



EU Emissions Trading Scheme – Prior Expectation, Observations So Far and Future Directions

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Climate Exchange Group



ECX Associate Membership Limited

- ECX Associate Membership Limited provides a wide range of organisations with the opportunity to take direct action to address global climate change, one of the most pressing environmental issues facing the world in the 21st century

Chicago Climate Exchange (CCX)

- A voluntary, legally-binding programme for trading greenhouse gas (GHG) emissions in North America, regulated by NASD
- Members include: American Electric Power, Amtrak, Bayer, City of Chicago, Dow Corning, DuPont, Ford, IBM, International Paper, Motorola, Rocky Mountain Institute, Rolls Royce, STMicro, Stora Enso, Tufts University, World Resources Institute, Waste Management

European Climate Exchange (ECX)

- Manages sales and marketing for ECX Carbon Financial Instruments (ECX CFIs) listed on the International Petroleum Exchange (IPE)
- IPE Members signed up to trade, clear or offer order-routing access to ECX CFI futures contracts include: ABN AMRO, Accord Energy, Barclays Capital, Bear Stearns, BNP Paribas, BP, Deutsche Bank, E.On UK, Goldman Sachs, Merrill Lynch, Morgan Stanley, Scottish Power, Shell, UBS



European Climate Exchange



- The European Climate Exchange manages sales and marketing for European environmental instruments
- ECX Carbon Financial Instruments (ECX CFIs), listed on the International Petroleum Exchange (IPE), traded on the IPE's electronic platform with clearing guarantees provided by LCH.Clearnet
- Futures contracts with quarterly expiry dates for EU ETS Phase 1, annual expiry dates for EU ETS Phase 2
- Traded in excess of 10 million tonnes of CO2 futures contracts since the launch in April 2005
- Cooperation agreement with Powernext to enable the market to access spot and futures contracts on the same screens trade to create the leading European exchange to trade all classes of CO2 emission contracts



European Climate Exchange Members



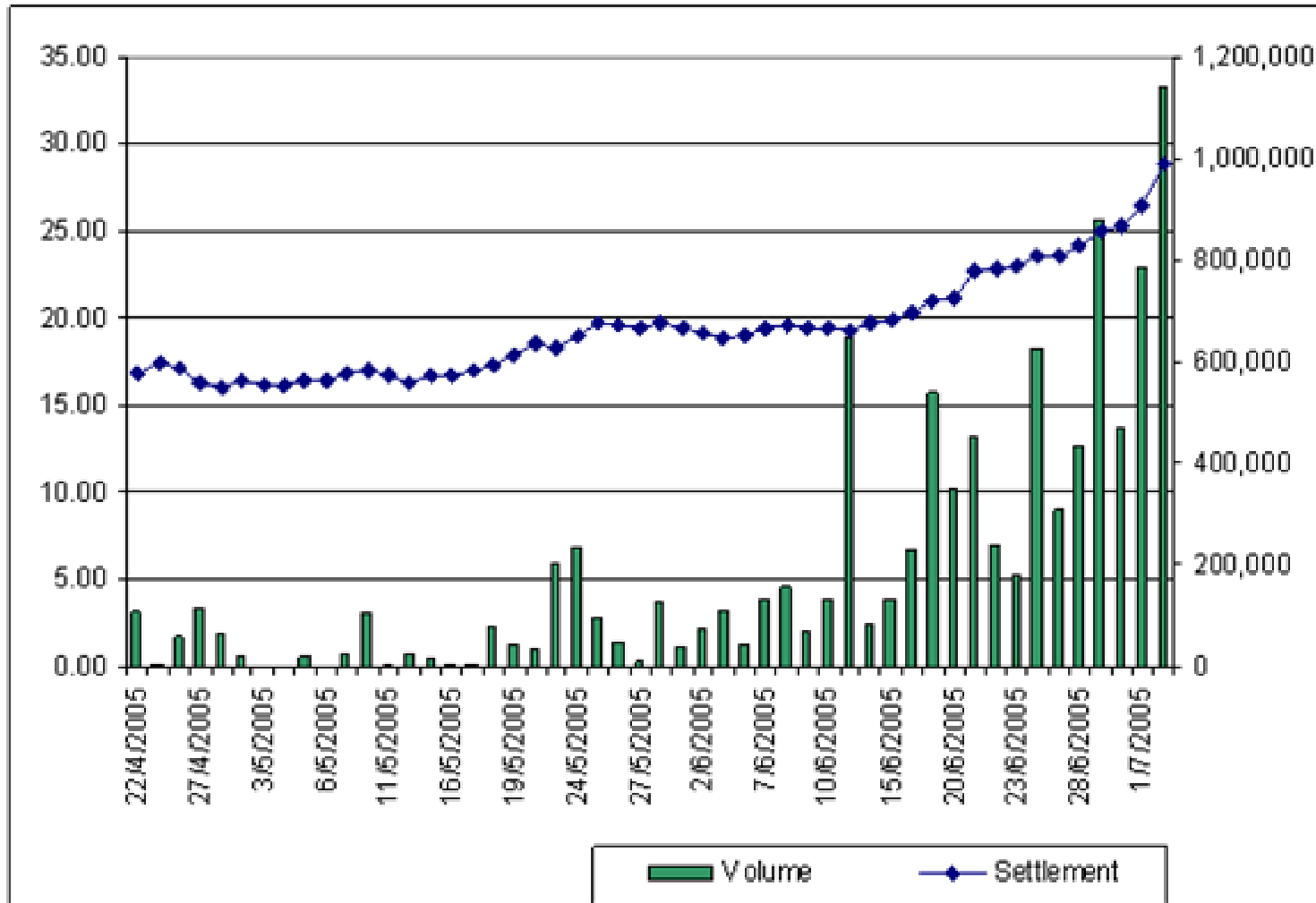
Members in ECX CFIs on IPE (As at 4 July 2005)

