New Day Dawns in Carbon Market:

U.S. Poised to Mandate National Emissions Trading Scheme

By Jim Kharouf

A wave of optimism is sweeping through the carbon trading world as President-elect Barack Obama prepares to enter office. While the Bush administration dragged its heels on efforts to reduce global warming, Obama made it abundantly clear during his campaign for the White House that emissions reduction will be one of his top priorities. Just as important, the Democratic majority in Congress appears to be equally committed to this goal.

Obama illustrated just how high climate change policy is on his agenda in mid-November when he spoke to the Governors' Global Climate Summit in Los Angeles, saying that his presidency "will mark a new chapter in America's leadership on climate change."

He re-confirmed his campaign pledge to cut greenhouse gases to their 1990 levels by 2020 and slash them 80% from the 1990 levels by 2050. More importantly for the futures industry, he repeated his support for cap-and-trade, the mechanism by which emissions allowances can be bought and sold. This is the model used by the European Union, which has created the world's largest market for both the underlying emissions allowances and a variety of futures and options, traded on exchanges and over-the-counter.

So for those who have been waiting for the U.S. to create a national carbon market, this should be the year when the stars finally align.

"There is a reasonable probability we will get a piece of cap-and-trade legislation passed in 2009, if not no later than 2010," says Richard Sandor, chairman and CEO of Chicago Climate Exchange. "It could be a defining moment in the fight against global warming."

The implications for the futures industry are huge. Within a few years, the U.S. could have the largest carbon market in the world, with as much as $1 trillion in annual turnover. Futures are already trading on the expectation that a U.S. cap-and-trade scheme will take effect in 2013. Emissions allowances could become the biggest new product of the decade, creating vast new opportunities for traders, brokers, exchanges and clearinghouses.

According to Point Carbon, the Oslo-based emissions market research and consulting firm, the value of emissions credits traded under the EU scheme was $44.6 billion for the whole of 2007 and $47.5 billion in the first half of 2008. The European market is still dominated by over-the-counter transactions, but the share of exchange-traded carbon products is growing. Nearly two thirds of all transactions registered on the European Climate Exchange—the leading exchange in this market—are OTC transactions brought to the exchange for clearing. Emissions allowance futures are the most widely traded contracts followed by spot emissions allowances and futures on emissions reductions sourced outside of the EU.

The U.S. has a long way to go before it gets to that size, but a host of banks and other financial firms see the potential and are gearing up to participate.

"We see price opportunity and growth opportunity in these carbon and emissions markets," says Brian Rice, a CME Group futures trader and a principal of the Atrium Carbon Fund, a Chicago-based investment fund created just over a year ago. "We're spending more natural capital – the air we breathe and water we drink – than we have. I think people can connect these dots and that is going to expedite a carbon market coming on line."

Industry experts caution, however, that many important battles still lie ahead. Crucial issues, such as the range of companies that must comply with the caps on emissions and the degree to which their emissions will have to be reduced, will have to be determined by Congress. The process of debate and deliberation undoubtedly will be confusing and fractious. Strong resistance will come from the coal industry, manufacturers, utilities and other industries that fear higher costs and falling demand. And the economic contraction, which deepens by the day, will intensify concerns about the costs of such a scheme.

Congressional Support

Past attempts by the Congress to legislate a cap-and-trade scheme have failed to achieve a majority, but the expectation is that this year will be different.

In the House, control over a key committee is now in the hands of Representative Henry Waxman, a California Democrat who favors an aggressive approach to emissions reduction. With the support of House Majority Leader Nancy Pelosi, another California Democrat, he successfully challenged Representative John Dingell, a Michigan Democrat with close ties to the automakers, for the chairmanship of the House Energy and Commerce Committee. The demotion of Dingell, who favored a more gradual approach to emissions reduction, is likely to accelerate the legislative process, according to many observers.

