

THE DIPLOMAT

AUSTRALIA'S WINDOW ON GLOBAL POLITICS, ECONOMICS & CULTURE

CLIMATE SPECIAL ISSUE

GREEN TIDE

SO WE'VE
JOINED KYOTO.
CAN WE LEAD
THE REGION TO
LOW CARBON
PROSPERITY?

WASHINGTON GRIDLOCK:
LEFT BEHIND ON CLIMATE CHANGE

BETWEEN A ROCK AND A HARD MAN:
THAILAND'S DECAYING DEMOCRACY

PLASTERED IN PESHAWAR:
ON THE SAUCE IN THE MIDDLE EAST

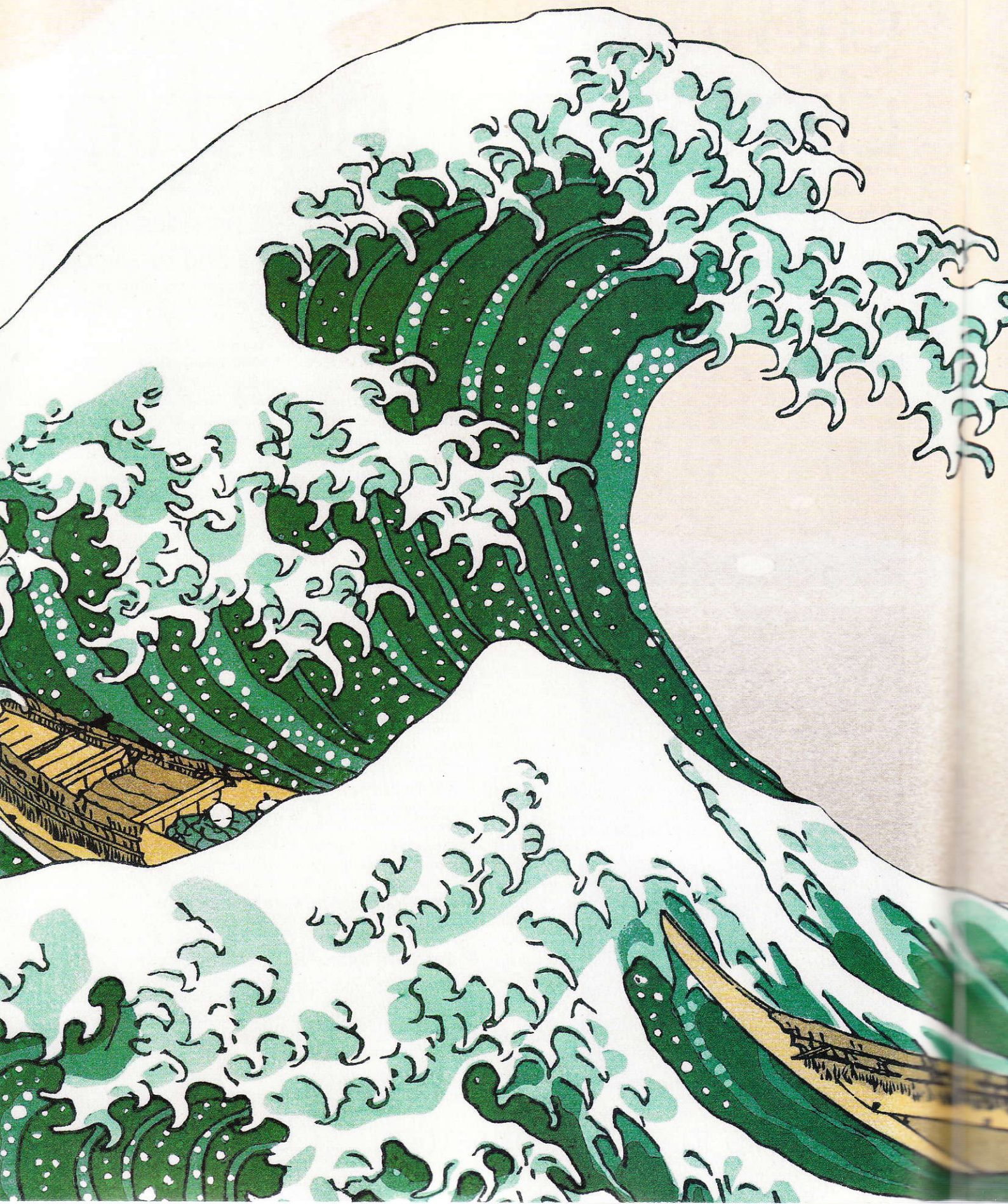
JAN/FEB 2008 • \$8.95 (incl. GST)

ISSN 1446-6970

35



9 771446 697000



CARBON WAVE

Early-moving global capital is piling up behind greenhouse industries but just what sort of money is it?

