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GLOBAL CORPORATE TRUST

# The Right Environment for Change

How voluntary carbon trading can save  
the Kyoto Protocol



THE BANK OF NEW YORK MELLON.



Kyoto's goal to cut greenhouse gas emission remains far from realized, but a new approach to an old solution may hold the key to success.



Regulating pollution-belching companies once was a straightforward affair, usually involving some combination of threats, fines, litigation, and public shaming on the nightly TV news. Then came Armco Steel, and suddenly the mouse was chasing the cat.

In the 1970s, the US Environmental Protection Agency (EPA) demanded Armco install \$15m worth of pollution-control equipment at its Middletown, Ohio, plant or face heavy fines. Armco pushed back with a different plan, saying it could achieve EPA's pollution limits and save \$11m if the plant's total emissions were considered contained within a "geographic bubble" and arose from a single hole in the bubble ("Building a Better Dust Trap", *Time*, December 17, 1979.)

Armco's plan, if accepted, would enable the company to cut pollution from sources easier and cheaper to control, rather than installing the costly equipment EPA wanted. Armco also recommended allowing other neighborhood plants to join a larger geographic bubble and trade pollution credits among themselves.

After an extensive internal battle, EPA agreed to the experiment. The programme proved wildly successful, eventually leading to a 1990 emissions trading program to fight acid rain. Cost estimates for that program ran from \$400 to \$1,000 per ton of pollution; actual costs were \$100 to \$200 per ton, thanks to the flexibility provided by emissions trading ("Emissions Trading is Kyoto's Success Story," *The Boston Globe*, February 17, 2005.)

The choice of whether to control pollution through strict government mandates or free-market mechanisms remains an open question. It nearly derailed the signing of the Kyoto Protocol to the United Nations Framework Convention on Climate Change in 1997. Kyoto was enacted with great fanfare, with industrialized countries agreeing to reduce collective emissions of greenhouse gases to 1990 levels by 2012. Yet a majority of countries have not signed or ratified the Protocol, and have otherwise refused to take the steps necessary to meet the target dates.



The problem with Kyoto is that it demands thinking globally but inflicting pain locally. Imposing carbon caps requires free market intervention, usually carried out by bureaucrats empowered to license, penalize, litigate, and otherwise bury companies under a blizzard of new paperwork. In addition, predicting and enforcing carbon emissions caps and fines across a vast territory, against wealthy and powerful corporations, over an extended period of time may represent the ultimate political and bureaucratic nightmare.

Faced with these unpleasant choices, some nations have refused to sign or ratify Kyoto. A so-called Umbrella Group, which has at times included Australia, Canada, Iceland, Japan, New Zealand, Norway, the Russian Federation, Ukraine, Kazakhstan, and the United States (the world's biggest CO<sub>2</sub> emitter), has worked behind the scenes to slow progress.

Other entities have grandfathered existing polluters or "accidentally" set caps high. Take, for example, The European Union Emission Trading Scheme (EU ETS), which was created to comply with Kyoto. The EU programme, which began operations in January 2005, capped CO<sub>2</sub> emissions from large installations, such as power plants and carbon-intensive factories, and covered nearly half of the EU's CO<sub>2</sub> emissions. EU ETS Phase I demonstrated that setting a price on carbon emissions would succeed in stimulating a carbon trading market. In 2006, it grew to an estimated US\$30bn (€23bn), according to the World Bank, three times greater than the prior year.

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The market was dominated by sale and resale of EU allowances at a value of nearly US\$25bn (€19bn). However, following the release of 2005 emissions data, it became clear the 2005-07 emissions cap was set too high, so no net CO2 reduction was achieved. EU ministers insist Phase II caps will be stricter, and they may succeed this time or next time around. Nevertheless, without a global cap in place, it will still be business as usual outside the EU bubble. Instead of building new windmills, the EU may wind up tilting at them.

As with Armco Steel, emissions trading can provide a valuable alternative to traditional regulation, depending on whether market forces are correctly used to achieve the same goals. Kyoto provides for three alternative methods:

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A "CLEAN DEVELOPMENT" MECHANISM THAT ALLOWS GAINING EMISSIONS CREDITS FOR FINANCING ENVIRONMENTALLY FRIENDLY PROJECTS IN DEVELOPING COUNTRIES.