In the Senate, yet another California Democrat—Barbara Boxer—has taken the lead in drafting the legislation creating a federal cap-and-trade system. Boxer, who chairs the Senate Environment and Public Works Committee, plans to introduce legislation in January that will direct the Environmental Protection Agency to set up a cap-and-trade system for greenhouse gases that will meet the goals set out by Obama. She also has invited venture capitalists and other expert witnesses to explain how fighting global warming can lead to job creation and economic growth, an important selling point in the coming political battle over this legislation.

Boxer has the support of at least two other Democrats on that committee, Senators John Kerry of Massachusetts and Amy Klobuchar of Minnesota. During the Senate recess in December, Kerry and Klobuchar travelled to Poland to attend the U.N. climate change talks and echoed Obama's commitment to emissions reduction. "We intend to pick up the baton and really run with it," Kerry told reporters.

Many experts now believe that cap-and-trade legislation has a good chance of passing Congress by year-end. "If not now, when?" asks Lenny Hochschild, managing director at Evolution Markets, one of the leading brokers in the environmental markets arena. "This is really a sea-change. This is the first time in which we have a good chance of getting something passed."

Once legislation passes, it will take several years to actually implement the scheme. Emissions experts expect to see a national system up and working in 2012 or 2013, but note that a liquid market in emissions allowances could develop long before the actual limits come into effect.

Greg Lawrence, partner and expert on environmental law at McDermott, Will and Emery, says he expects Senator Boxer's bill to be the main focus of attention this year. The bill is likely to cover all six greenhouse gases (carbon dioxide, methane, nitrous oxide and three groups of fluorinated gases). Among the key issues that need to be decided are whether allowances should be allocated or auctioned, the types of activities that will qualify as carbon offsets, and the degree to which carbon offsets from outside the U.S. can be imported.

There is also some question over which regulator will oversee the carbon market in the U.S., Lawrence says. The Environmental Protection Agency oversees the SO2 and NO2 markets and has the most expertise on pollution. The Commodity Futures Trading Commission oversees the Chicago Climate Exchange and Green Exchange, the two U.S. exchanges that offer trading in emissions products, and has more expertise on market surveillance. The Federal Energy Regulatory Commission also has a claim for jurisdiction through its authority over utilities, which will be at the heart of any emissions reduction program.

"There is some uncertainty there as to which is going to be the lead federal regulator, not only in terms of the way they are designed and operated but also in terms of policing fraud and attempted manipulation of that market," Lawrence says.

One part of the country has already created its own cap-and-trade scheme. The Regional Greenhouse Gas Initiative, which covers power plants in 10 northeastern states, held its first auction of emissions allowances in September. Many buyers were power companies that are required to comply with limits on their emissions, but others were trading firms and investment funds that are seeking to familiarize themselves with this new type of market. There is also a small but growing market for futures on RGGI allowances, which has attracted a number of banks and other financial institutions. It is not clear yet, however, whether the RGGI allowances will continue to be valid once the federal cap-and-trade scheme being developed in Washington takes effect.

The Obama Team

Although the Democrats in the Congress will be in the driver's seat in any effort to create a mandatory cap-and-trade scheme in the U.S., the Obama administration will have a central role in both crafting that legislation and implementing the actual regulations. So Obama's picks for key government agencies such as the EPA will be critically important.

In December Obama announced several top energy and environmental advisers with deep experience and knowledge on climate change issues. Obama named Carol Browner, the head of the EPA during the Clinton administration, as a Cabinet-level official responsible for climate and energy policy, and Lisa Jackson, a former EPA enforcement officer and more recently the head of New Jersey's environmental protection department, as head of the EPA.

Veronique Bugnion, a Point Carbon analyst based in Washington, D.C., notes that New Jersey legislature enacted a law in 2007 setting ambitious goals for greenhouse gas reductions. New Jersey is also one of the 10 states that have agreed to participate in RGGI. So if Jackson becomes the head of the EPA, she will have relevant experience as the agency implements a national cap-and-trade scheme. The head of the EPA also may have a role in drafting legislative recommendations for the Congress, as happened in 1990 with the Clean Air Act amendments that put into place the acid rain program.