ABN AMRO Futures*
Accord Energy
ADM Investor Services
International*
Bache Financial*
Barclays Capital*
Bear Stearns International*
BHF Bank*
BNP Paribas Commodity Futures*
BP Gas Marketing
Breakwater Trading
Calyon Financial*
Cargill Investor Services*
Deutsche Bank*
Dresdner Bank*
E.On UK
Fimat International Banque*
Fortis Bank Global Clearing*
Goldman Sachs*
Kyte Broking*

MAN Financial*
Marquette Partners (UK)
Merrill Lynch Commodities (Europe)
Merrill Lynch International*
Morgan Stanley & Co International*
Refco Overseas*
Scottish Power Energy Management
Sempra Energy Europe
Shell Energy Trading
Shell International Trading &
Shipping
Spectron Energy Services
TFS Derivatives
Tradelink
UBS*

* Members who can clear and/or offer clients order-routing access to ECX CFI futures contracts.

ECX Prices and Volume





Chicago Climate Exchange



Chicago Climate Exchange (CCX) is a self-regulatory exchange that administers a voluntary, legally binding programme for reducing and trading greenhouse gas emissions in North America and Brazil

The world's first multi-national and multi-sector marketplace is a for reducing and trading greenhouse gas emissions



Views on CCX



"BE IT FURTHER RESOLVED that the United States Conference of Mayors encourages U.S. mayors to strongly consider membership for their cities in the Chicago Climate Exchange."

Passed Unanimously at the United States Conference of Mayors, June 2005

"I want to congratulate the Exchange, which is the first comprehensive voluntary pilot program for domestic trading of greenhouse gases, on the announcement of its founding members. Their progress is great news for Chicago's economy and for America's environment."

Senator Joe Lieberman

"We are joining the Chicago Climate Exchange for two reasons. We want to strengthen a pioneering effort to create market-based solutions to the problem of climate change, and CCX helps us maintain our own organizational commitment to keep our net carbon dioxide emissions at zero."

Jonathan Lash, President, World Resources Institute

"The successful launch of the Chicago Climate Exchange here in the United States is one example of an initiative to create a carbon market. We need more such innovative thinking on financing mechanisms and new insurance products."

United Nations Secretary-General Kofi Annan

"This voluntary market-based program is precisely the kind of private sector initiative that the Bush Administration has been calling for in response to the climate change challenge."