EARNING EMISSIONS CREDITS THROUGH A REFORESTATION PROJECT IN ANOTHER INDUSTRIALIZED COUNTRY OR ECONOMY IN TRANSITION.

CARBON OR EMISSIONS TRADING.

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The third alternative, voluntary carbon emissions trading, has been growing steadily. According to the World Bank's Carbon Finance Unit, this market grew strongly in 2006, to an estimated US\$100m. In 2005, 374m metric tons of CO2 equivalent were exchanged, a 240% increase relative to 2004 and a 41% increase to 2003. Both the Chicago Climate Exchange and the New South Wales Market saw record volumes and values traded in 2006. While these statistics indicate great potential, no one believes the voluntary market is ready to pick up where cap-and-trade leaves off.

Right now, there is no uniform, globally accepted standard or definition of what constitutes a verified or certified emission reduction, so anything goes. In addition, the voluntary market is too fragmented to function efficiently.

Anything goes when it comes to voluntary carbon trading, because there is no uniform or widely accepted standard of what constitutes a certified emission reduction.

On April 25, 2007, *The Financial Times* revealed how these drawbacks had led to widespread instances of people and organizations buying and selling worthless credits that do not yield CO<sub>2</sub> reductions, as well as an inability to authenticate credits, making it difficult for buyers to assess the true value of their purchases. With each passing year, Kyoto's promised curb on greenhouse gases recedes further from view. However, voluntary carbon trading may hold the key to reversing these trends.

## The voluntary carbon trading market

The current helter-skelter carbon trading market resembles the stock market prior to the 1929 crash. Kyoto inadvertently created this situation by including voluntary carbon trading as an afterthought, rather than as a main component to solving the CO<sub>2</sub> problem. The voluntary market offers real potential if it can be fixed. The top-line solution is for national governments to begin applying the same oversight to carbon trading as they do for trading in any other commodity. At the next level, corporations and financial institutions need a guarantee they are trading a verifiable commodity rather than a theoretical one, such as the proverbial business-school widget.

Several common standards are being explored. One program rapidly gaining prominence is the Voluntary Carbon Standard (VCS), which was launched in 2006 by The Climate Group, the World Economic Forum, and the International Emissions Trading Association. VCS is designed to ensure that claims of voluntary emission reductions are real, quantifiable, and permanent. To qualify, a carbon unit or credit must be verified and certified by a third-party verification agent. A verification agent is an entity approved by the UN Framework Convention on Climate Change Secretariat on a "per industry sector" basis depending upon relevant expertise and experience.

World energy demand is expected to grow 75% by 2030, so a legitimate carbon trading market is only the first step towards reducing global warming.

These credits are measured as one metric ton of carbon dioxide-equivalent (CO<sub>2</sub>e) and have a monetary value, and therefore can be bought, sold, or retired once certified. To prevent double-selling of verified credits to unsuspecting buyers, the trading market needs a global registry to track how an emission credit was generated, bought and sold, and how much was paid for it. Admission to the registry would require providing proof of title and evidence of ownership, as well as a warranty that the unit or credit had not been previously sold or double-counted elsewhere.



The Bank of New York Mellon recognised it could build such a platform and therefore facilitate voluntary carbon unit (VCU) trading. In June 2006, we formed a global registry and custody service within our Global Corporate Trust Division. Based in London, the global service provides a centralized, secure, and paperless environment that reduces the reams of certificates and legal contracts normally associated with voluntary emissions trading.

It offers custody of VCU documentation and certificates; electronic transfer of assets between registered market participants, providing faster execution, lower transaction costs, direct-through processing, from any trading exchange and settlement within 24 hours (T+1), versus two weeks or more between transaction counterparties. It also offers retirement of verified carbon emission reductions, web- and paper-based statements and reporting, including audited records of current and historic VCU positions and movements and standardized legal documentation that meets UN and other governmental requirements.



