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Carbon Capitalists Warming to Climate Market Using Derivatives

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Across Uganda, thousands of women warm supper over new, $8 orange-painted stoves. The clay-and- metal pots burn about two-thirds the charcoal of the open-fire cooking typical of East Africa, where forests are being chopped down in the struggle to feed the region's 125 million people.

Four thousand miles away, at the Charles Hurst Land Rover dealership in southwest London, a Range Rover Vogue sells for 90,000 pounds ($151,000). A blue windshield sticker proclaims that the gasoline-powered truck's first 45,000 miles (72,421 kilometers) will be carbon neutral.

That's because Land Rover, official purveyor of 4x4s to Queen Elizabeth II, is helping Ugandans cut their greenhouse gas emissions with those new stoves.

These two worlds came together in the offices of Blythe Masters at JPMorgan Chase & Co. Masters, 40, oversees the New York bank's environmental businesses as the firm's global head of commodities. JPMorgan brokered a deal in 2007 for Land Rover to buy carbon credits from ClimateCare, an Oxford, England-based group that develops energy-efficiency projects around the world. Land Rover, now owned by Mumbai-based Tata Motors Ltd., is using the credits to offset some of the CO2 emissions produced by its vehicles.

For Wall Street, these kinds of voluntary carbon deals are just a dress rehearsal for the day when the U.S. develops a mandatory trading program for greenhouse gas emissions. JPMorgan, Goldman Sachs Group Inc. and Morgan Stanley will be watching closely as 192 nations gather in Copenhagen next week to try to forge a new climate-change treaty that would, for the first time, include the U.S. and China.

U.S. Cap and Trade

Those two economies are the biggest emitters of CO2, the most ubiquitous of the gases found to cause global warming. The Kyoto Protocol, whose emissions targets will expire in 2012, spawned a carbon-trading system in Europe that the banks hope will be replicated in the U.S.

The U.S. Senate is debating a clean-energy bill that would introduce cap and trade for U.S. emissions. A similar bill passed the House of Representatives in June. The plan would transform U.S. industry by forcing the biggest companies — such as utilities, oil and gas drillers and cement makers — to calculate the amounts of carbon dioxide and other greenhouse gases they emit and then pay for them.

Estimates of the potential size of the U.S. cap-and-trade market range from $300 billion to $2 trillion.

Banks Moving In

Banks intend to become the intermediaries in this fledgling market. Although U.S. carbon legislation may not pass for a year or more, Wall Street has already spent hundreds of millions of dollars hiring lobbyists and making deals with companies that can supply them with “carbon offsets” to sell to clients.

JPMorgan, for instance, purchased ClimateCare in early 2008 for an undisclosed sum. This month, it paid $210 million for Eco-Securities Group Plc, the biggest developer of projects used to generate credits offsetting government-regulated carbon emissions. Financial institutions have also been investing in alternative energy, such as wind and solar power, and lending to clean-technology entrepreneurs.

The banks are preparing to do with carbon what they’ve done before: design and market derivatives contracts that will help client companies hedge their price risk over the long term. They’re also ready to sell carbon-related financial products to outside investors.

Masters says banks must be allowed to lead the way if a mandatory carbon-trading system is going to help save the planet at the lowest possible cost. And derivatives related to carbon must be part of the mix, she says. Derivatives are securities whose value is derived from the value of an underlying commodity — in this case, CO2 and other greenhouse gases.

‘Heavy Involvement’

“This requires a massive redirection of capital,” Masters says. “You can’t have a successful climate policy without the heavy, heavy involvement of financial institutions.”

As a young London banker in the early 1990s, Masters was part of JPMorgan’s team developing ideas for transferring risk to third parties. She went on to manage credit risk for JPMorgan’s investment bank.

Among the credit derivatives that grew from the bank’s early efforts was the credit-default swap. A CDS is a contract that functions like insurance by protecting debt holders against default. In 2008, after U.S. home prices plunged, the cost of protection against subprime-mortgage bond defaults jumped. Insurer American International Group Inc., which had sold billions in CDSs, was forced into government ownership, roiling markets and helping trigger the worst global recession since the 1930s.

