

The rewards of early action

This year has seen carbon trading take off and, for many veterans of the market, their foresight and investments begin to pay off. **Mark Nicholls** talks to the winners of *Environmental Finance's* sixth annual market survey

For most of the winners in the Greenhouse Gas (GHG) Emissions categories of *Environmental Finance's* sixth annual market survey, the successes of the previous 12 months have been a long time coming. Almost all of this year's winners are carbon trading veterans, whose early investments in this emerging – and often precarious – market are, at last, beginning to pay off.

They've seen the early enthusiasm for the Kyoto Protocol's market mechanisms undermined by US withdrawal from the climate change agreement in 2000; they've been roiled by Enron's implosion the following year, and the collapse in confidence that caused in energy trading markets; and they've been frustrated by the often glacial progress of the Clean Development Mechanism (CDM).

But this past year has finally seen carbon trading take off – with the launch in January of the EU Emissions Trading Scheme (ETS), the entry into force of the Kyoto Protocol in February, and in October the long-overdue award under the CDM of the first carbon credits to emissions-reducing projects in developing countries.

The EU ETS has, at a stroke, transformed carbon trading from a largely theoretical concept to day-to-day reality for thousands of companies across Europe which, since January, now face carbon emissions targets – backed by meaningful penalties for non-compliance.

Environmentalists have criticised EU governments for failing to set significantly testing reduction targets for the first phase of the scheme, which runs to the end of 2007. Nonetheless, allowance prices raced up, from €7/tonne of carbon dioxide in January, to hit €30/t in July. Despite the price falling back to around €20/t by November, these price levels have led to calls from some in industry for the scheme to be scrapped.

Significant supply of allowances will soon reach the market, relieving some pressure on prices – and on political opposition to the

scheme, says Garth Edward. He heads the now 10-strong environmental products desk which he set up back in 2001 at Shell, which has again been voted Best Trading Company in the EU ETS.

"It's still early days. As in any compliance market, buyers come to market first to ensure



Louis Redshaw, Barclays Capital: seeing increasing interest in trading beyond 2008

GHG EMISSIONS

EU Emissions Trading Scheme

Best Broker	TFS	Runner-up: Evolution Markets
Best Trading Company	Shell	Runner-up: Barclays Capital
Best Advisory	Point Carbon	Runner-up: ICF Consulting
Best Law Firm	Baker & McKenzie	
Best Exchange	European Climate Exchange	
Best Verification Company	DNV	

Kyoto Project Credits

Best Broker	CO2e	Runner-up: Natsource
Best Advisory	EcoSecurities	
Best Law Firm	Baker & McKenzie	
Best Verification Company	DNV	

UK Emissions Trading Scheme

Best Broker	TFS	Runner-up: CO2e
--------------------	-----	-----------------

North American Markets

Best Broker	Natsource	Runner-up: Evolution Markets
--------------------	-----------	------------------------------

New South Wales GHG Abatement Scheme

Best Broker	Next Generation Energy Solutions
--------------------	----------------------------------

Environmental Finance

MARKET SURVEY GHG EMISSIONS

compliance, and sellers have the option to sit back and do nothing," he says. Indeed, large volumes of allowances – such as those held by Eastern European companies – are being held back from the market by a combination of incomplete market infrastructure (such as the national registries that allow trading) and a lack of knowledge about the opportunities the scheme provides to monetise emissions savings, say brokers.

Also, Edward points to Bulgaria and Romania which, while not currently part of the EU, are due to join in 2007. With membership also involving entry into the EU ETS, those two countries could become major exporters of allowances, he believes.

But the market is already developing rapidly, says John Molloy, London-based head of environmental products at broker TFS, which was voted Best Broker, EU ETS, beating last year's winner, Evolution Markets, into second place. "Volumes are now averaging 1.5 million tonnes a day – with some days seeing a lot more," he says.

"The next stage in the maturing of the market will be a move towards structured products, and derivatives," Molloy adds, "and we're already seeing an influx of financial players, such as hedge funds."

Barclays Capital – one of those financial players, but one that has been active in the market since 2004 – plans to roll out EU allowance (EUA) option contracts next year, says Louis Redshaw, the bank's head of envi-

ronmental markets. These would add a vital tool to companies' risk management armoury, but while one or two option contracts have been transacted, no options market as such currently exists, he says.

