

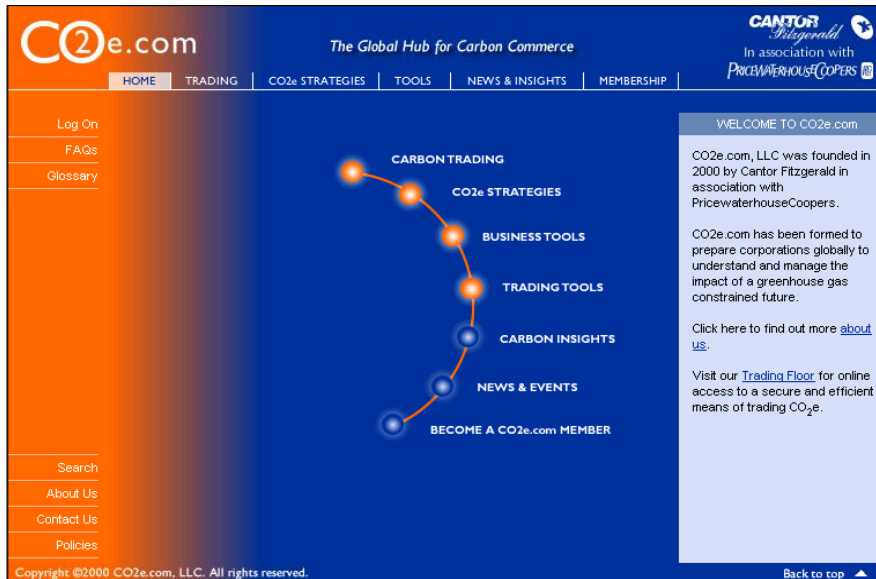
Overview of Emerging Carbon Market and Broker Perspective on CDM

Presentation by:

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(A Cantor Fitzgerald Environment Company)

Canada's CDM Workshop
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CO2e.com, LLC - launched in November 2000 - aims to be ***"the global hub for carbon commerce."***

CO2e.com is a subsidiary of the Cantor Fitzgerald Group, one of the world's leading brokerage firms, and was developed in association with PricewaterhouseCoopers, the world's largest professional services organisation.

Recent Investor in CO2e – Mitsui & Co.

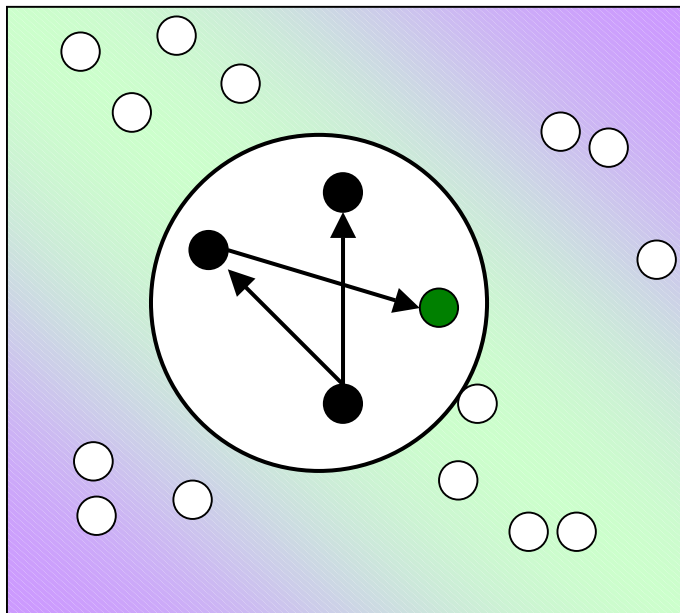
Offices in London, Toronto, Tokyo, New York, San Francisco, Los Angeles, Connecticut, Houston

Emission Trading – What is it and how does it work?