Lawmakers Leery

Now, that story — and the entire role the banks played in the credit crisis — has become central to the U.S. carbon debate. Washington lawmakers are leery of handing Wall Street anything new to trade because the bitter taste of the credit debacle lingers. And their focus is on derivatives. Along with CDSs, the most-notorious derivatives are the collateralized-debt obligations they often insured. CDOs are bundles of subprime mortgages and other debt that were sliced into tranches and sold to investors.

“People are going to be cutting up carbon futures, and we’ll be in trouble,” says Maria

Cantwell, a Democratic senator from Washington state. “You can’t stay ahead of the next tool they’re going to create.”

Cantwell, 51, proposed in November that U.S. state governments be given the right to ban unregulated financial products. “The derivatives market has done so much damage to our economy and is nothing more than a very-high-stakes casino — except that casinos have to abide by regulations,” she wrote in a press release.

Jet Fuel, Wheat

In carbon markets, many of the derivatives would be futures, options and swaps that would allow a company to lock in a price for carbon like it would for any other commodity related to its business, Masters says. Such derivatives are negotiated every day by airlines trying to guarantee future prices for jet fuel and farmers setting a future price for their wheat crop. A large, liquid market in carbon credits would serve to keep their price low, JPMorgan says.

“The reason why this is important is not because it’s going to create a new forum for us to buy and sell; it’s because the scale of what’s being contemplated here is absolutely enormous,” Masters says. “It’s going to affect your kids and my kids. The worst thing would be to introduce legislation that doesn’t achieve the environmental goal; that would be a crime of epic proportions.”

Not Convinced

Michelle Chan, a senior policy analyst in San Francisco for Friends of the Earth, isn’t convinced.

“Should we really create a new $2 trillion market when we haven’t yet finished the job of revamping and testing new financial regulation?” she asks. Chan says that, given their recent history, the banks’ ability to turn climate change into a new commodities market should be curbed.

“What we have just been woken up to in the credit crisis — to a jarring and shocking degree — is what happens in the real world,” she says.

Even George Soros, the billionaire hedge fund operator, says money managers would find ways to manipulate cap-and-trade markets. “The system can be gamed,” Soros, 79, remarked at a London School of Economicsseminar in July. “That’s why financial types like me like it — because there are financial opportunities.”

Masters says U.S. carbon markets should be transparent and regulated by the Commodity Futures Trading Commission. Standardized derivatives contracts — securities that can be bought and sold by anyone — should be traded on exchanges or centrally cleared, she says. The British-born Masters, who has an economics degree from Cambridge University, took over JPMorgan’s commodities business in 2007.

Allowances, Offsets

In a U.S. cap-and-trade market, the government would allot tradable pollution permits, called allowances, to emitters of CO2 and other greenhouse gases. The market would also likely include offsets — credits generated by companies such as Eco-Securities that would have to demonstrate to U.S. agencies running the program that the offsets mitigate carbon

pollution.

Point Carbon, an Oslo-based firm that analyzes environmental markets, estimates that by 2020 the U.S. carbon market could surge to more than $300 billion. That's based on an assumption that the allowances, each representing a ton of carbon dioxide taken out of the atmosphere, would trade for $15. Bart Chilton, a commissioner of the CFTC, which would likely be one of the regulators of the carbon market, says it could grow as large as $2 trillion.

Goldman Building

As they wait for a U.S. cap-and-trade system to be introduced, the big banks are busy building, not trading. Goldman Sachs, for example, has fewer than 10 traders dedicated to carbon around the world.

"Carbon right now is not about sitting in front of a screen and clicking," says Gerrit Nicholas, Goldman's head of North American environmental commodities. "It's all about running around talking to clients about what they can expect, how big it can be and what their risk is."

Abyd Karmali, who heads global carbon emissions at Bank of America Merrill Lynch in London, says companies, banks and investors are all watching Congress.

"A lot of people are focused on Copenhagen, but what happens in Washington on federal cap and trade is, arguably, more important," says Karmali, who's president of the Carbon Markets and Investors Association, an international trade group. "This market is still in its very early stages. U.S. cap and trade would make an order of magnitude of difference."

