CO_2 market status and outlook

Eric Boonman

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CO_2 market status and outlook

Fortis Carbon Banking product offering

Status : Does emissions trading work?

- liquidity check
- price justification check
- economic internalisation check
- emissions reduction check

Outlook for the rest of phase one

- reflection after verified emission shock from April/May 2006
- outlook

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The Fortis Bank suite of products for the emerging carbon markets

Carbon Financial Services

Accepting returns in carbon
Including carbon value in financing and due diligence

Clean Development Mechanism project financing

Administration and Trust

Managing customers' carbon accounts

Custody of other Kyoto Compliance Units

Fund custody and administration

Clearing

Eliminate counterparty risk and guarantee trades

Cross commodity correlation model

Trading Services

Trading on demand or to order

Index based procurement/divestment

CER purchasing and sales

Delivery date swaps (quasi repos)

Investing in and developing funds

Co-sponsorship of the European Carbon Fund to ensure reliable deliveries of Kyoto Compliance Units for customers

CDP Climate Leadership 2005 - Best Diversified financial

Co-sponsor and guaranteed placement CP for European Carbon Fund
Initiated index based position management contracts for customers
Trading on behalf of >150 customers
Developed clearing business plan and signed clients for energy and carbon Fortis Trust formed strategic partnership with CRS and PWC

Fortis trading services - Product offering

Fortis has been trading the EU ETS for 3 years and offers the following products

Spot (delivery trade date plus 2 business days and payment D+5)
Forwards. Standardized delivery dates
Delivery date swaps (quasi repo)
Bespoke cross commodity solutions including CER structures

Liquidity access

Fortis has market access via 10 brokers, three exchanges and a large number of actively trading companies throughout Europe. This allows us to always offer the most competitive pricing.

Index based products

The customer buys or sells a predetermined quantity of EUAs over a specified period of time at the average ECX closing price for the period. This has the advantage of smoothing out the inter and intra day volatility seen in the market.

On demand purchases and sales

The simplest form of market access. The customer simply calls Fortis for the market price and decides whether to deal or not

Contracts

Fortis uses the standard ISDA master agreement annex, the IETA master agreement and the IETA single trade agreement. Examples can be obtained upon request.

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Carbon banking success timeline

- March 2004 Executed first trade under the EU ETS
- June 2004 Executed first trade under the ISDA agreement winning Carbon Deal of the Year
- November 2004 Became co-sponsor of and investor in the European Carbon Fund
- December 2004 Started offering carbon trust and custody services

- May 2005 Started offering carbon clearing services
- October 2005 Won best diversified financial and made Climate Change Leadership Index
- November 2005 Signed landmark deal with ECF for placing over 50 million tonnes
- December 2005 Concluded first index based carbon compliance contracts with clients

- January 2006 European Carbon Fund awarded Most Promising investment Opportunity
- February 2006 Structured and executed first ever CER call option deal
- April 2006 Concluded first complete second phase strip transaction from 2008-2012
- June 2006 Executed first combined trading/trust/escrow/settlement carbon transaction
- July 2006 Reached the 100th customer milestone
- August 2006 Transacted and received ownership of issued CERs for the first time

Does emissions trading work?

Q1. Is the market sufficiently liquid?