There is a frenzy of mostly well-intended commercial and financial activity in carbon trading; activity which papers over a more basic issue: what kind of money, or transaction, is envisaged?

The numbers certainly sound impressive enough: "Using a low average abatement cost of US\$25 per tonne creates a capital market opportunity of US\$15 trillion. This represents the single largest global financial opportunity in history," enthuses Michael Molitor, principal of Carbon Shift, adding that it is no surprise that the world's largest company, GE, is refocusing its entire business in the area.

Carbon is the potential investment target for 280 institutional investors, who between them control US\$30 trillion in funds, organised under the Carbon Disclosure Project. They are putting investors under pressure to disclose their carbon risks and opportunities. The world's large insurers are likewise tuning their financial calculations to carbon emissions, preparing to underwrite much of the risk.

Nicholas Stern's report estimated that climate change could shrink the global economy by about one-fifth – at current levels, about US\$9 trillion – but if action was taken quickly the loss would only be about 1 per cent.

Then there is the question of government investment. Mitch Hooke, chief executive of the Minerals Council of Australia, says that developing clean coal technology is a case of "Hobson's choice": four-fifths of energy will come from coal until at least the middle of the century, so it is something that "has to be done".

So on the face of it, the figures are impressive, but this doesn't do away with the more basic question: what kind of money are we talking about? Here the picture becomes less clear. One area of discussion is whether to have a tax, or a cap-and-trade system.

A cap-and-trade system, based on exchange of carbon credits, could be interpreted in a number of ways. The closest analogy is probably with companies with tax losses that are purchased so the loss can be brought forward. A cap-and-trade system could be seen as a type of barter, something with monetary value but outside monetary systems.

Most likely, however, is that carbon trading will become a derivative (financial exchanges, such as put options, or futures, which are derived from another financial or commercial activity). Certainly, trading credits has a superficial similarity with derivatives. Derivatives were originally conceived as a form of insurance. Carbon trading is likewise a form of insurance: business insuring against their own despoliation of the environment.

Derivatives are also about pricing future risk; this is the



underlying object of carbon trading, although there is a difference. Derivatives price the future risk of individual transactions. Carbon trading is concerned with pricing future systemic risk, the risk to the environment and world economy.

If carbon trading is a form of derivative, then Molitor is wrong – it is not the “single largest financial opportunity in history.” It is more like a drop in the ocean. According to the Bank for International Settlements, the daily trade in derivatives is about US\$3 trillion. On this basis, carbon trading would only represent about five-days’ trade.

Erwin Jackson, director of research and policy at the Climate Institute, says viewing cap-and-trade as a derivative is a “fair analogy”: “You’ll have a whole range of mechanisms the financial markets will use and are already using to move forward on the international market. There are some estimates that the international carbon market will become the world’s second biggest commodity market. So it’s a massive opportunity for many businesses if they get in early.”

“One of the problems we’ve had here in Australia is that many businesses are not set up and they haven’t got climate change sufficiently on their radar screen to be prepared for the emergence of Australia in the global market. Therefore we are behind the

eight ball. And that’s basically a function of the fact that we haven’t ratified Kyoto.”

If carbon trading is formed as a tax then the financial significance alters. The capital will end up in government coffers. In this context, US\$15 trillion would represent a major change in government finances, a lurch towards financial socialism. In developed economies (and China), about a fifth of GDP is

collected in tax, equating with about US\$8 trillion annually. Tax collection is much lower in most developing economies, so if there is a significant rise

» If structures institutionalise carbon pricing, it could resemble the predictable cash flows seen in infrastructure investment.

in tax revenues from carbon taxes it has the potential to provide funds to enable these governments to be more environmentally active. For developed economies, a carbon tax could create a profound redistribution of wealth, not based on income disparities, but on environmental impact.

If the US\$15 trillion is interpreted as part of the global pool of investment funds, then it is big, but on the margin. Global capital stock, according to consultants McKinsey & Company, is about US\$140 trillion. Far from being the greatest financial opportunity in history, carbon trading only equates with about a year’s growth in global capital stock.

