



# CASH FOR OLD SMOKE

**Despite the lack of a mandatory, standardised scheme for trading carbon emissions in Asia, interest is growing fast in earning emission-reduction credits in the region. And several trading initiatives are under way, notably in Japan, finds Joe Marsh**

Given that Japan is the biggest economy in the world to have signed the Kyoto Protocol on Climate Change, it is hardly surprising that it is perhaps the most active country in Asia in terms of developing trading initiatives to cut greenhouse gas (GHG) emissions. Especially since Japan's emission levels have in fact risen since it signed the treaty.

But the rest of the region is of importance too. An emissions-trading exchange is being developed in Singapore; Australia has a carbon-trading scheme; and developing countries such as India, Indonesia, China and Thailand are host to an increasing number of clean development mechanism (CDM) projects, which create tradable certified emission reduction credits (CERs) (see box).

However, buyers of emissions credits are outnumbering sellers, if June's Carbon Markets Asia conference in Hong Kong was anything to go by. Perhaps 80% of this year's delegates were seeking partners with which to develop carbon-reduction projects or from whom they could buy CERs, estimated Vinod Kesava, the Singapore-based chief operating officer of Asia Carbon Group, which aims to reduce carbon emissions. Another telling figure was the number

of delegates: 130 this year, compared to 40–50 in 2005. And most of the 2005 delegates seemed to be trade-related bodies rather than private-sector companies, said one attendee this year. But one speaker at the Carbon Markets conference told *Asia Risk* there is more going on on the project-development side than these figures might suggest.

One major reason there could be more carbon credit buyers than sellers in Asia is down to the newness of the market, some feel. On the buyer side, you are already committed to what you have to achieve, says Kesava, but sellers do not have such certainty. What's more, he says, some are buying for compliance and others just for arbitrage, while at the moment, sellers are only there to provide and/or develop credits for those buying for compliance. Moreover, companies are more likely to commit to setting up project-development companies for creating and selling credits once there is a widely accepted, globally fungible standard for them, says Kesava. It is by no means clear when one will emerge, although some – such as the Switzerland-based International Emissions Trading Association and Asia Carbon itself – are working on resolving the issue.

Nevertheless, some project developers have taken the plunge, feeling that the market will develop one way or the other – Japan Carbon Finance (JCF) is one of several Japan-based funds and finance firms to have done so. It uses funds from the Japan Greenhouse Reduction Fund – the first GHG reduction fund in Asia, set up in 2004 – to develop projects.

For example, the company signed an emission reduction purchase agreement with Shanxi Jincheng Anthracite Mining Group Co, a coal mine development company in China, to buy GHG reductions generated from its coal mine methane power generation project. Another JCF project is with Enercon India, a manufacturer of wind power generators in India, to acquire GHG reductions generated from its wind farms. The JMC project is due to start early next year, while the Enercon project started in mid-2006, says JCF's Joichi Kimura, deputy director general in the carbon finance department. Each project is due to generate around 2 million CO<sub>2</sub> equivalent (CO<sub>2</sub>e) tonnes in the first phase of Kyoto, ending 2012.

"I understand CDM project development in Asian region is still in the initial stages, except for India and China," says Kimura. "Therefore, a lot of effort is necessary to develop CDM schemes by providing financial support to and taking on the risk of candidate projects to ensure enough CERs are generated."

### External investment

It will help that many companies from outside Asia are investing in carbon-reduction projects in the continent. CERs created from these projects can be used in the European Union Emissions Trading Scheme (EU ETS), the only mandatory carbon-trading scheme so far. So it is perhaps surprising that it is a US energy company, AES Corporation, that has invested the most in a single project so far: \$325 million over the next five years.

At the end of May, Virginia-based AES partnered with AgCert International to form AES Agriverde, a joint venture aimed at deploying AgCert's GHG-reduction technology in Asia, Europe and Africa. Ireland-based AgCert produces and sells GHG reduction credits from agricultural sources. AES Agriverde intends to create an annual production volume of 20 million tonnes of GHG emission reductions by 2012, say the two companies. AES has also paid €40 million (\$51.4 million) for a 9% equity interest in AgCert.

"Obviously AES believes the market for CERs will be robust," says an emissions consultant who asked not to be named. "Most feel prices will need to be at least €10 per tonne of carbon to make carbon projects economically viable."

There are various trading initiatives seeking to take advantage of such investment in emissions credits – one is the Asia Carbon Exchange (ACX-Change),

## Cutting carbon under Kyoto

**The Asian emissions markets are connected to Europe through the Kyoto Protocol's clean development mechanism (CDM). Ratified projects are awarded certified emission reduction certificates (CERs), which are valid carbon currency in the EU Emissions Trading Scheme (EU ETS), which has been running since January 2005.**

**The EU ETS is mandatory for certain sectors – including energy, ferrous metals production and pulp & paper – in all 25 EU member states. It is a cap-and-trade scheme, whereby governments put a cap on the amount of CO<sub>2</sub> a company can emit and if the company produces less than the cap, it can sell the surplus credits.**

**In the first phase of the scheme (2005–2008), only CO<sub>2</sub> emissions are covered, while it may expand to the other GHGs from the start of 2009, when phase two begins.**

**Other than by directly reducing emissions domestically and using**

**emissions trading, countries under Kyoto can use two project-based mechanisms, joint implementation (JI) and CDM. JI projects produce emission reduction units (ERUs).**

**Both JI and CDM involve the development of projects that reduce levels of emissions, ranging from energy efficiency and fuel switches in existing power plants, to the building small renewable plants or capturing methane from landfill sites to generate power.**

**A project that reduces its emissions to below its business-as-usual baseline can claim credits for every tonne of carbon dioxide equivalent saved. They can then sell these credits to companies or governments to meet their own targets.**

**CDM involves developed countries implementing projects in developing countries in Asia, South America and Africa. JI involves the development of projects by developed countries in other developed countries.**

part of Asia Carbon Group. The exchange offers a model for trading emission derivatives such as those credits linked to CDM, joint implementation (JI) and emissions trading (see box).

