Carbon Trade & Finance
Capturing Opportunities
US VERs; CCX; International

October 25th, 2006

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Natsource LLC

Some new thinking from Natsource.
More growth. Less pollution.
Emissions Trading Rationale

- Harness market opportunities to achieve targets in most cost-effective and flexible way.

- Benefits:
  - Incentive/priority to innovate at home
  - lower aggregate costs
  - lower individual costs
  - Additional revenue for over achievement
What is Emissions Trading?

An Example

What options are most cost-effective?

Can reduce 1000 tons CO₂E at €2/ton = €2000

Cost of abatement

Can reduce 1000 tons CO₂E at €6/ton = €6000

SELL

BUY

1000 tons CO₂E at €4/ton = €4000

€2000 Profit

€2000 Savings

Company A - Seller

Company B - Buyer

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Major Components of the Carbon Market

- European Union Emissions Trading Scheme
  - EU Allowances, EUAs
  - 2006-2008

- Kyoto Protocol
  - Clean Development Mechanism
    - Certified Emission Reductions, CERs 2006-2012
  - Joint Implementation
    - Emission Reduction Units, ERUs 2008-2012

- US Markets?
US Market Participation

- Some Funds purchasing domestic offsets
  - Either for compliance with future regulations, or
  - As pure speculation

- CCX
  - Generally small, PR-driven participants
  - Some larger firms, but still largely PR

- New regulations on the horizon, but no trades or markets yet
Where is Natsource Going?

- Deploy capital in partnership with development and technology providers to focus on upstream carbon generation
- Grow asset management division
  - Increase capital under management
  - Add targeted fund products
- Optimize projects’ non-carbon value and develop synergistic opportunities
Natsource in the News

FINANCIAL TIMES

First Kyoto carbon credits to be issued
By Fiona Harvey in London
Financial Times.com
Published: October 19 2005

Companies investing in environmentally sound energy projects in developing countries can expect to start reaping rewards under the Kyoto protocol, as the first “carbon credits” are set to be issued on Thursday.

On Wednesday, Natsource Asset Management announced it had received commitments of €455m from 26 companies, including Repsol, Eon UK, Norsk Hydro and Endesa.

THE WALL STREET JOURNAL

Broker joins emissions market
JOHN J. FIALKA Wall Street Journal
28 February 2005

A New York brokerage firm is emerging as a major force in the growing multibillion-dollar global emissions trading market — even as Washington continues to shun the Kyoto Protocol that is spurring those trades.

The firm, Natsource LLC, will announce today that it has formed a $95-million (U.S.) fund that will pool contributions from six European, Japanese and Canadian companies.

The fund will find and invest in projects around the world to curb carbon-dioxide and other “greenhouse gas” emissions, giving investors in the fund credits that they can use to meet their assigned cuts in emissions, rather than reducing pollution at their own facilities.

Natsource Closes EUR455 Mln CO2 Fund; E.On, Repsol Invest
Dow Jones Energy Service
19 October 2005

LONDON (Dow Jones)—New York brokerage Natsource LLC has closed the first private sector greenhouse gas credits fund, garnering EUR455 million ($550 million) from energy companies and manufacturers to invest in emission reduction projects.

Natsource attracted 26 companies to its Greenhouse Gas Credit Aggregation Pool, or GG-CAP, including the U.K. subsidiary of Germany’s E.On (EON), Repsol SA (REP), Endesa SA (ELE), Tokyo Gas Co. (9531.TO) and Hokkaido Electric Power Co. (9509.TO).
State of the Market

- EU ETS (Emission Trading Scheme) up and running since 2005
- CDM UN Executive Board has registered 239 Projects that are projected to generate 450 million CERs
- Total transactions in 2005:
  - 800 million tons traded
  - $USD 11.28 billion
- Clean Development Mechanism/Joint Implementation transactions in 2005:
  - 425 million tons traded
  - $USD 2.4 billion
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Source: Compiled by Natsource
Microeconomic Price Determinants: Specific Risk & Quality Determinants

Realized Price = Perceived Value - Perceived Risk

- **Compliance Risk** -- Probability that the GHG ER will qualify for desired compliance
- **Counterparty Risk** -- credit worthiness of ER sellers
- **Regulatory Risk (Country)** -- country policies governing crediting and transferring of project-based ERs to buyers
- **Performance Risk (Country)** -- the investment climate in host country
- **Performance Risk (Carbon)** -- the technology and extent to which generation, creditability and ownership of ERs is affected by the particular type of technology
- **Performance Risk (Technology)** -- the operational and/or commercial aspects of technologies utilized in ER projects
- **Structure of Contract** -- Spot vs. forward, upfront vs. payment on delivery, optionality (volume, timing, RoFR)

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Historic Pricing Snapshot:

Did History Repeat Itself?

A Look-Back at Other Environmental Markets
EU Allowance Price
Dec 2006 Contract (Jan 05 – June 06)

1 Dec 2006 Contract Price

Source: Natsource, LEBA
Increase in price due to lack of supply as a result of verification delays and allowance issuance.

Once verification bottleneck resolved large supply of allowances reached market.

Allowance Price increases in compliance years.
Danish Allowance Pricing

- Few participants (effectively 4)
- Pricing end 2002: DKr 3 @ 36 (no trades)
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Would you have sold at the peaks?
NOx Price History

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Initial Market highs never reached again

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Southern California NOx Reclaim Trading Credit (RTC) Spot

January 2001: Regulators announced potential changes in regulations.

RTCs are unbankable—Sellers liquidated expiring credits prior to Aug. 30 and Mar 1.

Where Do We Go From Here?
Is Carbon Finance a Short Term Play?

- China uses more coal than EU, USA & Japan combined
- Problem is long-term
  - The market may fluctuate but the need for clean development intensifies
  - Focus may revert to fundamentals of CDM – Creating cleaner development instead of windfall profits
- CER pricing may get realistic but carbon finance is only just beginning
  - Technology shifts, Asian Pacific Partnership, US, Potential Canadian action, China & India must respond to intl. pressure to maintain growth
Emission reduction project - finance structures

1. Emissions Reductions Purchase Agreement (ERPA)
   - e.g., in the case of CDM/JI under the Kyoto Protocol – buying of emission reductions of project – Investor developed country (Annex 1)
   - Direct buyer or ‘Carbon Fund’

2. Investment in Equity
   - Investor (Annex 1)/local: total or partial financing of project in exchange for total/portion of financial revenues and carbon credits

3. Debt - Loans
   - Investor Annex 1 provides loans at concessional rates in exchange for carbon credits / carbon credits as a loan guarantee

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