Carbon trading could, however, be a seminal investment

TRANSPORT CARBON

In a car-based society such as Australia, tackling transport is essential to reducing carbon emissions. Shifting goods and people around the country produces 14 per cent of the country’s total carbon emissions, a figure which will grow by 40 per cent from 1990 to 2010, according to the Australian Greenhouse Office.

One long-term strategy, suggested in a recent research paper by Professor John Mathews from Macquarie University’s School of Management, is to turn Australia into a biofuels superpower by harnessing its wheat and sugar production.

Australia could replace one-fifth of its petrol consumption within 10 years by constructing 60 “biorefineries” to churn out ethanol and biodiesel for a cost of \$7.5 billion, says Mathews.

However, overcoming the incumbency and price advantage of petrol may be difficult. The international market for biodiesel, especially in Asia, is struggling to establish itself, as the November closure of Asia’s largest biodiesel plant in Darwin shows.

Some carbon reduction projects in the US have shown how a voluntary credit scheme like Australia’s Greenhouse Friendly could help transport-related companies shift to a low-carbon world.

A Climate Trust project in Washington and Oregon has installed electrical sockets at seven truck stops which let truck drivers power their air-conditioning and entertainment systems overnight. Using the electrical grid is more efficient than the standard practice of running the truck’s engine.

Thousands of truckers have used the electrified truck stops since the project began in 2005. It is expected to save 90,000 tonnes of carbon dioxide over 15 years and generate US\$1.1 million in credits. Other benefits include reduced engine wear, lower levels of pollutants and noise, and reduced diesel consumption.

Governments, from federal to local, can also harness cash

streams from voluntary credits to fund improvements in transport management. A 2002 project designed to optimise the timing of traffic signals in Oregon, US, qualified for carbon rebates for 172,000 tonnes of carbon dioxide over its five-year lifetime.

The Portland Office of Sustainable Development claimed the project would improve traffic flow on 17 of the district’s most congested arterial roads and so reduce the amount of time cars spent idling at traffic lights or accelerating and decelerating.

The project costs were covered by selling carbon offsets that represented the amount of carbon dioxide emissions avoided.

The City of Portland also received offset credits for setting up an internet-based carpooling program, which used a website to match commuters to rides. Portland collected credits for 30,000 tonnes of carbon dioxide over four years.

In another of the city’s initiatives, the standard incandescent bulbs in traffic and pedestrian crossing lights were replaced by LED lights. The LEDs use up to 85 per cent less power and are designed to last 10 years – 10 times longer than incandescents.

Australia can make similar savings. If Australia’s 600,000 traffic signal lights were converted to LEDs, it would save 100,000 tonnes of carbon a year.

In 2003 the RTA began a three-year, \$18 million project to replace 240-volt incandescent lamps with LEDs in 50,000 traffic lights. The RTA claims it has saved \$2.8 million in energy, maintenance and upgrade costs a year, and reduced greenhouse gas emissions by over 10,400 tonnes a year. The project saves 10GWh/year in electricity.

The project was funded by the \$40 million Energy Efficiency Loan Fund, which is administered by the Department of Energy, Utilities and Sustainability and paid for by the NSW Treasury. As shown by the Portland example, future examples of this project could be paid for in part by the sale of voluntary credits. ■

opportunity if it can create predictable income streams against which high levels of debt can be leveraged. The volatility in carbon trading markets has so far suggested the exact opposite: that volatility is so high that only equity capital is appropriate.

But if structures are established to institutionalise carbon pricing, over time it could easily resemble the kind of predictable cash flows seen in infrastructure investment. If carbon credits become a form of predictable income, relatively high-risk financial structures can be set up to leverage it, because the income streams would be relatively low risk (in the same manner as, say, a toll road). Just as transport systems frame the distribution of goods and services in a market, so carbon trading is intended as a frame for industry, a constraint in which it has to work for the system to be resilient.

There are few clear answers to the question of what precisely are the financial implications of carbon finance. One reason for this is that carbon trading or tax is not the pursuit of commercial opportunity, it is the attempt to create a new way of controlling industry that has commercial implications – principally a policy, rather than a business, imperative. Witness the debate over the relative merits of cap-and-trade systems versus a carbon tax, which concentrate on questions like cheating, measurement and rollout – questions of policy and regulation rather than business.

