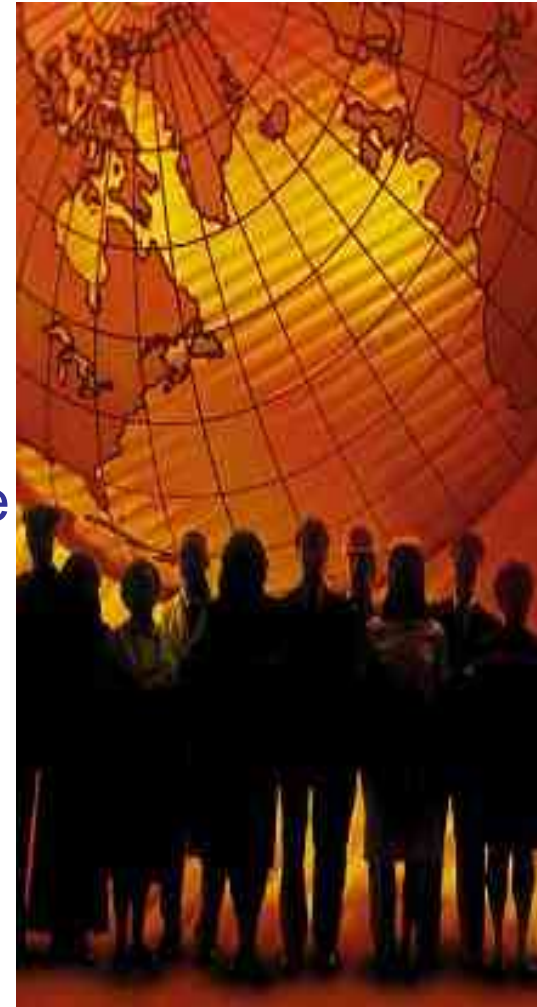
Trading Features in an Exchange

- Automated screen-based trading
- National reach
- Order driven trading system
- Transparent, Objective and Fair system of order matching
- Identity of the trader undisclosed
- Daily Turnover limits for Buy and Sell for each User linked to deposit
- Flexibility in placing orders
- Complete Online Market Information
- Square-off facility



Why MCX?

- Designed to offer an advanced, standardized and financially guaranteed tool
- Cost-efficient trading & risk management opportunities
- MCX alliance with the Chicago Climate Exchange (CCX)
- First exchange traded environment product in the Indian Subcontinent
- Timeline matches with Western markets
- Compliment natural gas and crude oil contracts
- No forex risk
- Futures prices serve as world reference prices



MCX initiatives in Carbon Trading



- First & only Indian Exchange to enter into a strategic alliance with an International Exchange of Emission Credits
- On 20 Sept, 2005, MCX stroked a Licensing Agreement with the Chicago Climate Exchange (CCX), which has majority stake in the European Climate Exchange (ECX)
- MCX launched mini-sized versions of Carbon Financial Instruments (CFI) as traded on ECX on 21 January 08
- These mini-CFI are the first exchange traded environment product in the Indian Subcontinent
- MCX launched CER contracts on 09 June 08
- Designed to offer the Indian community an advanced, standardized & financially guaranteed tool to participate in the global emissions marketplace

Thank You