U.S. Energy Secretary Spencer Abraham



SO₂ vs. CCX



- Multi-sector trading essential for cost-effective GHG mitigation
- SO₂ program provides successful large scale model
- Adaptation for the CCX
 - Utility sector → multi-sector
 - National → international
 - No offsets → sinks, methane, energy switching
 - One gas → six gases



Chicago Climate Exchange Members



Aerospace and Equipment

Rolls-Royce

Automotive

Ford Motor Company

Chemicals

Dow Corning
DuPont

Diversified Manufacturing

Bayer Corporation
Interface, Inc.

Electric Power Generation

American Electric Power
Central Vermont Public Service
Green Mountain Power
Manitoba Hydro
TECO Energy, Inc.

Electronics

Motorola, Inc.

Environmental Services

Waste Management, Inc.

Food Processing

Premium Standard Farms

Forest Products Companies

Abitibi-Consolidated
Aracruz Celulose S.A.
International Paper
Klabin S.A.
MeadWestvaco Corp.
Stora Enso North America
Temple-Inland Inc

Municipalities

City of Chicago
City of Boulder
City of Oakland
City of Portland

Information Technology

IBM

Pharmaceuticals

Baxter Healthcare Corporation

Private University

Tufts University

Public University

The University of Iowa
The University of Minnesota
The University of Oklahoma

Recreation

Aspen Skiing Company

Semiconductors

ST Microelectronics

Steel

Roanoke Electric Steel Corp.

Transportation

Amtrak



CCX Salient Features



- **Geographic coverage:** emissions and offset projects in U.S., Canada, Mexico and Brazil
- **Baseline:** Average emissions, 1998 to 2001 (adjusted for acquisitions and disposals)
- **Baseline emissions:** \approx 230 million tonnes (UK emissions in EU ETS \approx 245 million tonnes)
- **Phase 1:** 1% annual reductions for 2003 to 2006
- **Phase 2:** 0.5% annual reductions for 2007 to 2010
- **Gases included:** CO₂, CH₄, N₂O, PFCs, HFCs, SF₆ (use IPCC conversion factors)
- **CCX Carbon Financial Instruments:** Allowances, Offsets, Early Action Credits – fungible, 100 metric tons CO₂e per CFI
- **Offset project types:** Landfill and agricultural methane destruction, forest and soil sequestration
- **Auditing and verification:**
 - Continuous Emission Monitors, WRI/WBCSD protocols
 - Emission baselines and annual emission reports audited by NASD
 - All offset projects subject to 3rd party verification + NASD audit



CCX Operations and Governance



- **CCX Registry:** official holder and transfer mechanism
- **CCX Trading Platform:** integrated with Registry
- **Clearing facility:** financial performance guarantee, daily settlement of transactions
- **Market Regulation:** NASD provides market surveillance and audits
- **CCX Governance:**

Self-regulatory organization overseen by Committees comprised of exchange Members, directors and staff

Committees list: Environmental Compliance, Forestry, Membership, Offsets, Trading and Market Operations



Key Design Issues



- 1. Baseline**
- 2. Target**
- 3. Allocation Process**
- 4. Tradable Financial Instrument**
- 5. What's Included?**
(types of source, sectors, gases)
- 6. IT Infrastructure**
(registries, trading platforms)
- 7. Verification**



Legal Requirements to Report and Reduce GHGs



Operating & Financial Review (OFR)

- From April 1, 2005, all UK publicly listed companies must issue an OFR that addresses environmental matters that may affect long-term value
- Energy use and climate change are environmental concerns facing all companies
- Impacts on companies' reputations of growing greenhouse gas emissions are relevant factors that may affect the entity's long-term value

Policies & Measures in Addition to EU ETS

- EU Emissions Trading Scheme covers only 35% of UK emissions
- Other possible policies and measures including: expansion of emissions trading, domestic tradable quotas, road pricing, energy efficiency standards for appliances & buildings



Becoming GHG Neutral with ECX Associates



- To undertake membership of ECX Associate Membership Limited for a minimum of 3 years
- Annually to conduct an exercise to determine the amount of greenhouse gas emissions produced by specified operations and to pass this information to us within 120 days of joining/anniversary
- To have your greenhouse gas emissions audited by your independent auditors
- To offset your greenhouse gas emissions through the purchase of carbon credits which will be retired to our designated charity
- Undertake to reduce your greenhouse gas emissions through
 - more efficient use of electricity, oil and gas
 - more efficient use of air and car travel