State and Trends of the Carbon Market 2007

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World Bank

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A market

Market characteristics:

- Like Goods and/or services bought and sold e.g. housing market
- Demand and supply determines price and expectations
- Different Segments, e.g. flat or house
- Pricing varies based on characteristics (e.g. location, size, quality)
- Requires ancillary markets, e.g. finance, insurance, electricity, plumbing
- Regulation; protection against fraud
Methodology

This study is based on the following:

– Analysis of the **World Bank’s confidential project database**;
– **Interviews with market players** (natural buyers (Europe & Japan), fund managers, developers, sellers, DNAs, private equity funds, hedge funds, banks, traders & brokers), assisted by **Natsource**;
– A comprehensive **review** of published literature;
– Cross-reference with **IETA market sentiment survey**.

Project database includes:

– **More than 930 project-based transactions** (ERPAs signed)
– Completeness of information >90% in all fields except on exact terms and price of transaction >60%.

Aggregate data on allowance markets:

– From **major exchanges and OTC sources**.
Global Carbon Market Triples

Overall
US$ 30 billion (‘06) > US$ 11 billion (’05)

EUAs market
US$ 24.4 billion (‘06) > US$ 7.9 billion (’05)

Project Market doubles
US$ 4.8 billion (‘06) > US$ 2.4 billion (’05)
CDM accounts for 88% of this value

Secondary market emerges
Portfolios of guaranteed compliance assets
US$ 0.44 billion + (’06) through intermediaries

Voluntary Market expands
US$ 0.1 billion + (’06) confirmed

Price Signal to Market Drives Capital Allocation
Volumes transacted in 2006 (in MtCO$_2$e)

Project-Based Transactions

- CDM
  - 450
- Voluntary & Retail
  - 10+
- Other Compliance
  - 19
- Secondary CDM
  - 25+

Allowance Markets

- EU Emission Trading Scheme
  - 1,100
- Chicago Climate Exchange
  - 10 MtCO$_2$e
- New South Wales Certificates
  - 20
- UK ETS
  - na
- JI
  - 16
Markets for Allowances
Disconnected EU ETS markets

**Ph-I is long, pushing EUA-I < €1 now**
- Overall generous allocation, weather, energy price & no EUA banking
- Utilities have covered Ph I position
  - CERs to be banked to Ph II

**Ph-II expected short, EUA-II > €15 now**

EU: “If more allowances were to be issued by Member States than the likely quantity of actual emissions in 2008-12 meeting the Kyoto commitments would be severely compromised and little or no environmental benefit would be provided.” COM(2006) 725

- Market prices reflect analysts' **shortfall consensus:**
  - 900-1,500 MtCO₂e
  - (level of effort required = 8-10 %)
- EU Directive allows EUAs banking
Project-based transactions
Project-based Credits: Volumes and prices up

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<th>Year</th>
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<th>JI</th>
<th>CDM</th>
<th>CER I</th>
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- US$ 10.4 /tCO₂e
- US$ 7.2 /tCO₂e
- US$ 5.2 /tCO₂e
- CER I $ 10.9
- ERU $ 8.7
Prices up across segments

- pre-CER: +58%
- CER: +52%
- ERU: +43%

US$ per tCO$_2$e
CDM&JI Buyers
EU Private Sector 75% of demand

Jan. 2005 to Dec. 2005

- UK 15%
- Netherlands 8%
- Spain 7%
- Europe-Baltic Sea 9%
- Other Europe 12%
- Other & Unsp. 3%

Jan. 2006 to Dec. 2006

- UK 50%
- Japan 46%
- Other Europe 10%
- Other & Unsp. 7%
- Netherlands 4%
- Europe-Baltic Sea 3%
- Austria 3%
- Spain 6%
- Italy 10%
CDM Sellers
China leads supply

(share of volumes)

Jan. 2006 to Dec. 2006
CDM Asset classes
Share of Clean Energy Rises

(share of volumes)

Clean energy: 11%

Jan. 2005 to Dec. 2005

Clean energy: 25%

Jan. 2006 to Dec. 2006
CDM & Clean Energy
Investment leverage 2002-2006

Cumulative CDM deals = US$ 7.8 billion
US$ ~2.7 billion for clean energy (current prices)
$1 carbon =~$8 invested for clean energy

US$ 16 billion leveraged for clean energy in developing countries since 2002
US$100 billion invested for clean tech globally in 2006
Outlook
Market balance 2008-2012

2008-12 demand for Kyoto mechanisms (Analysts’ expectations)

Demand from EU ETS = 1,140 MtCO₂e (900 - 1,400 MtCO₂e)
Based on varying assumptions of growth adjusted for improvement in carbon intensity

Expected demand from EU Governments: 450 MtCO₂e
Expected demand from Japan: 100-500 MtCO₂e (avg: 350MtCO₂e)
Expected demand from Ro Europe and NZ: 200 MtCO₂e
Based on varying assumptions of Parties about performance of additional (and existing) policies and measures

Will sufficient supply be stimulated, contracted and delivered?

– CDM/JI: How many reductions will they deliver on time? At what price?
– AAU/GIS: How many, when and at what price? Some host countries have expressed their interest in setting GIS (Ukraine, Latvia)
Expected Kyoto Balance

Already contracted
917 MtCO$_2$e
Residual demand
1,083 MtCO$_2$e

Already contracted
930 MtCO$_2$e
Not yet contracted
> 975 MtCO$_2$e

Potential supply
6000-7,100 MtCO$_2$e

Demand for KMs
CDM/JI supply
AAU/GIS

Canada ??
RoEurope + NZ
Japan
EU-15 govts
EU ETS
CDM
JI

?: amount not yet contracted
Beyond 2012: A bridge to a safe climate future?

• Developing countries and EITs have strongly responded to EU and Japan demand.

• Markets to manage GHG emissions have demonstrated their ability to source ERs.

• Experience should encourage countries considering ambitious targets to “avoid dangerous climate change”.

• This requires efforts in all sectors, including those not easily reached by the carbon market.
Without ambitious targets…,

“the development and deployment of existing and new clean technologies would stall, and the evolution of a dynamic and liquid global market would be severely undermined”.

EU Commission, October 2006
COM(2006) 725
Thank you

Full report available at

www.carbonfinance.org