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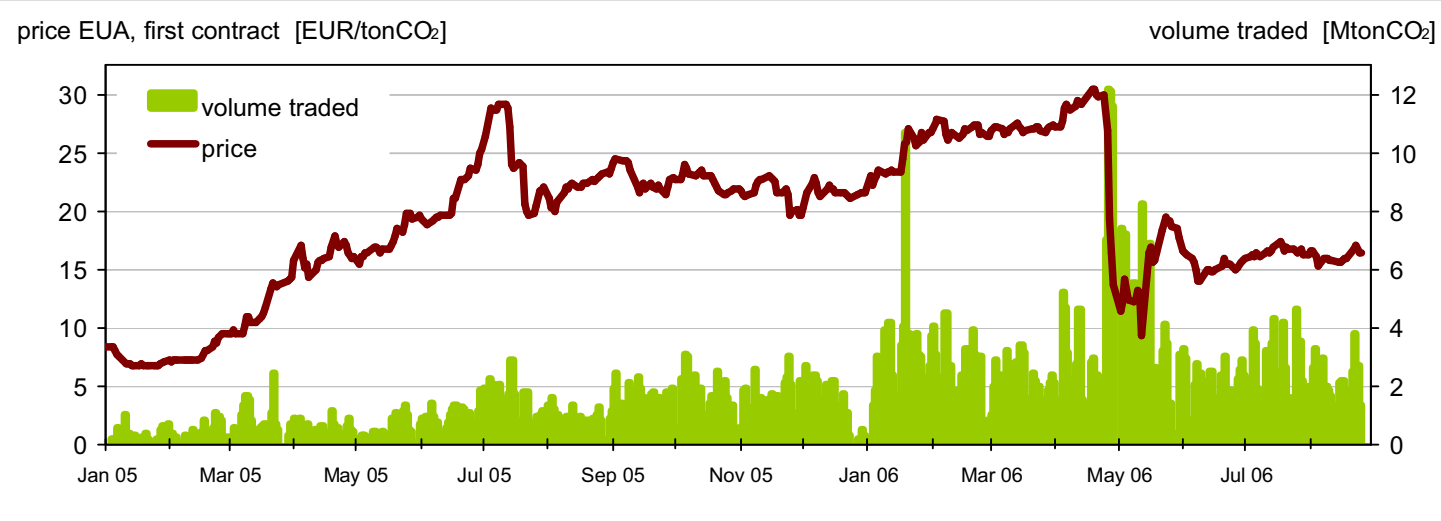
Does emissions trading work?

Q1. Is the market sufficiently liquid?

2005 trade	262MtCO$_2$ traded
2005 allocation	2,100MtCO$_2$
“critical mass” power sector	400MtCO$_2$ short 05-07 0.7MtCO$_2$ daily average short
H1 2006	3.1MtCO$_2$ per day average ~4x “critical mass”



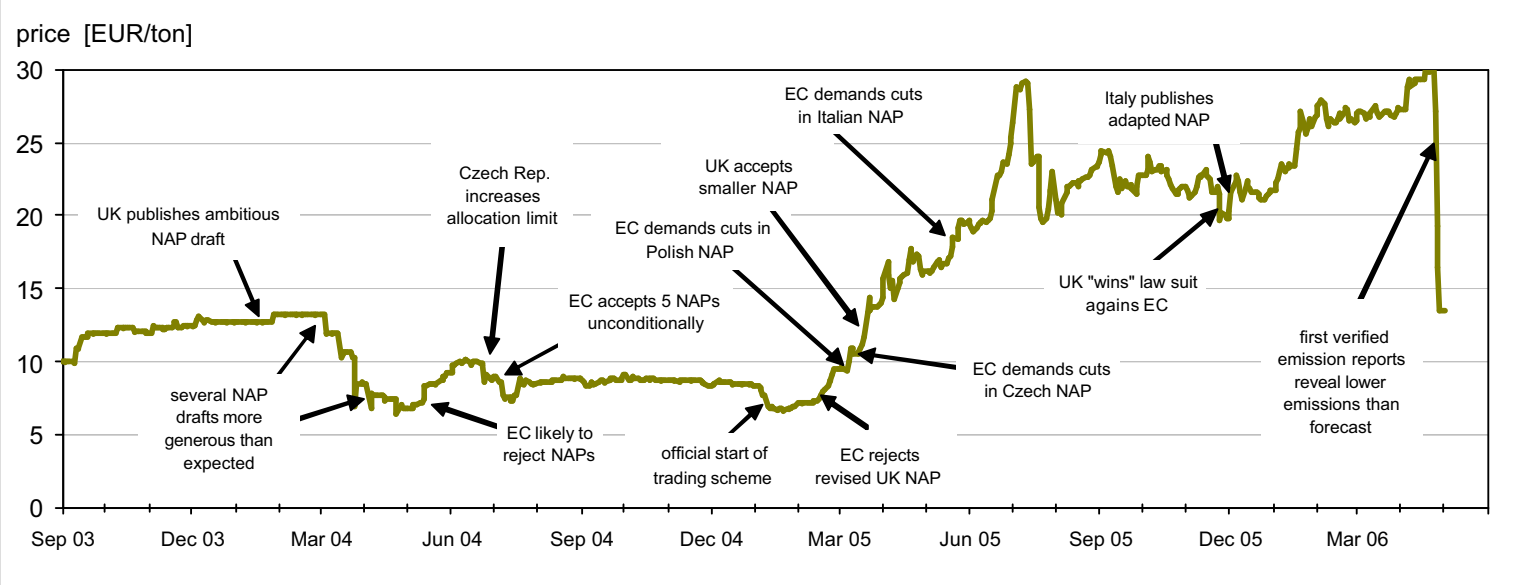
Does emissions trading work?