'Ruinous Course'

Although U.S. President Barack Obama and his economic team support cap and trade, Washington politics could defeat it. The House bill passed in June by just seven votes, and senators on both sides of the aisle worry that imposing pollution caps on industry will result in higher energy bills for consumers at a time when U.S. unemployment tops 10 percent. Karl Rove, former president George W. Bush's deputy chief of staff, wrote in Newsweek magazine in November that cap and trade "would put America on a ruinous course."

Republican Senator James Inhofe of Oklahoma, who in 2006 called Nobel Prize winner and former Vice President Al Gore "full of crap" on global warming, boycotted committee meetings on the Senate bill in November.

Senate Majority Leader Harry Reid said on Nov. 18 that climate-change legislation may not be discussed until the spring, prompting speculation among others in the Senate that the bill won't be passed before Congressional elections in 2010. The Obama administration is also driving to overhaul U.S. health care and develop proposals to push down unemployment.

House, Senate Bills

U.S. cap and trade, as currently configured in both the House and Senate bills, would mean

the government sets an upper limit on emissions of seven greenhouse gases, including CO2, methane and nitrous oxide, for thousands of power plants, refineries and factories. Over time, the caps would fall, pushing emitters to adopt clean-air technology.

The government would give some pollution allowances to companies free to help them meet their caps during the first years of the program. Emitters who invest in cutting their pollution would have allowances to sell; those that don't would have to buy.

The allowances — similar to those that sold in Europe in mid-November for 13.5 euros ($20) — would be tradable on an exchange or, if Congress allows it, between parties in an over-the-counter market. The credits garnered through offset projects such as the stoves in Uganda are distinct from allowances in that they may be generated on the other side of the world.

Accounting for Carbon

U.S. companies would account for carbon in long-term strategic plans, bankers say. For instance, utilities such as American Electric Power Co., which produces power from coal, would hedge the price of carbon over periods as long as a decade or more. Columbus, Ohio-based AEP is the biggest U.S. greenhouse gas emitter in the Standard & Poor's 500, according to the London-based Carbon Disclosure Project, which collects such data. Companies like AEP would retain financial institutions to come up with customized derivatives contracts to help them manage their risk.

Derivatives contracts designed for a particular company or transaction, known as over-the-counter derivatives, are a hot- button issue in the larger debate over how the U.S. banking system should be regulated. Most CDSs and CDOs are OTC derivatives. They are created and traded privately — not on any exchange — and can be illiquid and opaque, says Andy Stevenson, a financial analyst for the Natural Resources Defense Council, an environmental group that supports the Senate legislation. The House cap-and-trade bill bans OTC derivatives, requiring that all carbon trading be done on exchanges.

OTC Derivatives

The bankers say such a ban would be a mistake. OTC derivatives are a $600 trillion market, much of which consists of interest-rate swaps designed to hedge risks for individual companies. "It's a concern of ours if they limit the market," says Pat Hemlepp, a spokesman for AEP. "It reduces the options when it comes to cap and trade, and we have told people that on the Hill. We do feel it's best to have banks and other parties able to participate."

The banks and companies may get their way on carbon derivatives in separate legislation now being worked out in Congress. In October, the House Financial Services Committee, headed by Representative Barney Frank, a Democrat from Massachusetts, approved a bill that would require collateral for all derivatives trading between financial institutions. And broker-dealers such as JPMorgan and Goldman Sachs would be forced to clear most derivatives contracts on regulated exchanges or through so-called swap-execution facilities. However, the new rules would not apply to end-users — companies such as AEP that use derivatives to hedge operational risks.

Price Collar

The Senate environment bill, dubbed Kerry-Boxer for Senators John Kerry of Massachusetts

and Barbara Boxer of California, the two Democrats who introduced it, contains little detail on how the cap-and-trade market would work. It sets a price floor of $11 per ton on carbon. The bill also creates a strategic reserve of allowances that the government could use to flood the market if the price of carbon shoots up.

“It will be the best-regulated market in the country,” Stevenson says. “The effort is to make all of the trading known to the regulator. That wasn’t the case in the mortgage market.”

Wall Street sees profits at every stage of the carbon- trading process. Banks would make money by helping clients manage their carbon risk, by trading carbon for their own accounts and by making loans to companies that invest to cut greenhouse gas emissions.

Chicago Climate Exchange

A clear U.S. price on carbon, determined in a large market, would help drive billions of dollars into investments to clean the air, says Richard Sandor, founder and chairman of the Chicago Climate Exchange and the Chicago Climate Futures Exchange. He is also the principal architect of the interest- rate futures market.