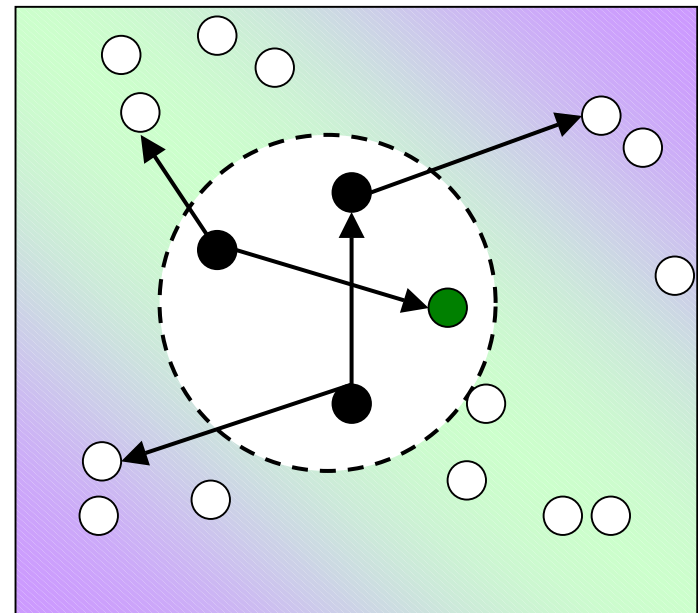
- **Goals of Emissions Trading:**
 - Permit Industrial Growth/Expansion
 - Promote Economic Efficiency and Flexibility in Meeting Air Emission Targets
- **Benefits of Emissions Trading:**
 - Enhance Air Quality w/o Economic Stagnation
 - Encourage Development of New Technology
 - Foster Most Efficient Use of a Limited Resource -- Clean Air
- **Contributes to Sustainable Development and objectives of UNFCCC, Kyoto Protocol....**

Closed Market



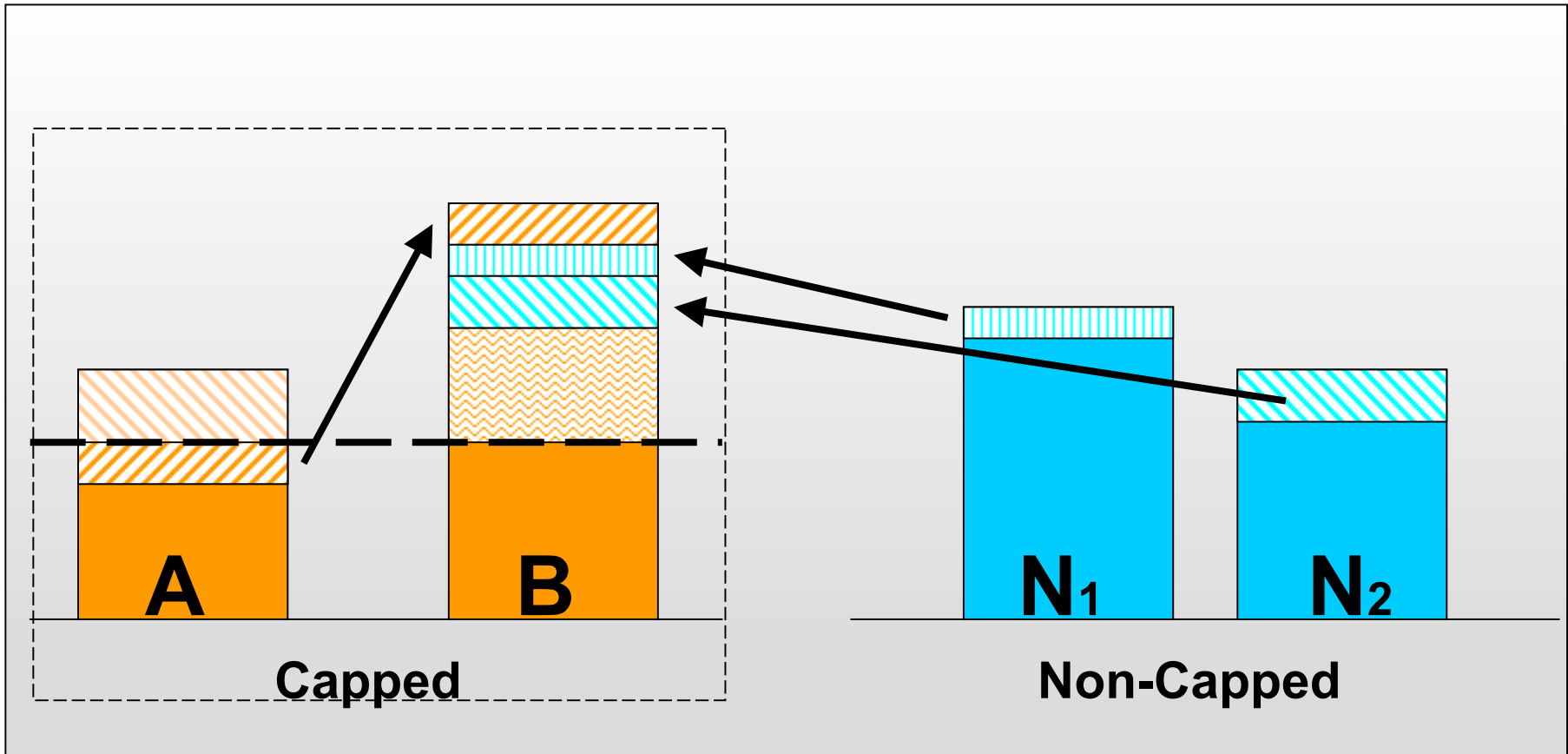
Cap and Trade
Allowance-Based

Open Market



Credit - Based

Source: Clean Air Canada Inc.