Q2. Are EUA prices justified?

Does emissions trading work?

Q2. Are EUA prices justified?

Market Fundamental 1 : Policy & News



market responds logically and consistently to policy & news on
- allocations (number of allowances put in the market)
- verified emissions (number of allowances needed)

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Does emissions trading work?

Q3. Is CO_2 internalized in the economy?

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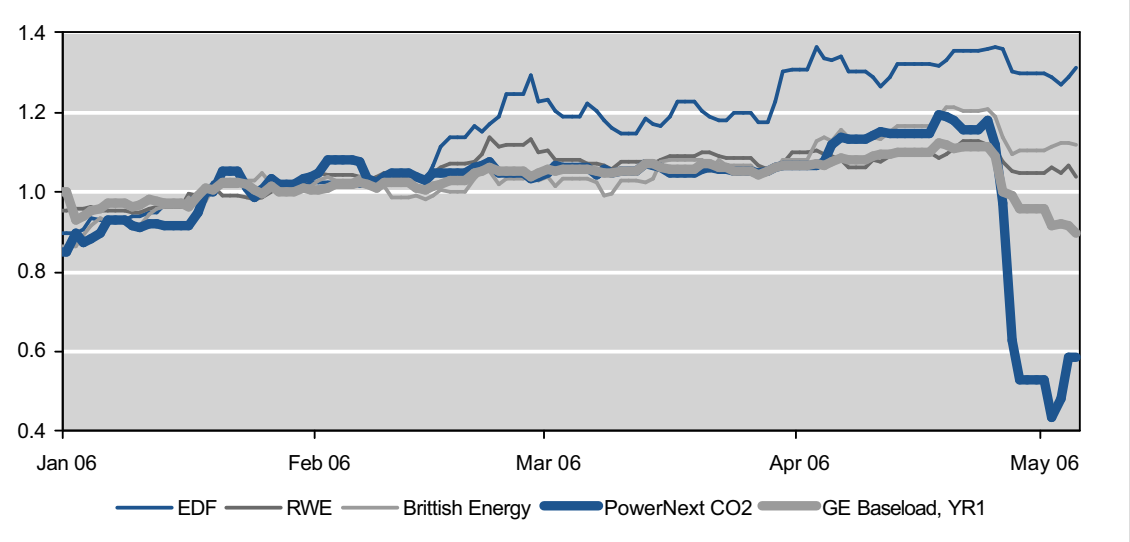
Does emissions trading work?

Q3. Is CO_2 internalized in the economy?