What Browner's role at the White House will be is not yet clear, but it could go well beyond the traditional definition of environmental issues. Buignon points to the financial aspects of cap-and-trade and predicts that whoever coordinates policy in this area may also have to deal with agencies such as the Treasury Department. There is also an international dimension, in that the Obama administration will have to make sure that the U.S. position in global climate change talks does not get out of line with the emissions commitments hammered out in the Congress.

Going International

Obama's push for U.S. cap-and-trade also plays into international policy. Since the U.S. did not sign onto the 1997 Kyoto Protocol—in fact it is the only major industrialized country that has not signed the treaty—it has been on the outside looking into the global effort to reduce emissions. Kyoto expires in 2012, so the 180-plus countries that signed the treaty are now in the process of negotiating a new international climate agreement. The hope is that with the U.S. now as an active participant, the prospects are much improved for an ambitious new global commitment this December, when the next round of UN climate change talks will take place in Copenhagen.

One important implication of greater U.S. involvement is the potential for cross-border linkages among various national and regional emissions markets. Currently, the EU Emissions

The European Emissions Exchanges

Ranked by volume of futures and options traded and/or cleared in Jan-Nov 2008

The EU Emissions Trading Scheme is the largest emissions market in the world. Five exchanges--four in Europe and one in the U.S. currently offer futures and options on EU emission allowances. The chart below shows how they rank in terms of market share, with volume measured by metric tons of carbon traded and/or cleared by the exchanges.

Month	ECX	NordPool	EEX	Green Exchange	BlueNext
January	171,163,000	13,154,000	4,296,000		
February	139,873,000	20,552,000	7,495,000		
March	118,958,000	13,402,000	5,539,000	1,770,000	
April	172,987,000	9,682,000	6,844,000	948,000	30,000
May	115,116,000	10,972,000	3,015,000	687,000	325,000
June	221,424,000	6,184,000	4,083,000	590,000	222,000
July	255,544,000	7,482,000	5,878,000	622,000	660,000
August	143,563,000	3,285,000	8,752,000	860,000	10,000
September	198,289,000	6,108,000	7,865,000	11,000	50,000
October	331,477,000	8,391,000	22,800,000	10,000	90,000
November	217,984,000	4,941,000	14,892,000	520,000	125,000
Total	**2,086,378,000**	**104,153,000**	**91,459,000**	**6,018,000**	**1,512,000**

Note: *Green Exchange began offering futures and options on EU emission allowances in March 2008.*
BlueNext began offering futures on EU emission allowances in April 2008.

Trading Scheme is the most advanced market, with an estimated $50 billion in turnover last year. There is also an important international market for certified emissions reductions, or CERs, which are traded under the rules of the Kyoto treaty. Other countries such as Australia, New Zealand, Canada and Japan are also pursuing carbon cap-and-trade models. As all these markets take shape, new opportunities will arise to link them into one global market, so that carbon credits acquired in one part of the world can be used as currency in another part of the world.

"If the U.S. gets a cap-and-trade system up and running, that will be the largest in the world," says Kristian Tangen, director at Point Carbon. "It could be a dominating force from 2015. And there is a good chance that the three systems from Europe, the U.N. and U.S. will be one system or at least the U.S. and European system will be interlinked. Then other countries will link up to that, such as Australia, Canada, Mexico, possibly Japan."

The current EU carbon market is about 2.2 billion metric tons while the U.S. carbon "footprint", i.e., the amount of CO2 emissions from utilities, vehicles, manufacturers, refineries and other sources, is estimated at about 6 billion metric tons. Gil Avidar, head of emissions sales in the Americas for Newedge, estimates the potential size of the spot emissions market in the U.S. at $18 billion to $90 billion, though he cautions that it is difficult to predict what price carbon will fetch as it depends on the details of the cap-and-trade scheme as well as a host of other factors. As for emissions derivatives, he estimates that the potential size of the U.S. market could be anywhere from $80 billion to $2.7 trillion.