Source: Clean Air Canada Inc.

- Offsets are a form of project-based emissions trading. Offsets are created when a source makes voluntary, permanent emissions reductions that are in surplus to any required reductions.
- One Offset is an emissions reduction in excess of permitted levels and or required reductions. The excess amount is the credit and can be sold on the market
- Offsets are an open system.
- CDM – a project-based mechanism

Global market instruments under Kyoto Protocol

- Range of domestic instruments – Canada (permits and offsets), Europe, Japan, etc..
- AAUs
 - Value dependent on source nations
 - Small, but measurable differentials in risk profile
- JI
 - Backed by AAUs
 - Subject to national allocation policies
- CDM
 - Approval cycle and creation-risks

Developments in the GHG Market



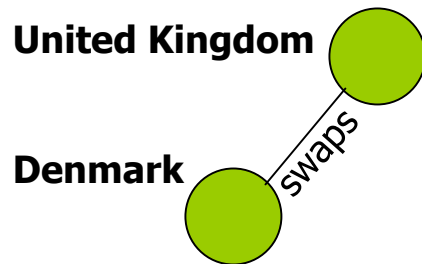
Carbon touches every aspect of your business

- Internalise cost and opportunity in new projects.
- Look at emissions streams as a product in their own right (securitisation, credit wraps, hedging products)....
-or as value added for existing core offerings...
-or as part of the product price negotiation.
- Look at the forward emissions market as a new source of finance.
- Assess interaction between government schemes, funding opportunities and regional incentives.
- Look at carbon as a balance sheet item and assess tax impacts.
- Look at the impact on your share price and your corporate communications.

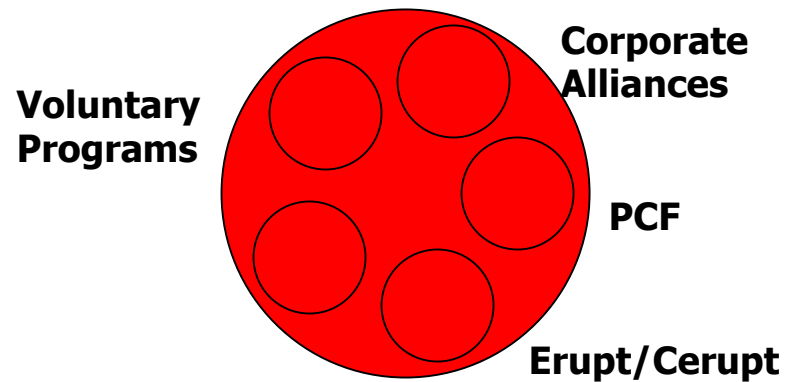
- There is no SINGLE carbon market
- Value is driven by legislation, the expectation of legislation, recognition, product differentiation and public commitments (quality and risk)
- A CO2e, Point Carbon, Natsource report for the World Bank released in July revealed that volumes in 2002 were *four times* those in 2001

- Immediate settlement
- Forward settlement
- Option
- Project investment
- More complex derivative-based structures
- CO₂e – recent experience:
 - 6 million tonne firm forward
 - 3 million tonne option
 - Emissions neutral – “retail” transactions”
 - Government of Canada – India, Brazil, South Africa...
 - Emissions Marketing Association
 - 500 ppm travel website
 - Others under negotiation...CDM & other...