Barclays – which was voted runner-up in EU ETS Trading – is also increasingly seeing customer interest in transactions for the second, 2008–12, phase of the scheme, despite the fact that governments have yet to finalise emissions targets beyond 2007. "Power companies may not know their allocations, but they're trading electricity that far out, and want to hedge their emissions," he says. "On the other side, you've got CDM developers that want to hedge credit prices."

The relative speed at which the EU ETS was introduced, and the novelty of its market-based approach, means that there is an enormous range in the level of understanding about the scheme, says Per-Otto Wold, chairman of Norwegian consultancy Point Carbon – which has been analysing the carbon market since 2000 – and which was voted Best Advisory, EU ETS.

"The level of expertise varies enormously, both within sectors and across them, and especially regionally," he says. "But, increasingly, companies are recognising that this is a risk management issue – it's getting up to CEO level for pretty much everyone."

The one newcomer in the GHG categories this year is the European Climate Exchange (ECX) which, in a crowded field, scooped Best Exchange, EU ETS. The launch of the EU ETS has prompted no fewer than nine exchanges to launch EUA contracts and, with

the launch of its carbon futures via London's International Petroleum Exchange (IPE) in April, the ECX was one of the first off the blocks.

But while the ECX may be a relative newcomer, its parent, the Chicago Climate Exchange, has been ploughing the environmental markets furrow for some years. This US voluntary market was spawned in 2003 by futures and environmental markets pioneer Richard Sandor's Environmental Finance Products, and provided much of the basis for the ECX's contracts.

A clear advantage for the ECX is its tie-up with the IPE, Europe's premier energy exchange. "Emissions are not traded as a unique product," says Peter Koster, ECX's Amsterdam-based chief executive. "They're traded as an integral part of the energy portfolio."

In October, the ECX claimed around 80% of exchange-traded EUAs – or more than 20 million tonnes – of which around 70% are so-called exchange-for-physicals. These allow bilaterally agreed deals to be transferred on to the exchange, whose clearing house effectively eliminates credit risk.

The ECX is now also working with French power bourse Powernext to offer spot and futures contracts jointly, and in November launched 'calendar spreads', allowing traders to more easily roll contracts from December 2005 into next year, Koster says. The exchange is also considering cash-settled index products and options contracts, he adds.

The ETS is designed to prepare the 25-nation bloc for the 2008–12 Kyoto Protocol GHG target period and, given that it is open to credits generated under the Protocol's CDM, links between the two systems already exist.

The hope for the CDM – which allows GHG reduction projects in developing countries to generate Kyoto-compliant carbon credits – was that it would finance sustainable development and provide a stream of low-cost credits to industrialised world buyers.

The reality is that the mechanism has been slow to get started, and buyers and developers complain of an under-resourced, overly bureaucratic process that simply can't generate credits in the volumes required. While the CDM was, originally, expected to begin operating in 2000, it has taken until this year for the first projects to be registered: and, to great fanfare, the first 'certified emission reductions' (CERs) were awarded to three projects in October.

One of those projects – a small hydro plant in Honduras – was developed by EcoSecurities, an erstwhile carbon finance consultancy, which has been voted the Best Advisory firm by *Environmental Finance* readers each year since 2001. Along the way, however, the company has morphed into a project developer and carbon credit originator.



Peter Koster, ECX: emissions now trade "as an integral part of the energy portfolio"

Environmental Finance

MARKET SURVEY GHG EMISSIONS

While its founder, president and chief operating officer Pedro Moura Costa may share some frustrations about the slow development of the CDM, the evolution of the carbon market – and the growing regulatory certainty that underpins it – is clear from the valuation of his company.

In November, EcoSecurities announced its intention to float on London's Alternative Investment Market, with a tentative valuation of more than \$200 million. "We have a portfolio of 71 million tonnes of credits," he says "with a pipeline of 300 million. While the consultancy is an important part of the business, that's where the value is."

He is also confident that the CDM can deliver: he disagrees with the World Bank, which has been warning that there may simply not be enough time to develop sufficient projects to meet expected credit demand to 2012. "High volumes can be generated by projects initiated and registered by the end of the EU ETS first phase" in December 2007, he says.

Another complication in the CDM rulebook – that projects must be registered by December 2005 to be eligible to earn 'retroactive' credits generated before that date – has brought a rush of business to DNV, says the company's Norway-based technical director, Einar Telnes.

"There is a hope that the [government] negotiators [at the UN climate meeting in Montreal] might extend this, but I don't think you can put your faith in negotiations," he says. DNV – which was voted Best Verification Company in both the EU ETS and Kyoto Project categories – has been working on the Kyoto mechanisms since the Protocol was signed in 1997, Telnes says. This year, it has doubled its staff covering carbon, now dedicating at least 40 full time to the market.