“What’s important is the price signal,” Sandor says. “It will stimulate inventive activity and cause behavior to change.” The Chicago Climate Exchange, the biggest U.S. voluntary greenhouse-gas-emissions trading system, trades 180,000 tons of carbon a day, up from 40,000 tons in 2006.

Over time, carbon, like other commodities, needs markets linked around the world, Goldman’s Nicholas says.

“If you believe the science and that something needs to be done about this, the market probably needs to be big,” he says. “Carbon could become an important commodity. I’m not saying it will be bigger than others, but it will be another important business for us.”

Polluters Only

Critics, including Senator Cantwell, espouse a smaller, less complex market in which pollution permits would be publicly exchanged only among fossil-fuel producers. Such a system may block progress on the environmental goals, says JPMorgan’s Masters.

“We say, ‘Let’s incentivize people to have the lowest-cost opportunities to avoid carbon emissions,’” she says.

Masters has been dealing with complex securities since she did a summer internship on JPMorgan’s London derivatives desk while she was at Cambridge. She joined the desk full time soon after graduating in 1991. The derivatives group’s task was to find ways to spread the risk of JPMorgan’s loans, partly to reduce the amount of capital it was required to hold in reserve against them.

Offloading Risk

In 1994, Exxon Corp. needed a credit line after it was threatened with a $5 billion fine for spilling 10.8 million gallons (40.9 million liters) of oil into the ocean off Alaska in 1989. Masters asked the London-based European Bank for Reconstruction and Development to take on the Exxon risk in exchange for an annual fee paid by JPMorgan, according to “Fool’s

Gold," a book by Gillian Tett(Free Press, 2009) that chronicles the history of credit derivatives at JPMorgan. The loan would remain on JPMorgan's books and be insured by the EBRD, an international bank owned by 61 countries that supports development projects in Central Europe.

The bankers called the contract a credit-default swap.

Masters left the credit derivatives unit in 2001 to do other jobs at the bank. From 2004 to 2007, she served as chief financial officer of the investment bank. Since she took over the commodities division in 2007, its staff has almost doubled to 400 employees. The firm added Bear Energy to the division when it acquired Bear Stearns Cos. in the March 2008 heat of the credit crisis.

In December 2008, Masters led the purchase of UBS AG's agriculture business and Canadian commodities operations. She now sits in a corner office in Bear's former Madison Avenue tower. Outside her glass door are rows of traders making markets in metals and oil futures.

Subprime Carbon

Friends of the Earth's Chan is working hard to prevent the banks from adding carbon to their repertoire. She titled a March FOE report "Subprime Carbon?" In testimony on Capitol Hill, she warned, "Wall Street won't just be brokering in plain carbon derivatives — they'll get creative."

Sitting in Cafe Madeleine, a small sandwich shop on a hilly stretch of California Street in San Francisco, Chan, 37, talks over coffee about her campaign. She's brought her own ceramic mug from her crammed office across the street.

Chan started at FOE — the biggest network of environmental groups in the world, with offices in 77 countries — on a six- month fellowship after she graduated from the University of California, Los Angeles in 1994. Her first job was to pin responsibility for what FOE regarded as environmentally damaging projects on the banks that loaned the enterprises money.

Three Gorges Dam

In 1997, Chan uncovered and helped publicize loans to China's Three Gorges Dam by banks including Morgan Stanley and Merrill Lynch. Since then, Wall Street banks have sought Friends of the Earth's help in burnishing their environmental image.

In 2005, Chan worked with Goldman Sachs to write an environmental policy statement for the firm, she says.

Carbon isn't like other commodities, Chan says. The government's goal to reduce pollution means it will gradually diminish the number of allowances it issues, and that will be a powerful incentive for speculators to try to corner the market and drive up the price, she says.

While banks say they're a long way from packaging securities from environmental credits now, Chan points to two deals that Zurich-based Credit Suisse Group AG completed in 2007 and 2008 that each combined more than 20 different offset projects, then sliced them into tranches and sold them to investors. The securities were the equivalent of carbon CDOs,

Chan says.