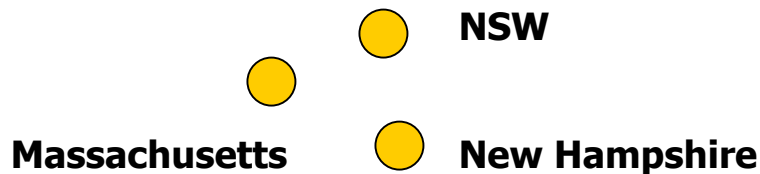
NATIONAL MARKETS



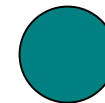
INTERNATIONAL PRE-COMPLIANCE MARKET



SUB-NATIONAL MARKETS



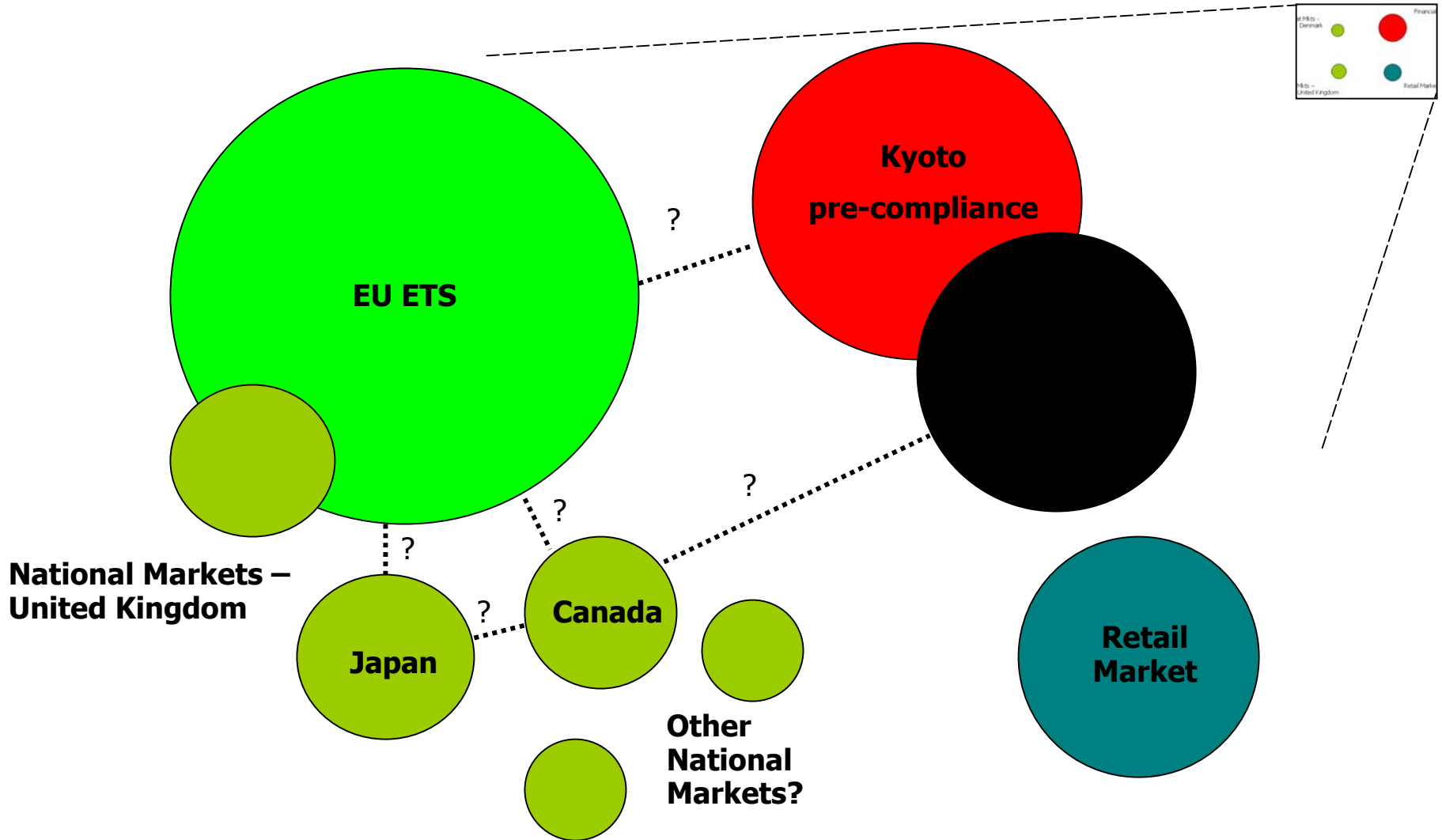
RETAIL MARKET

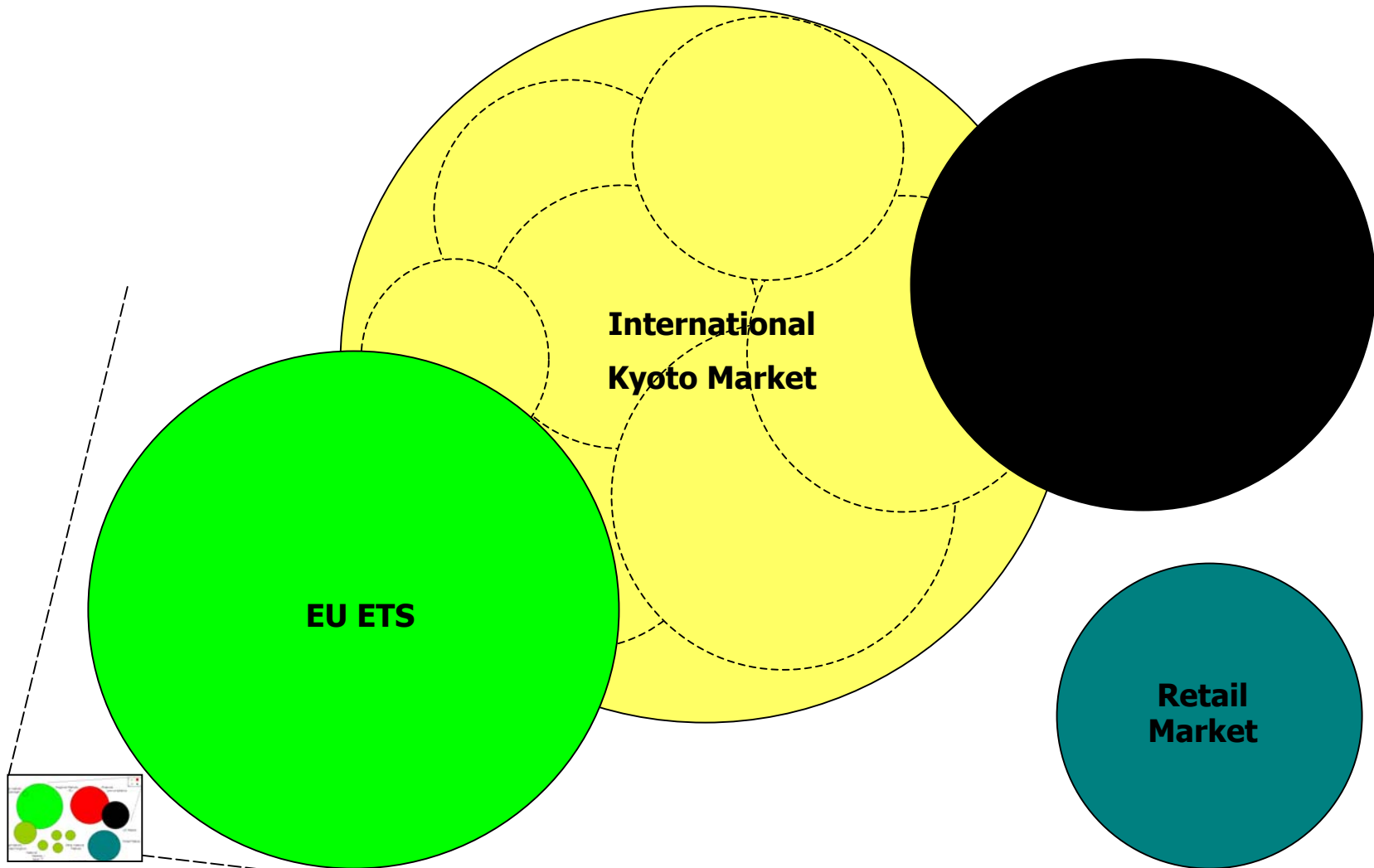


The Carbon Market in 2002: Forecasted Volumes and Prices