The May 2006 market shock…

CO_2 prices drag power prices and utility stocks down



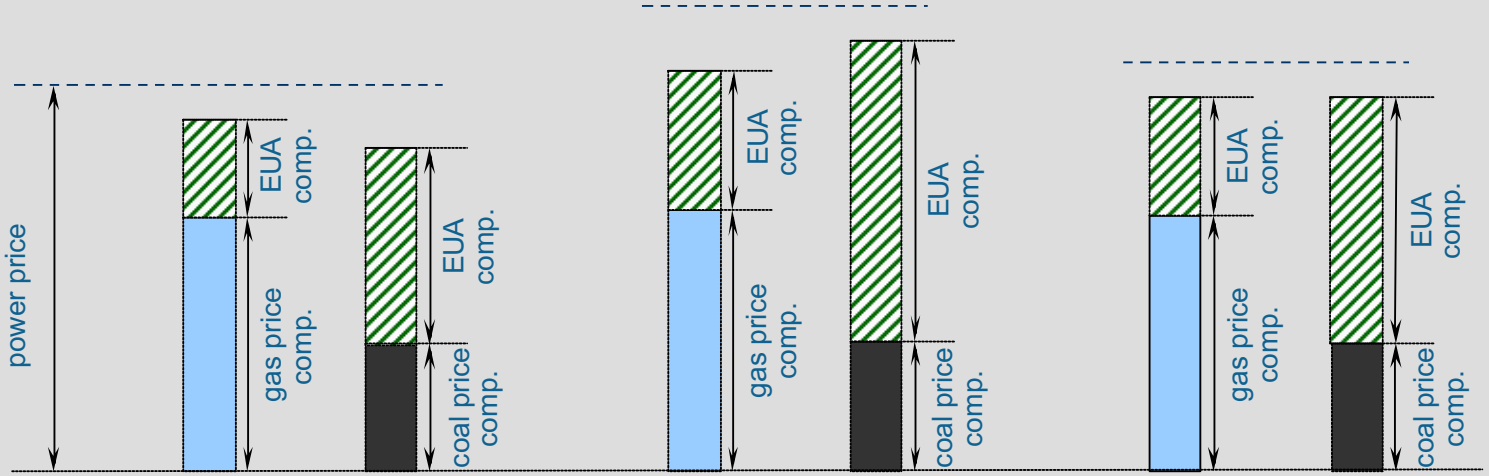
Does emissions trading work?

Q4. Does the ETS lead to emission reduction?

Does emissions trading work?

Q4. Does the ETS lead to emission reduction?

Coal to gas switching in the power sector



EUAs low
⇨ preference for coal

EUAs high
⇨ preference for gas

EUA “switch level”

not one *magical* switch level,
but a whole range of switch levels for a range of power plants and fuels

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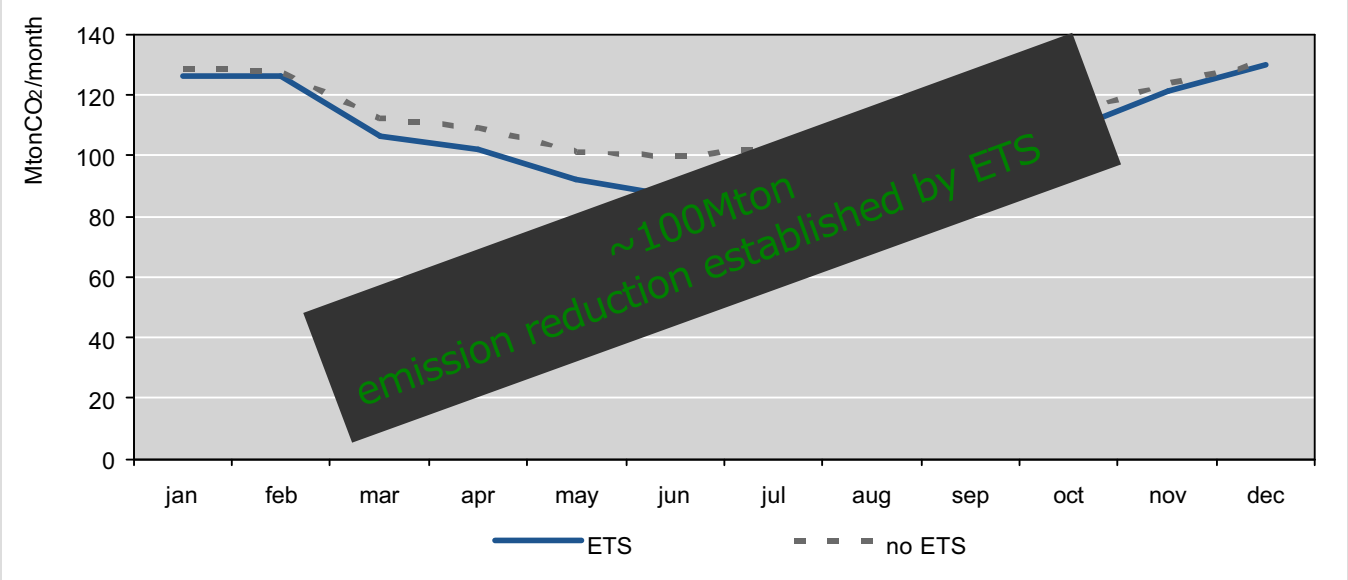
Does emissions trading work?

