

As legislative debate continues, environmental concern and attempts to steer public perception seem to be driving the recent growth in business engagement with emissions trading in the US. *Eric Fishhaut* investigates the current status of this burgeoning marketplace

US emissions – will they trade?

★ The basic global-warming scenario is well known at this point: greenhouse gases (GHG) are warming the atmosphere, polar ice caps are melting, sea levels are rising and action must be taken now to counteract this trend.

Growing levels of carbon dioxide (CO₂), the main heat-trapping gas that scientists believe causes global warming, are said to be the largest contributor to the problem, with predictions of continued increases as industrialisation and power consumption rise.

In the US, which has chosen to reject the Kyoto protocol, politicians are proposing various approaches to reduce

emissions – one being a cap-and-trade system. But will it happen in the foreseeable future?

Two schools

The utility industry in the US seems to be split on how to address carbon and other emissions control. Some companies favour federal emissions standards while others support voluntary reductions. Proponents of regulation point to the successful US Environmental Protection Agency's (EPA's) allowance-trading programme for sulfur dioxide (SO₂) and nitrogen oxide (NO_x), begun in 1995.

Power companies are said to contribute 60% of all CO₂ emissions in the US. In a report released last year, environmental investor coalition Ceres, the Natural Resources Defense Council (NRDC) and the Public Service Enterprise Group (PSEG) analysed 2004 data on emissions from the top 100 electric power producers in the US. From 1990 to 2004, the amount of electricity produced grew by 31%. The good news was that the power producers' emissions of SO₂ decreased about 44%, and NO_x emissions fell 36%. But the bad news was that carbon emissions grew by 27%. With no governmental regulation of carbon emissions, one could easily conclude that voluntary regulation has not worked.

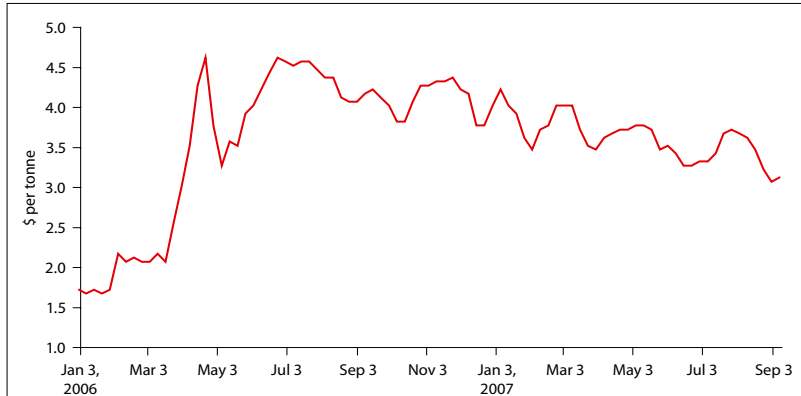
The cap-and-trade concept is straightforward and easily accommodates multi-sector participants. The cap element imposes an emissions limit on all participants and the trade element enables anyone who exceeds the cap to buy credits from those under the cap, in order to remain in compliance. The goal of this system is clear: to lower collectively the overall level of emissions. An alternative approach with significant differences is a baseline and credit programme. With this programme, emissions producers can create credits by reducing their emissions below a baseline level. These credits can be purchased by others if they are over a regulatory limit, but there is no aggregate cap. Under these conditions, there is less to attract open participation in a free-market scenario.

Legislation coming

The 110th US Congress began this year with the quick introduction of five climate change bills with cap-and-trade provisions. Carbon consultancy Point Carbon, a leading global provider of market information and analysis for environmental markets, reports there are now no less than 10 bills being considered. As the majority leadership has changed to the Democratic Party, the scales have tipped towards an increased immediacy on this subject. Each piece of legislation has its own approach and details to reduce greenhouse gases, primarily CO₂, as well as to improve energy efficiency. However, there are numerous issues to be sorted out, including what entities will be required to comply and whether credits can span borders into other countries.

Voluntary exchange

The first organised trading for emissions in North America was formed in 2003. The Chicago Climate Exchange (CCX)

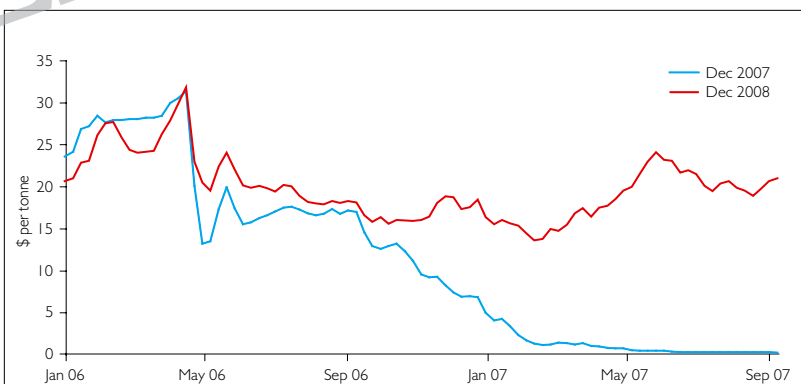


F1. CCX CFI Prices

The CFI prices on the CCX have ramped up and held fairly steady levels over the past 18 months *Source: CCX*