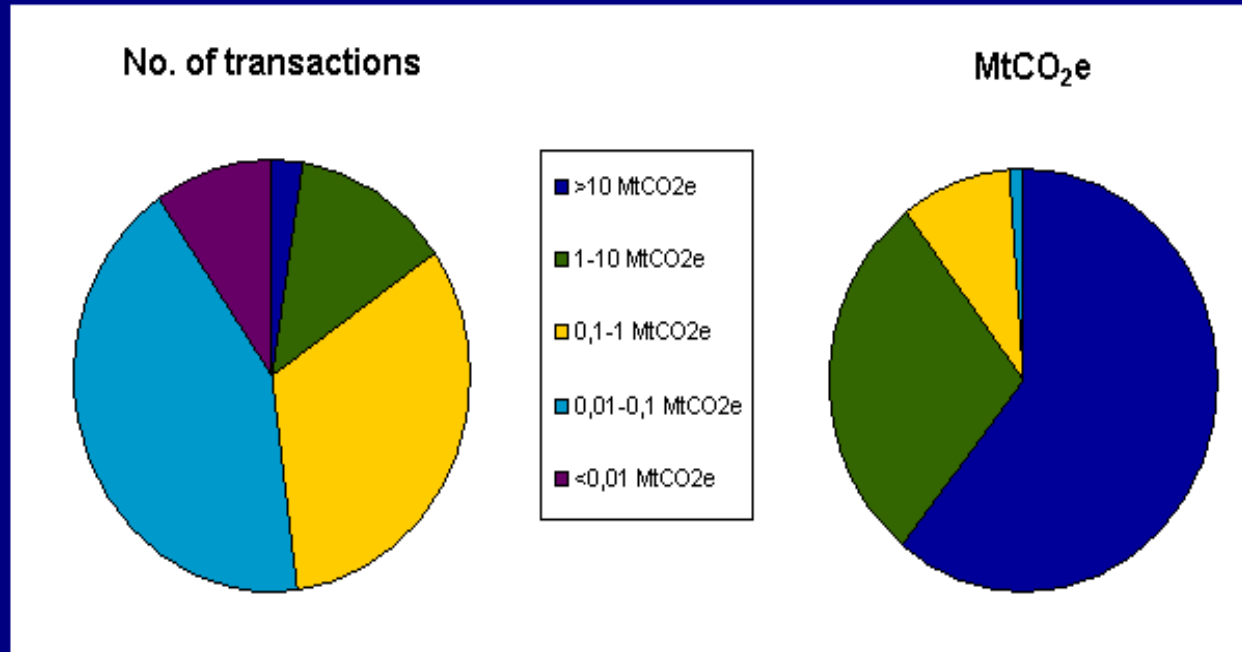
System	Million tCO₂e	Price USD/tCO₂e
UK Auction	100+	15 - 25
Erupt and Cerupt	12 - 16	4.2 - 5
Prototype Carbon Fund	4.5 - 7.5	3 - 4
UK Market	0.5-0.9	6.0 - 7.5
Denmark	0 - 0.8	4 - 4.6
North America	10 - 30	1 - 3
Other	10 - 20	1 - 3