Boom and Bust

Chan has an ally in hedge fund manager Michael Masters, founder of Masters Capital Management LLC, based in St. Croix, U.S. Virgin Islands. He says speculators will end up controlling U.S. carbon prices, and their participation could trigger the same type of boom-and-bust cycles that have buffeted other commodities.

In February 2009 House testimony, Masters — who is no relation to Blythe Masters — estimated that the early 2008 price bubbles in crude oil, corn and other commodities cost U.S. consumers more than $110 billion.

The hedge fund manager says that banks will attempt to inflate the carbon market by recruiting investors from hedge funds and pension funds.

“Wall Street is going to sell it as an investment product to people that have nothing to do with carbon,” he says. “Then suddenly investment managers are dominating the asset class, and nothing is related to actual supply and demand. We have seen this movie before.”

Companies Need Banks

Still, companies need the financial markets to help them drive down their greenhouse gas emissions at a reasonable price, says the NRDC’s Stevenson. “There are trillions of dollars needed to make this transition, and companies need the banks,” says Stevenson, a former trader for London-based hedge fund firm Brevan Howard Asset Management LLP.

Stevenson dismisses as overblown the concern that banks will soon be packaging greenhouse gas allowances into securities that look like CDOs. The banks stand to make more money, he says, as lenders to companies that need to invest in new power plants and factories to reduce their emissions. “I would argue that this is only a bonanza for the banks in that they get to go back to their day jobs — which is lending money,” Stevenson says. “I’m suspect of them generating a lot from carbon trading itself in the early years.”

Northeast Test Case

A relatively small-scale cap-and-trade effort called the Regional Greenhouse Gas Initiative tells a cautionary tale. RGGI is a CO2 reduction program established by a group of northeastern and mid-Atlantic states in 2003 with a goal of cutting CO2 emissions from power plants in the region 10 percent by 2018. Ten states are now members. Trading in the companies’ pollution permits began in September 2008 — in the middle of the financial crisis. As of mid-November 2009, prices of the pollution permits were down 50 percent, according to data compiled by Bloomberg.

Meanwhile, the 10 best-performing investment funds with climate change or clean energy as a central goal all plunged 40 percent or more in 2008, according to data compiled by London- based New Energy Finance. The shrinking global economy sapped momentum for developing new environmental projects.

“To mobilize capital now and begin a transformation to new energy technologies is a very risky business,” says Ken Newcombe, founder of C-Quest Capital, a Washington-based carbon finance business that invests in offsets. “Returns have to be reasonable to take on

those risks."

Risk Capital Vital

Newcombe is the former head of Goldman's U.S. carbon market origination and sales department and one of the world's first carbon traders. He holds a Ph.D. in energy and natural resource development from the Australian National University. Private money, including capital from banks, hedge funds and other investors, must keep flowing into the system to realize global environmental goals that the Copenhagen meetings will try to hash out, he says.

"The ultimate objective is economic efficiency," Newcombe says. "How can we reduce the cost of implementing important public policy? Having a pool of risk capital is absolutely vital to the smooth introduction of a cap-and-trade regime in the U.S."

As Washington debates climate policy in the shadow of the recent financial meltdown, lawmakers have a right to be wary, Newcombe says.

"There's legitimate concern that there may be unseemly profits or untenable risks," he says. "But a problem now is that the critical objective of stabilizing the financial system could lead to an overregulation of the carbon market."

'Such a Fog'

Meanwhile, the industrial firms that would be affected by cap and trade are eager for the game to begin, says Lew Nash, a Morgan Stanley executive director and the firm's U.S. point person on the carbon markets.

"There is such a fog right now in terms of how the legislation is going to work," Nash says. "There is a real economic desire here for price signals that will permit the market to properly price carbon. Our customers have little choice but to participate in this evolving market."

Nash says his clients aren't just looking for help figuring out how to use carbon trading to manage their emissions caps. Pricing carbon will also set the tone for strategic investments. If a company wants to build a new factory, for instance, it's going to need to factor prospective carbon emissions into its construction and operational plans, Nash says.

Supporters of cap and trade see, over many years, a remaking of the U.S. industrial landscape and a sharp reduction in the gases that cause global warming. Little will happen, though, until the debate is resolved between the bankers who want more liquidity and the lawmakers who demand more regulation.

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