Companies can trade CERs, emission reduction units (ERUs, created by JI projects) and verified emission reductions on ACX-Change. Several large European banks are involved as market-makers, as are some big utilities – including Japanese, European and US firms – says Asia Carbon's Kesava.

ACX-Change expects to gain at least a 30% share of the CER market by 2012, assuming an estimated total Asian market of 1 billion CERs by that time, adds Kesava. It is also looking to capture at least half the VER market. Moreover, the exchange is hoping to offer OTC clearing of contracts within a year, he says, which would further boost volumes. ACX-Change is in discussion with a "leading banking group" to offer this service, adds Kesava.

For the purposes of price discovery, ACX-Change has done several CER auctions in the past year in partnership with New Values, a spot carbon trading platform provider based in the Netherlands. In the auctions running from November 2005 to April 2006, bids from EU buyers have ranged between

# Carbon emissions

€3.75 and €13.23 per CER, and the actual highest sale prices have been between €9.03 and €11.90. ACX-Change will continue its regular auctions.

The exchange has four individual stakeholders at present, including Kesava, who aim to divest up to 20–30% of their stock by mid-August and list on the London Stock Exchange's Alternative Investment Market by next June.

The success of ACX-Change may depend at least partly on good timing, says Mike Hopkins, head of energy derivatives at energy and emissions brokerage TFS in Sydney. "If they start too early, they may be counterproductive to themselves, as the structure of the CER and EU allowance market is still in the development stage in Asia," he says.

"Exchanges do not have the same flexibility as the over-the-counter market," adds Hopkins. "If they set up with a specific structure and with products that do not favour the developing market, it is not an easy task to restructure and relaunch on an exchange. This is not the case in the OTC markets, which are immediately able to adapt to market changes. This flexibility is essential in developing markets.

"But if the exchange does gain liquidity, it is a bonus," he says. "OTC and exchange markets feed off each other. Invariably, if one does well, the other will also."

## Government activity

The private sector is not alone in making such moves in Asia. The Japanese government launched the Japan Voluntary Emissions Trading Scheme (JVets) in May, but no trades have been done yet, since the process to open credit accounts in the system has taken a long time, says Tomonori Sudo, senior policy researcher, climate policy project at the Institute for Global Environmental Strategies. All participants were expected to open credit accounts by the end of June, he adds.

The government has chosen 32 entities as participants with targets, and eight as trading participants. Several large companies are participating – including Hitachi, Nippon Electric Glass and Marudai Food – but no large emitters such as energy companies so far, Sudo told *Asia Risk*. And there is only one trading participant from the financial sector at present: Daiwa Securities SMBC Principal Investments.

Companies participate by pledging concrete emission-reduction targets and receiving the allowances from the government, and can use Kyoto credits (CERs, ERUs and so on) to comply. Moreover, the government will provide a subsidy of one-third the cost of GHG-reduction activities to companies installing new facilities if those companies pledge a certain amount of reductions.

The Japanese government also approved bills to



## The success of Asia Carbon Exchange may depend on good timing

Mike Hopkins,  
TFS

revise two laws in February to make use of CDM and other Kyoto mechanisms starting in fiscal 2006. Under the revised laws, the government-affiliated New Energy and Industrial Technology Development Organisation will seek to acquire greenhouse-gas emission credits abroad.

Moreover, a government proposal for a carbon tax has been much discussed – and opposed – in the past few years, while in recent weeks plans have been unveiled for capturing carbon emissions and storing them underground.

Yet Japan is not the only country to be active with regard to emission-reduction moves. Australia, too, has a carbon-trading scheme – in New South Wales (NSW) – despite being the largest developed country after the US not to sign up for Kyoto.

The NSW Greenhouse Gas Abatement Scheme – which started in January 2003 – sets annual state-wide GHG reduction targets and requires retailers and other parties to meet benchmarks based on the size of their share of the electricity market. To achieve the reduction, companies buy and surrender tradable certificates called NSW Greenhouse Gas Abatement Certificates (Ngacs), which can be created in several ways, such as through energy-efficiency projects or renewable generation.

There is also a traded market for Renewable Energy Certificates (Recs) in Australia, set up by the government. A Rec is equal to 1 megawatt hour of renewable energy generation.

However, both the Ngac and Rec markets are relatively illiquid, agree market observers. The Rec market was initially more liquid than the Ngac market, but this has recently changed, says Hopkins, according to TFS's rough estimates. Around 100,000 Recs are traded a week through brokers and 150,000 directly between counterparties, with a spot bid/offer spread of A\$19.50/A\$20. On average, 140,000 Ngacs are traded a week through brokers and 200,000 directly, with a spot bid/offer spread of A\$14.00/A\$14.50. In June 2005, the spot Rec price was A\$28.50, while the spot Ngac price was A\$11.90.

What does the future hold for the Australian market? "Australia may or may not eventually sign up to Kyoto – that's political," says Hopkins. "But I feel it will develop a similar, look-alike scheme. How the two would become fungible is debatable. And whether an Australian Rec will be worth 30%, 60% or 100% of a global [CO<sub>2</sub>e] credit, who knows?"

This reflects the uncertainty over global emissions trading in general. There remain significant issues over how credits will become fungible, for example, but at least some are looking to take the lead in Asia. However, as elsewhere, mandatory rules for limiting and trading emissions seem the most likely route to sufficient market liquidity. ●