GHG market snapshot – 2006





Size of registered transactions – 1996 - 2002



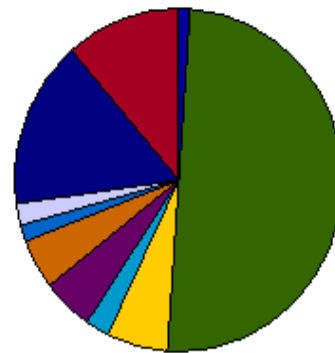
Size	No. of transactions	MtCO ₂ e
>10 MtCO ₂ e	4	118,14
1-10 MtCO ₂ e	18	56,53
0,1-1 MtCO ₂ e	46	17,87
0,01-0,1 MtCO ₂ e	60	2,14
<0,01 MtCO ₂ e	14	0,05
Total	142	194,73



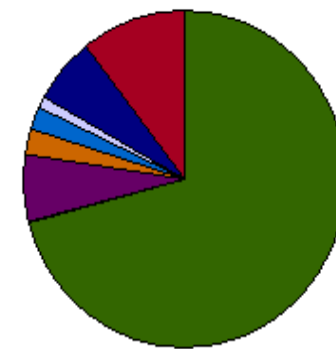
Origin buyers 1996 - 2002

Country	No.	MtCO ₂ e
Australia	2	0,27
Canada	70	137,02
Denmark	9	0,24
Germany	3	0,16
Japan	7	11,92
Netherland	7	5,10
Norway	2	4,17
PCF	3	2,15
UK	23	12,25
USA	16	20,74
Total	115	185,81