It is not unusual for incipient commercial markets to be messy, but they are, over time, organised around the interplay of supply, demand and price. In carbon trading, a new form of demand (constraint on industry in return for environmental benefit) is being artificially created, supply (reduction of emissions) is ill-defined, and the pricing mechanism is still unclear.

So far, the amounts being transacted are small: billions of dollars, not trillions. Global carbon trading is rising fast, but is only at US\$30 billion. It is forecast to rise to US\$25 billion by 2020, but even at this level it is dwarfed by other derivatives markets.

Still, it is a fast-growing market that represents an unusually

bright business opportunity. "As far as we're concerned, the market isn't slowing down at all, it's only growing and getting faster," says Sally Burns, managing director of Sigma Global. "There are buyers that are purchasing Kyoto credits beyond 2012, the UN negotiations are certainly not all that drives the market. The EU ETS (European Union Emission Trading Scheme) is the largest source of demand at the moment for Kyoto credits and that's continuing well beyond 2012 so there is not much nervousness in the market."

"There have been billions of dollars put into the market and it's clear to the market that it's not a trial phase any more. The negotiators of the international treaty should take that into account when they are deciding on the post-2012 framework."

According to the London-based research firm New Carbon Finance, investors have devoted about US\$12 billion in investment funds to reducing pollution, a comparatively small sum but growing fast. London is emerging as the centre of European carbon trading, accounting for 82 per cent of trading in the EU ETS.

Burns is sceptical about Australia's ability to develop a similar position to London in the Asia-Pacific region. "Australia hasn't been a major participant in the international carbon markets and it will take a while to catch up. We haven't been hosting Kyoto projects as we have been ineligible to do so. Australian companies can participate in CDMs (clean development), but actually very few do, due to the previous Australian government strongly opposing the scheme."

"Australian companies as technology providers haven't been on the radar because they haven't been participating. [Companies] didn't know how to capitalise and how to get value from those emission reduction projects because they are very isolated due to the [former] government's position on Kyoto. China, Singapore, they all want to play that role [of being the centre of carbon trading]. So unless we actively get involved in the international scene very quickly, the time is going to pass."

CARBON FUNDS AND TRADING

Australia is clearly under-prepared for carbon trading in its lack of financial expertise. Some Australian banks have established small emissions trading desks in London to test the water, but none have committed as fully as their counterparts in the northern hemisphere.

Many European investment banks have already established emissions trading desks in Amsterdam and London, the two main carbon credit centres. "All of the big investment banks are setting up these big trading desks and spending a lot of money doing it; hiring the right people, investing in the market, [making] investments in projects and offering their services to their customers to actually go and find projects to invest in," says Sally Burns, managing director of Sigma Global. "Australia still isn't anywhere near that. [Australian banks] think it's a risk. Even the American banks are way ahead in terms of investments made."

A lack of traders is matched by a lack of investment. There are no Australian names among the major billion-dollar carbon funds such as the European Carbon Fund or Climate Change Capital. Nor are there any in the secondary tier with budgets in the hundreds of millions of dollars. Very few Australian companies have their own carbon funds, and those that do aren't saying. However, many are considering establishing one, if rumours are to be believed.

So which companies should be setting up a carbon fund? There is no clear rule, but funds are most useful to companies with an interest in trading credits or those wanting to offer credits to differentiate a product or service, such as banks hoping to woo investors or other customers.

"If there's no interest in trading then you probably wouldn't set up a carbon fund," says Burns. Offset retailers are more likely to have carbon funds, to get bulk discounts on purchases, diversify their portfolios and to give customers, who are increasingly choosy, a wider selection of projects.

Climate Care, a UK-based fund, generates credits from its own projects in Asia, and has established a branch in Australia in preparation for the voluntary and certified credit markets. "This is why we are in Australia – because the market is coming," says Corin Millais, managing director of Climate Care Australia.

Some carbon funds focus solely on sequestration or renewable energy or, most recently, avoided deforestation. The latter case is particularly interesting as there is no Kyoto accreditation for such projects, which many at the negotiations at Bali hope to remedy.

