Corporate giants to aid design of US carbon market

As the US enters a major debate on energy use and endeavours to develop a policy to reduce carbon dioxide (CO_2) emissions, a project taking shape in the upper Midwest is poised to test market-based solutions to global warming.

The size, diversity, and volume of emissions (1.375 billion tons of CO_2 per year) from this region – Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio and Wisconsin – make it well-suited as a starting point for a robust and representative greenhouse gas (GHG) emissions trading market expandable to include all of North America. The region's economic output of $2 trillion is equal to that of the UK and the Netherlands combined. A diverse group of major firms has indicated their intent to participate in the design phase of a voluntary pilot trading market for the region, the Chicago Climate Exchange (CCX – see Table 1).

A study of such a market suggests a goal of reducing participants' GHG emissions by 5% below 1999 levels over five years. The feasibility study for the CCX was funded by the Chicago-based Joyce Foundation through a special Millennium Initiative grant to the Kellogg Graduate School of Management at Northwestern University. According to Joyce Foundation president Paula DiPerna, "the CCX would represent a major step forward while an appropriate regulatory framework for greenhouse gases evolves. A regional success on a global challenge like climate change could be transformational. Because of its variety of economic activities, including its strong agricultural sector, the Midwest is the perfect place to begin demonstrating the regional-global interface."

Trading will help reduce GHG emissions cost-effectively and offer new opportunities for environment-based income for farmers, foresters and renewable energy firms.

A high-level advisory board consisting of academic, business, environmental and public sector leaders has been formed with the objective of gathering strategic input (see Table 2).

The notion of trading carbon emissions has long been debated, but the proposed CCX offers the first test of the concept on a scale that has global potential.

As proposed, the exchange could:

☐ demonstrate that GHG emissions trading can achieve real reductions in emissions across multiple business sectors;

☐ help discover the price of reducing GHG emissions; and

☐ develop the frameworks, for monitoring emissions, determining offsets and conducting trades, needed for a successful market.

The study proposes starting the market in the seven Midwest states, including emission offset projects in Brazil, and expanding over time to include all of the US, Canada and Mexico. Participating companies would be issued tradable emission allowances. Emitting firms would commit to a phased schedule for reducing their emissions by 5% by 2005. They could then either cut their emissions directly, buy allowances from companies that have achieved surplus reductions, or buy credits from agricultural or other offset projects. Potential offset projects would include renewable energy systems and the capture and use of agricultural and landfill methane. Offsets could also be generated by carbon sequestration projects such as forest expansion and conservation soil management, which remove CO_2 from the atmosphere (see Table 3).

The commitment from the advisory committee and the participating companies is to be commended. Their input in the design phase will help formulate the final rules and procedures for the CCX and determine if this regional programme can shape the beginning of a global solution to climate change. EF

Richard Sandor is chief executive of Environmental Financial Products. *He would like to thank Dr. Michael Walsh, Alice LeBlanc, Rafael Marques, and Scott Baron for their invaluable support and intellectual contributions to this feasibility study. With special thanks to the Joyce Foundation and Paula DiPerna, Margaret O'Dell, Mary O'Connell and James Seidita for making all this possible*

1. Companies participating in the design phase of the CCX

Agriliance	National Council of Farmer Cooperatives
Alliant Energy	NiSource
Calpine	ORMAT
Carr Futures/Crédit Agricole Indosuez	Pinnacle West Capital
Cinergy	PG&E National Energy Group
DuPont	STMicroelectronics
Ford Motor Company	Suncor Energy
GROWMARK	Swiss Re
IGF Insurance	Temple-Inland
International Paper	The Nature Conservancy
Iowa Farm Bureau Federation	Wisconsin Energy
IT Group	ZAPCO
Midwest Generation	

2. Advisory board members

David Boren	President of The University of Oklahoma; former US Senator and Governor of Oklahoma
Ernst Brugger	Founding Partner and Chairman of Brugger Hanser & Partners
Jeffrey E Garten	Dean of Yale School of Management
Lucien Y Bronicki	Chairman of ORMAT International
Donald P Jacobs	Dean, Kellogg Graduate School of Management, Northwestern University
Dennis Jennings	Global Risk Management Solutions Leader, PricewaterhouseCoopers
Jonathan Lash	President, World Resources Institute
Joseph P Kennedy II	Chairman and President of Boston-based Citizens Energy Group; former US Congressman
Israel Klabin	President of the Brazilian Foundation for Sustainable Development
Bill Kurtis	National broadcaster, host of Arts & Entertainment cable TV show
Thomas E Lovejoy	Chief Biodiversity Advisor to the President of the World Bank
David Moran	President of Dow Jones Indexes
Les Rosenthal	Former Chairman, Chicago Board of Trade; principal, Rosenthal Collins
Maurice Strong	Chairman of the Earth Council, former UN Under-Secretary General
James R Thompson	Former four-term Gov. of Illinois
Brian Williamson	Chairman, London International Financial Futures and Options Exchange (LIFFE)

3. Proposed market architecture for the Chicago Climate Exchange

Geographic coverage	2002: emission sources and projects in seven Midwest states; 2003–05: emission sources and projects in US, Canada and Mexico; Offsets also accepted from projects in Brazil for both periods.
Greenhouse gases covered	Carbon dioxide, methane and all other targeted GHGs
Emission reduction targets	2002: 2% below 1999 levels, falling 1% per year through 2005
Industries and firms targeted	Primarily 'downstream' participants: power plants, refineries, factories, forestry, vehicle fleets; 40 firms initially targeted. Individual entities or co-operating groups of entities must have emissions exceeding 250,000 tons CO_2e in 1999 to become a participating emission source.
Tradable instruments	Fully interchangeable emission allowances (original issue) and offsets produced by targeted mitigation projects
Eligible offset projects	A. Carbon sequestration in forests and domestic soils; B. Renewable energy systems; C. Methane destruction in agriculture, landfills and coalbeds Offsets must be aggregated into pools of 100,000 tons CO_2e per year; Projects placed into service after 1 January 1999 can qualify.
Emissions/project monitoring	Direct measurement (eg CEMs); fuel flows/emission factors; carbon sequestration: standard tables, case-specific estimates, direct measurement.
Provisions for new facilities	Allowance allocations reflect best technology emission rates
Annual public auctions	2% of issued allowances withheld and auctioned in "spot" and "forward" auctions, proceeds returned pro rata
Central registry	Central database to record and transfer allowances and offsets; interfaces with emissions database and trading platform
Trading mechanisms	Standardised CCX Electronic Market, private contracting
Trade documentation	Uniform documentation provided to facilitate trade
Accounting and tax issues	Accounting guidance suggested by generally accepted accounting principles; precedent exists for US tax treatment
Market governance	Self-governing structure to oversee rules, monitoring and trade