No. of transactions

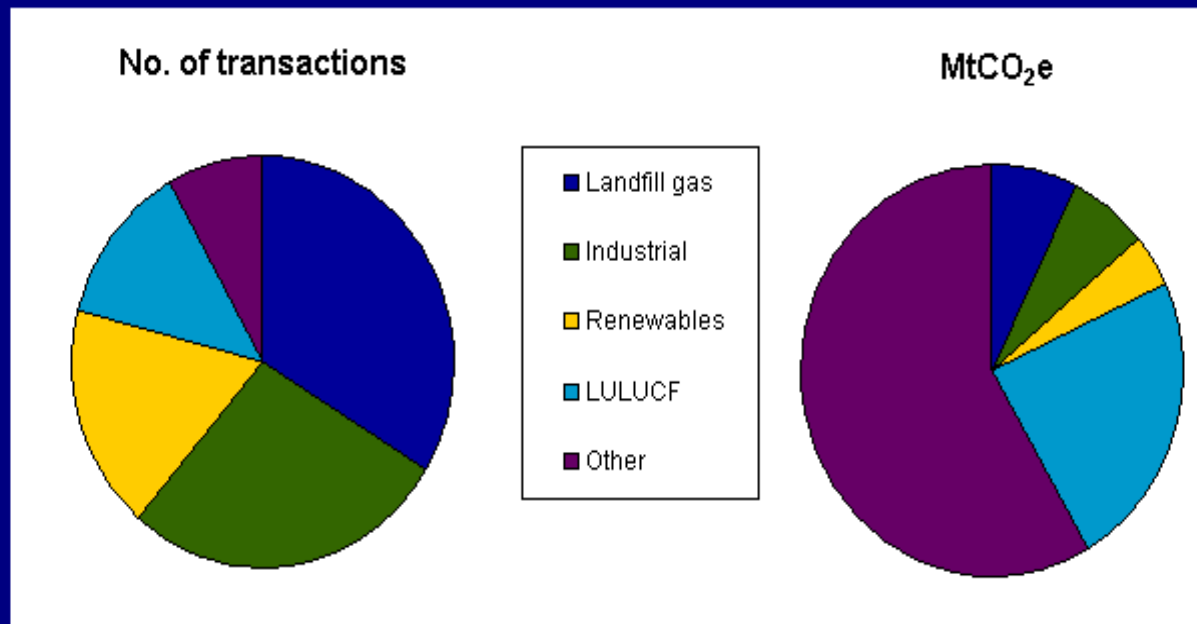


MtCO₂e



PointCarbon
Carbon Price Forecasting

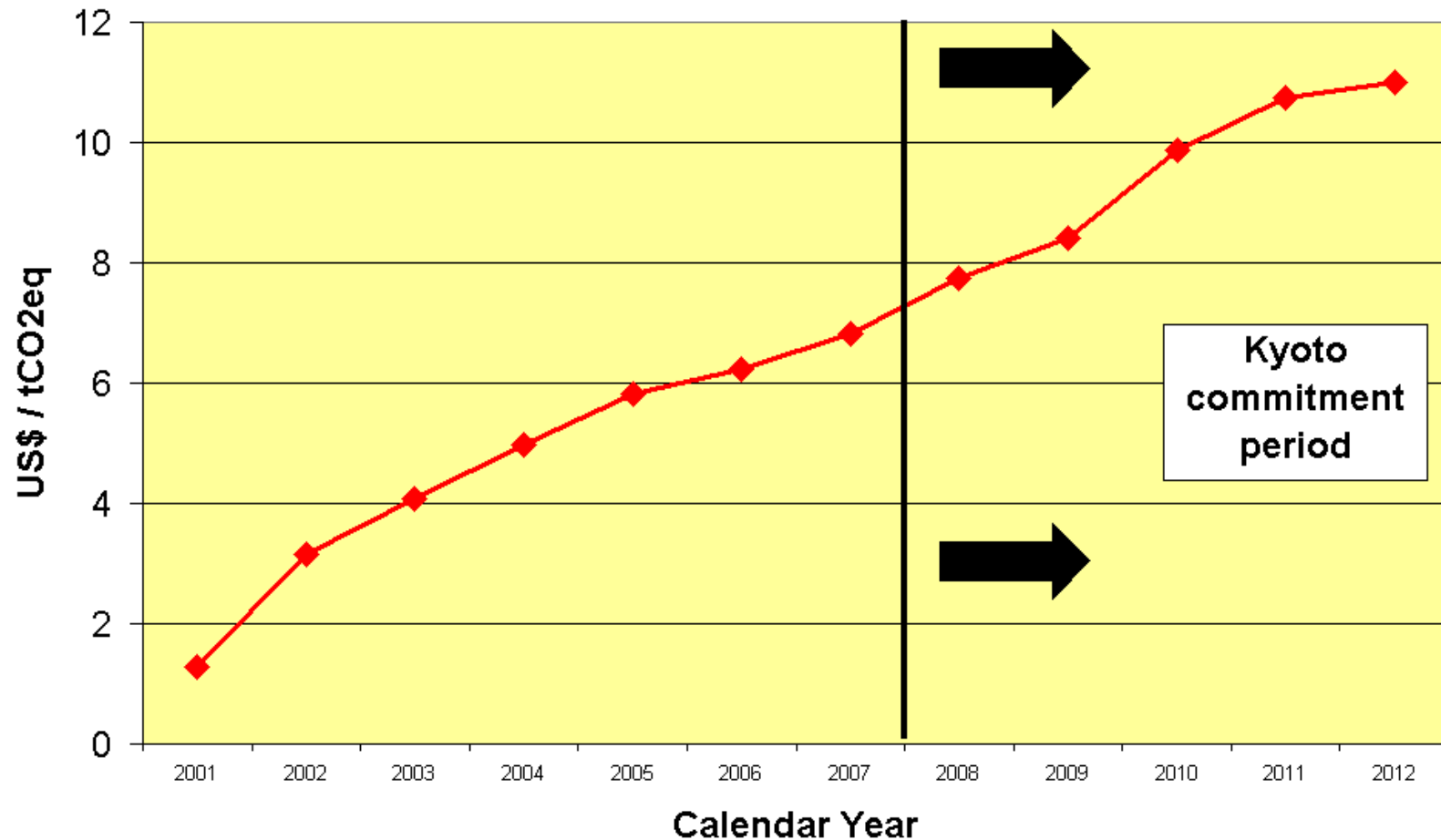
Transactions by project category



Category	No. of transactions	MtCO ₂ e
Landfill gas	34	12,31
Industrial	27	11,27
Renewables	18	6,57
LULUCF	13	38,94
Other	8	96,55
Total	100	165,65