## Only a first step

The New York Mercantile Exchange has already announced plans to offer carbon trading contracts, a move that could lead to explosive growth if outstanding emissions trading issues can be resolved. Yet all of the measures discussed here represent only a first step toward addressing global warming.

Even with greater conservation, world energy demand is expected to grow 75% by 2030, with more than half of total oil demand coming from Asia, according to Cambridge Energy Research Associates. China's vehicle stock is expected to increase twenty-fold, to 390m by 2030, as more citizens reach middle-income levels (according to a 2007 paper by J Dargay, D Gately, M Sommer on *Vehicle Ownership & Income Growth, Worldwide: 1960-2030*). These developments point to a substantial increase in CO<sub>2</sub> emissions. There is also a risk tradeoff between importing fossil fuels from unstable regions and building nuclear power plants that offer tempting new terrorist targets.

In the interim, by establishing proper regulatory carbon trading guidelines, implementing industry-wide standards for pricing and carbon units, and facilitating trading through a global custodial and clearance mechanism, the voluntary carbon trading market offers real potential to contain CO<sub>2</sub> emissions. A healthy, legitimate carbon trading market in turn will make it easier for political leaders to impose hard caps or a cap-and-trade system, because businesses will have a vibrant, alternative way to meet the imposed standards.



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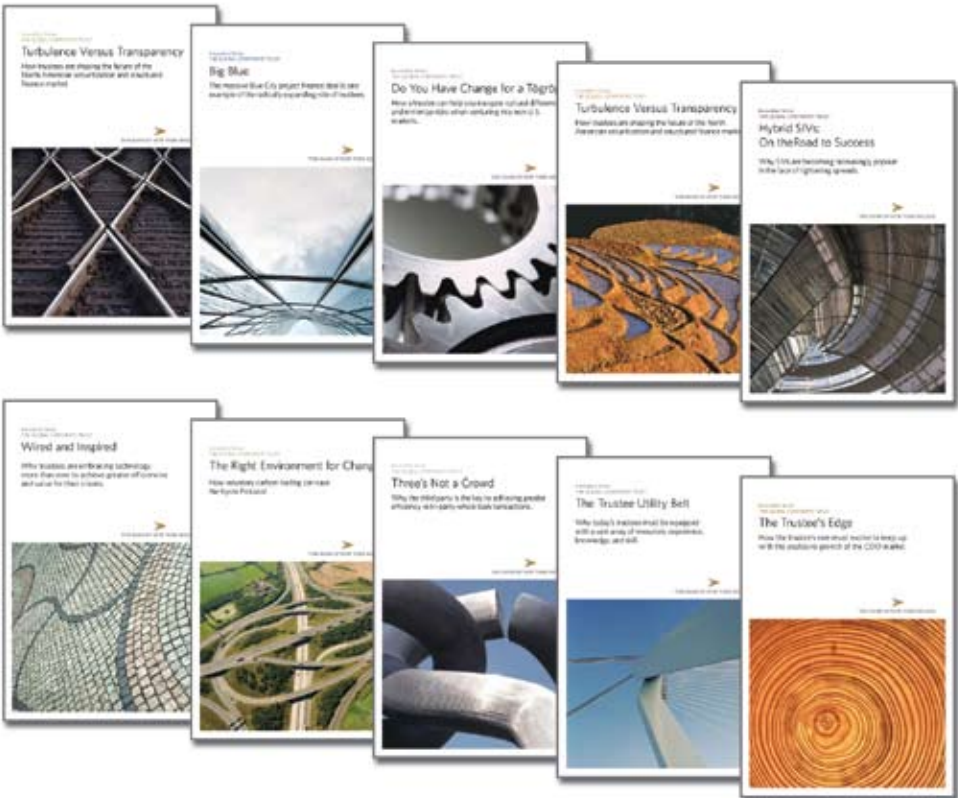
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# Who's Helping You?



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Kyoto has yet to make a serious dent in global warming despite rising concern. In this edition of the Global Corporate Trust Innovation Series, you'll learn how the voluntary carbon trading market may provide a solution.

# Who's Helping You?



By Samir Pandiri



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