Q4. Does the ETS lead to emission reduction?

Power generation simulation in EU25 during 2005

- case “ETS” with CO_2 valuation (daily market price) 1270Mton CO_2
- case “no ETS” without CO_2 valuation (value €0/tCO_2) 1360Mton CO_2



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Does emissions trading work?

Q1 : *Is the market sufficiently liquid?*

YES!

- daily volumes increased by a factor 10 in one year
- daily traded value increased by a factor 30 in one year
- market trades ~4x critical mass needed to simply transfer longs to shorts

Q2 : *Are EUA prices justified?*

YES!

- market responds logically to fundamental signals weather, news, allocations, fuel prices

Q3 : *Is CO_2 internalized in the economy?*

YES!

- CO_2 influences power prices and utility stock values

Q4 : *Does the ETS lead to emission reduction?*

YES!

- about 100Mton CO_2 emission reduction in the EU power sector throughout 2005

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Outlook for the rest of Phase One

- Some reflection after verified emission shock from April/May 2006
- Outlook on market prices, traded volumes and overall market position

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Outlook for the rest of Phase One

Some reflection after verified emission shock from April/May 2006

"Sanity Check"; four questions

- *Q1. Is the market sufficiently liquid?*
  Liquidity increased; 3 consecutive days of >10MtCO_2/day
- *Q2. Are prices justified?*
  Logical response to fundamental signal
  Lower that expected emissions = lower prices
- *Q3. Is CO_2 price internalised in the economy?*
  Drop in EUA prices reflected in power prices and even utility stock values
- *Q4. Does the ETS lead to emission reduction?*
  Emissions below allocations; three cheers for ETS
  ??? 7% forecast error ??? 7% over-allocation ??? 7% emission reduction ???

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Outlook for the rest of Phase One

Position of the market

2005-2007 estimates, forecasts and best guesses (excl. NER, CER, banking)

- popular forecasts range from 100Mton to 400Mton LONG
- Fortis simulations ~120Mton SHORT (within margin 50Mton LONG and 250Mton SHORT)

Remaining uncertainties

- NERs : maximum 150Mton additional supply
- banking to Phase II in Poland and France : maximum 100Mton leakage from Phase I supply

IMPORTANT : 2006 and 2007 will be different from 2005

- less allocated
- at current EUA prices; NO coal-to-gas switch in power sector
- economic growth

Only 2005 verified emission data are known
all the rest : estimates, forecasts and best guesses

Outlook for the rest of Phase One

*What if the market is **short**?*

Two possible scenario's

1. *Short term emission reductions need to be triggered*
   - EUAs need to exceed coal-to-gas switch levels
2. *CERs are already needed in phase one*
   - only likely to happen in backwardation

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Outlook for the rest of Phase One

*What if the market is **short**?*

Scenario 2 : CERs are already needed in Phase One

- Phase One prices need to at least match Phase Two prices, otherwise CER sellers can get better value for their CERs in Phase Two
- If Phase One is already short, Phase Two is also likely to be short, hence switch levels are benchmark for Phase Two prices
- So, same result as Scenario 1

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Conclusion

Emissions Trading Works

- market is sufficiently liquid
- prices follow logical trends based on fundamentals
- emissions are reduced
  fuel switch in power sector, CO_2 value taken into account in other sectors

Thank you

eric.boonman@nl.fortis.com

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