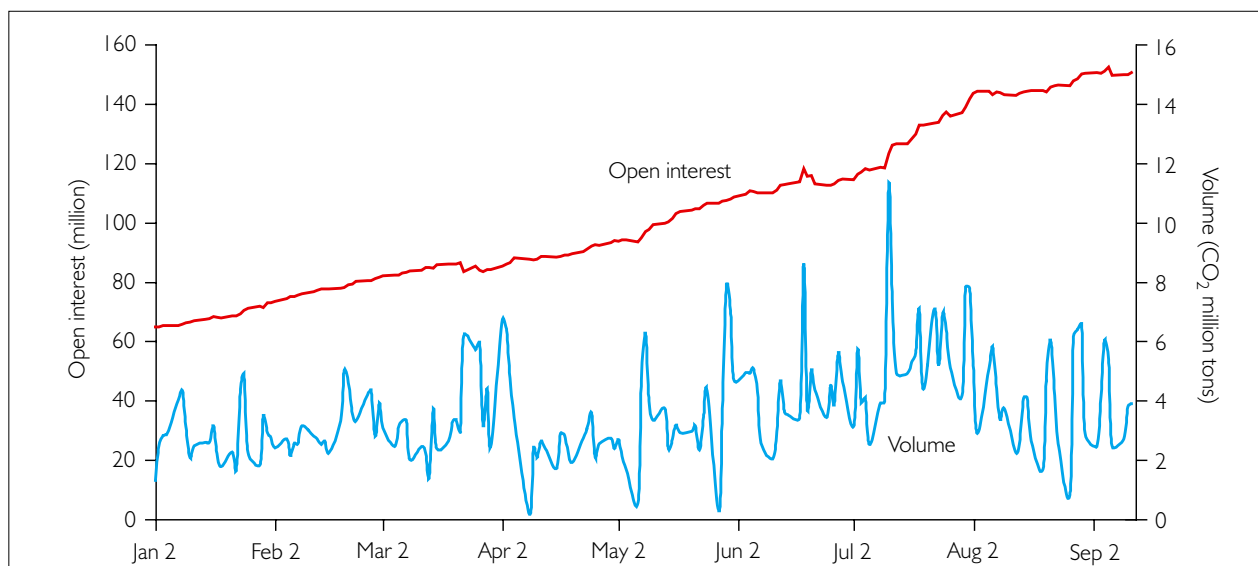
is a voluntary, but legally binding, rules-based greenhouse gas emissions allowance trading system. It is also the only global system that trades all six greenhouse gases. CCX has quickly grown to nearly 300 members, with leaders in greenhouse gas management from industries ranging from utilities and manufacturing to municipalities and universities. The exchange was founded by Richard Sandor, its chairman, a former chief economist with the Chicago Board of Trade, known as the "father of financial futures". Sandor was named one of *Time* magazine's 'Heroes for the planet' in 2002 for helping found CCX.

CCX participants trade units called carbon financial instruments (CFIs), which are equal to 100 metric tons of CO₂. Prices fluctuate depending on the number of buyers and sellers. As an example: if an emission producing company has a baseline of one million metric tons of carbon and in a given year exceeds its limit by 10%, it would have to buy one



F2. ECX CFI Prices

The picture is clear – the allowances for 2007 traded on the European Climate Exchange have fallen dramatically due to an apparent oversupply in the EU ETS *Source: Point Carbon*



F3. ECX volume and open interest

In spite of the fall of 2007 CFI prices, the volume and open interest on the European Climate Exchange portray a healthy and growing marketplace *Source: ECX*

thousand CFIs to offset this. As in any free market, supply and demand dynamics will determine the price. CFIs were trading near \$1 per metric ton in 2004 and are now solidly above \$3 per metric ton. At that rate, the producer in our example would shell out \$300,000.

Critics of the system say that at that rate, the penalty for exceeding the cap just isn't severe enough. For multi-billion dollar entities, that's chump change. While there are more sellers than buyers, the prices will remain low.

But that's actually good news for the environment if more participants are under the cap than over. That means they are reducing emissions, assuming the caps have not been set too high.

CCX launched the world's first environmental derivatives exchange, the Chicago Climate Futures Exchange (CCFE), a CFTC-regulated¹ futures exchange for SO₂ and NO_x Ozone Season² allowances in the US.

In 2003, nine northeastern US states formed the Regional Greenhouse Gas Initiative (RGGI) to reduce GHG emissions. The RGGI is designing a cap-and-trade programme that will launch on January 1, 2009, and by 2018 each state's carbon 'budget' will be reduced 10% below 2009 allowances.

By comparison

In 2005, CCX launched the European Climate Exchange (ECX) jointly with ICE Futures (formerly International Petroleum Exchange), now the leading exchange operat-

ing in the European Union Emissions Trading Scheme (EU ETS). Since 2006, CCX, ECX and CCFE have been owned by Climate Exchange, a publicly traded company listed on the AIM of the London Stock Exchange. Unlike the US, the EU participants are bound by regulations and their exchange has much stronger participation, with more than 12,000 industrial plants on board.

The EU market has fallen under expectations in the past year as CFI prices hit rock bottom, according to new analysis by Point Carbon in its Energy Market Research Service. While the price of carbon allowance collapsed due to an apparent over-issuance of permits, which is cited as the major flaw in the EU ETS, the trading for 2008 delivery is still in the range of €18–20.

Market outlook

Trading of emissions continues to grow on a global scale. The World Bank Carbon Finance Unit cites a large increase in the volumes traded (131%) and dollar value (177%) of the global carbon market in 2006 over 2005. As much as 70% of the market is said to be traded over-the-counter rather than on the exchanges. While the uptake in the US has been slow, there is clearly momentum building. As the legislative debate continues with no end in sight, environmental concern, and perhaps the worry over public perception, seem to be the true drivers for business in the growth of emissions trading in the US. **ER**

¹ US Commodity Futures Trading Commission

² The US 'ozone season' runs from April to October. Ozone levels increase markedly during summer.

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