International project-based – average offers to sell – prices



Key factors influencing the development of market:

- Increasing demand for GHG instruments – corporations, governments, individuals and even NGOs are now active buyers
- Increasing supply of GHG emission reductions from global sources, particularly developing countries
- Commodities are being defined financially and legally in terms of what constitutes an emission reduction, how ownership is defined and types of contract structures
- Informal markets have emerged in the absence of a fully defined system
- Rules and compliance systems under development

CDM Issues



I. Participation Requirements.

II. Project Design and Development.

III. Validation Registration Process.

IV. Monitoring Requirements.

**V. Verification / Certification
Requirements**

**VI. Issuance of Certificates of Emissions
Reductions (CER's)**

- **Required considerations**

- Ownership or legal title to emission reductions
- Obtaining host country approvals
- Developing agreements with private sector partners in host country
- Defendable baseline established from which to measure reductions consistent with CDM rules
- Environmentally additional
- Not ODA earmarked funds
- Demonstration of real, quantifiable, measurable
- Registered, Verified, Certified and approved by Designated Operational Entity
- Guarantee of delivery

- **Meets criteria of previous overhead and demonstrates:**
 - Straightforward quantification method with Validation (by Third Party by CDM Exec. Board as Operational Entity) through project design document
 - Security that reductions will be recognized by host country (esp. important if CDM) – including review by appropriate agencies
 - Solid business case and financial solvency of proponent
 - Demonstrates flexibility to meet evolving regulatory requirements
 - Have gone through review process--project design document including baseline determination, registration, monitoring plan, verification, certification and approval of project

- Identify emission reduction project, including project overview
- Develop project specifics –type of seller, project location specifics, information of all parties involved on project development side
- Outline how it meets sustainable development priorities, establish baseline and develop project design document
- Develop financial pro-formas – obtain loans, PPAs, etc.
- Develop offer and proposed Term Sheet with broker
- Develop quantification/verification protocol and go through CDM Executive Board Process
- Develop monitoring plan
- Obtain legal, insurance, and financial advice as required
- Negotiate contract (warranties, payment and delivery structure, M&V plan, etc.
- Execute Transaction

- Challenges:
 - Establishing infrastructure -- CDM Office, etc.
 - Understanding and applying the existing CDM rules regarding:
 - Participation requirements, V&R – esp. PDD
 - Establishing baselines and crediting period
 - Additionality (still some uncertainty regarding what this means – exactly – are different criteria depending on country, organization, etc.
 - Public participation and making sure process not self defeating
 - Export of CERs
 - Acceptance of CERs by Annex B Countries

Broker Perspective – Challenges in getting the transaction done

- Very much in “Primary” market
 - Nowhere near “commoditization”
 - Letters of host country approval – don’t exist yet – focus on “Letters of Non-objection”
 - No standard contracts – warranties, liquidated damages, delivery, payment – All negotiated – long negotiation periods
 - Can lead to high transaction costs & high perceived prices
 - Uncertainty – ie., larger projects
 - Also barrier to smaller projects – unless bundled
 - Timelines – ie., what happens after the First Commitment Period
 - Export criteria and regulation
 - Risks – political, economic, etc.

Broker Perspective – Challenges in getting the transaction done

- Different levels of understanding of goals of counter-parties:
 - Risk management vs. business opportunity and putting the two together
 - What “Value” the Carbon asset brings or should bring
 - Partners (sometimes external partners from Annex B countries) and sharing of CERs
 - Upfront payment vs. payment on delivery (and developing financial structures to get the project up and running)

- Marrakech determined that Parties not included in Annex 1 may participate in CDM project if it is a Party to the Kyoto Protocol -- huge opportunity for self financing and trading into IET market.
- Attracting CDM project financing from Annex B countries can contribute to sustainable and economic development as well as technology transfer and capacity building.
- Is the "ONLY" Kyoto Mechanism somewhat defined and currently "BANKABLE"

- Establishing the transaction costs
- Developing “Template” Contracts
- Capacity Building on Markets and Carbon Asset Value
- Doing transactions – showing the business case and how successful deals can be done
- Seeking CDM investments or CER carbon purchases in countries you are operating in or who have MOUs with Canada
- Sharing lessons learned from transactions – brokers, buyers, suppliers, verifiers, host countries, DFAIT, CDM Exec Board, etc.

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