"That gives you a feel for the huge potential for the carbon markets that potentially could [become] the largest commodity in the world," Avidar says.

Opportunities for Exchanges

All of this leaves the two U.S. emissions exchanges—the Chicago Climate Exchange and the Green Exchange—in good position to benefit from the coming growth of interest in carbon trading.

The Chicago Climate Exchange, a subsidiary of the publicly traded Climate Exchange Plc, launched in 2003 as a voluntary carbon market with binding targets. CCX offers its participants a way to buy and sell "carbon financial instruments" that represent a certain amount of emissions reductions.

The level of trading activity is quite small relative to other futures markets, but volume picked up substantially in 2008. In the year to November, volume in the spot CFI market reached 672,000 contracts (equivalent to 67.2 million metric tons of carbon), more than double the prior year's volume.

Its sister company, the Chicago Climate Futures Exchange, offers futures and options on CFIs as well as other contracts. CFI futures and options volume is averaging a little over 3,000 contracts a month. Open interest at the end of November on CFI futures was 5,700 contracts, representing 5.7 million metric tons of carbon equivalent while CFI options open interest stood just over 7,300 contracts, or 7.3 million metric tons.

CCFE, which now has 410 members, recently introduced two new sets of contracts in response to the growth of the underlying market. The exchange began offering futures and options on RGGI carbon allowances in August, giving market participants a way to manage exposures to the price of RGGI allowances.

And in November, the exchange listed CFI-US futures for CFI futures contract expirations occurring 2013 and later. Beginning in 2013, these contracts will require delivery of U.S. federal allowances—on the presumption that a mandatory cap-and-trade scheme has been implemented at the federal level—or other specified mandatory CO2 allowances if a federal program is not enacted when contracts expire. In short, the CFI-US contract allows corporate hedgers and proprietary traders a way to take an early position on the development of a mandatory national carbon market in the U.S. Initial volumes and prices around $11 per ton indicate that the market anticipates that the U.S. will implement a cap-and-trade system by 2012.

"There was member demand for the contract," Sandor says. "It's playing the role we hope it would. It's sending a price signal and validity for these markets. We received a lot of positive feedback."

The second exchange is the Green Exchange, which was launched in December 2007 by a consortium of several large financial, energy and trading firms and the New York Mercantile Exchange, which is now part of CME Group. The exchange has not drawn much volume over the past year, but CME plans to breathe new life into the venture. Craig Donohue, CME's chief executive officer, says he is committed to the business model and sees potential for the carbon market as U.S. legislation nears fruition.

"We're heading into an environment where biofuels, alternative energy and carbon cap-and-trade are going to be sorted out," Donohue says. "I'm excited about the Green Exchange and the consortium of owners and it definitely will be competitive with the Chicago Climate Exchange."

It is likely that the competition for carbon contracts will not stop there. Nasdaq's purchase of OMX Group last year also included Nordpool, a Scandinavian market offering CO2 contracts. NYSE Euronext is a majority owner of BlueNext, a spot and futures carbon exchange in Europe. Both could offer US carbon contracts on their trading platforms in the US.

While a U.S. carbon market still seems years away, 2009 could prove to be the pivotal year that makes the commodity one of the hottest in the world.

"I'm more bullish than I've ever been," Sandor says. ■

Chicago Climate Futures Exchange Clearing Members

- ADM Investor Services
- Banc of America Securities
- Barclays Capital
- BNP Paribas Commodity Futures
- Citigroup Global Markets
- Credit Suisse Securities (USA)
- Deutsche Bank Securities
- Fortis Clearing Americas
- Goldman Sachs
- J.P. Morgan Clearing Corp.
- J.P. Morgan Futures
- MF Global
- Merrill Lynch
- Mizuho Securities USA
- Newedge Financial
- Newedge USA
- Prudential Bache Commodities
- RBC Capital Markets
- Tradelink (self-clearing only)
- UBS Securities

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