But the outsider status of avoided deforestation has not stopped it becoming a favourite for European funds which develop the projects under voluntary standards instead. The trend shows

"Our trading schemes are underdeveloped, and it's difficult to see why Australia would become a carbon trading centre. There's a very large knowledge vacuum in Australia on how the Kyoto Protocol works, how the emissions trading scheme in Europe works and in general where the demand is coming from. I'd like to see Australia take a leading position in carbon trading but there is a lot of catching up to do."

Carbon commerce may not be very sizable at the moment, but it throws up a twenty-first century issue: how can global, man-made systems be configured to be benign for mankind? Increasingly, this question will be about shaping business and finance, rather than relying on business and finance to self-organise in a beneficent fashion. To use economic jargon, it will be "externalities" – forces outside conventional markets – that will shape the wealth-creating process. What is meant by "wealth" will probably be redefined as well.

Much will depend not on pure market conditions, but the strategic decisions of big economic actors, including governments and state-owned entities. "Can you use the word business in a free market that is increasingly controlled by oligopolies?" asks Andrew Kakabadse, Professor of International Management Development at the Cranfield School of Management. "That to me is no longer a business in the sense we know it because it is now already part of the planning for the community."

This type of question will increasingly be asked in the carbon "market", which will finally be about the interplay of some of the world's biggest corporations and governments. To give some idea of the amounts at stake, in 2007 half of the top ten biggest global companies were petroleum companies, boasting combined revenues of US\$1.3 trillion, and aggregate profits of US\$117 billion. These figures dwarf transactions in carbon trading. In the end, the carbon market will be important not for its budding commercial activity, but because it will be the arena where the world's most powerful business and political players come into conflict. ■

the power of the consumer to influence the agenda for carbon trading, and direct funds through public interest.

A third hurdle faced by Australian enterprise is streamlining the carbon measurement and credit trading processes. Currently at least three departments are required to give a company's carbon balance to the CFO: an environmental group collects data, a commercial group is responsible for the balance sheet, and a third group trades the credits.

These methods are often reasonably ad hoc compared with a company's financial systems, which is where a carbon reporting and trading system should evolve. "You can imagine in the financial world you need that [carbon] data to be just-in-time," says Lorraine Stephenson, head of the national climate change group at Deloitte Touche Tohmatsu. "You want to know at least on a month close-out where you stand, in terms of what that liability has been for the month versus where your trading position is."

Stephenson says that although the companies she works with are prepared in the broader sense, they haven't done the necessary internal work. The task will fall to CFOs to pull the various elements into one cohesive, automated model. "It's got to move away from the environmental area and public reporting to a truly financial model." ■

INVEST IN CARBON PROJECTS UNDER THE KYOTO MECHANISM

With Australia on target to ratify Kyoto, investors will be exposed to a flood of carbon related challenges and opportunities. For Australian business the time to get involved is now.

As Australia's leading internationally focused carbon trading company, Global Carbon Exchange (GCX) has engaged with a number of international partners to identify, qualify and package a range of Kyoto CDM and bio-fuel investment opportunities. These include:

1. Clean Development Projects under Kyoto
2. Voluntary standard (eg, Gold standard VCS)

Investment returns range from 15% to 20% (IRR), independent of the carbon asset, with payback periods ranging from 8 to 12 years.

CDM PROJECT INVESTMENTS

At present our portfolio includes 20+ projects with CDM potential in South East Asia, China and Africa including:

- Hydroelectric power plants (1-15MW)
- Reforestation
- MSW: landfill gas flaring, composting, recycling (200-1200t per day capacity)
- Wind parks
- Biomass plants

BIO-FUEL

GCX is excited to offer Asian based Jatropa bio-fuel plantation and refining projects, at a time where the Australian market is undersupplied. Jatropa curcas is one of the most promising bio-diesel plants in the world, delivering high yields, with strong social and environmental benefits.

For further information please contact
Mr. Marc Pop or Mr. Kevin Sher on (02) 8211 2789
or visit www.globalcarbonexchange.com.



GLOBAL CARBON EXCHANGE

Africa - South Africa
PO Box 7544, Albertlarie, 1410
(t) +27 (0) 861 111 306

Asia - Australia
Level 31, ABN Amro Tower, 88
Philip Street, Sydney, 2000
(t) +61 (2) 8211 278906

Europe - France
2, Rue Greuze, 75116 Paris, France
(t) +33 (0) 1 47 55 06 78

www.globalcarbonexchange.com | info@globalcarbonexchange.com

Australia | South Africa | France | Germany | Indonesia | China | Singapore