Steve Drummond, managing director of CO2e – winner once more of Best Broker in the Kyoto Project Credits category – has also seen a dramatic increase in business this year. And, unlike many in the market, he never believed the arguments that the CDM was starved of supply.

"I've always been more bullish, and I think



Steve Drummond, CO2e: "there are hundreds of millions of tonnes of CERs out there"

if you look at the projects queuing up, I've been vindicated – there are hundreds of millions of tonnes of CERs out there," he says. "But the whole point is that it should be environmentally thorough," he adds, referring to the careful assessment that each project undergoes by the regulators.

How quickly those projects generate CERs, and how quickly those CERs can be used for compliance, is still worrying some. The UN's International Transaction Log (ITL) – which will track Kyoto Protocol credit trades – is not expected to be operating until 2007 and any delays could make it impossible for European companies to use CERs in the first phase of the EU ETS.

But despite these uncertainties – or possibly because of them – speculators see possibilities in trading both CERs and EUAs, and arbitraging between them, says Chris Norton, UK-based head of the environmental and climate practice at Baker & McKenzie. The international law firm was the first of its peers to establish a team specialising in car-

bon trading, back in 1999, and its depth of experience has helped it again win Best Law Firm, this time in both the EU ETS and Kyoto Credits categories.

"We're seeing a number of entrepreneurs coming into the market, wealthy individuals who see that there are arbitrage opportunities in the CDM," he says. Baker & McKenzie has also been advising some of the growing number of carbon funds that have been launched – either to provide their investors with credits for compliance, or with cash returns from successfully trading in the market.

But even outside Kyoto Protocol-related markets, carbon trading schemes have either been launched, or are contemplated. In Australia, the Labour-run state governments are considering banding together to introduce a cap-and-trade scheme over the head of the Liberal federal government. Indeed, New South Wales is in the third year of its GHG Abatement Scheme, which caps carbon emissions from its power sector.

"The scheme has been a huge success. The states are essentially looking to expand it into a national system," says Ken Edwards, director of Next Generation Energy Solutions. His firm, which was voted both Best Broker in NSW GHGs, and won the Australian green certificates category (see pages 32–33), was set up in 2000, and has been broking environmental products since 2001.

Trading in the GHG market, which covers around 15 participants, can be sporadic – although he says that it traded every day in October. Since the scheme was launched in January 2003, around 12 million allowances have been created, and around 5.5 million tonnes have been traded, he says.

"Lots of people have been working with the NSW government to learn about trading – it's the first scheme to include carbon sequestration," he says. "But we need to get a national scheme going," he adds.

Similarly, in the US, state-level schemes on both coasts are under development in the face of opposition from the White House to binding GHG caps. David Oppenheimer, managing director of long-established environmental broker Natsource – which pipped rival Evolution Markets to the Best Broker, North America prize – says that "our US clients are looking to be environmentally proactive by investing in the GHG market.

"We're advising some clients on making purchases or evaluating opportunities internally that will stand them in good stead when regulations exist," he continues. But, in comparison with Canada, where "people are finally able to look at the obligations they will have in coming years", it's still very days for a US carbon markets. "I'd rather there were more US companies doing transactions," Oppenheimer adds.

How the survey was conducted

More than 1,500 companies were approached in October and November and asked to nominate the leading brokers, dealers, and advisors in emissions allowances, weather derivatives and renewable energy certificates, via an online survey.

Voters were asked to vote only in those categories in which they had direct experience and to make their judgements on the basis of: efficiency and speed of transaction; reliability; innovation; quality of information and service provided and influence on the market, not just the volume of transactions handled. More than 700 completed responses were received.

Only one vote per company was allowed and those firms that nominated themselves had their votes disregarded.

Wrestling with regulations

A raft of rule changes this year made US emissions markets perhaps more 'interesting' than many participants would have liked. **David Biello** talks to those brokers who weathered a regulatory storm

It was not only interest from speculative capital that descended on the US emissions markets this year – regulatory interest increased as well. Participants in the oldest such markets – the Environmental Protection Agency's (EPA's) Acid Rain Program and Nitrogen Oxides (NOx) Budget Trading Program as well as California's Regional Clean Air Incentive Market (RECLAIM) – all grappled with announcements of new rules and, as a result, some odd price behaviour.

On 10 March, the EPA released its new Clean Air Interstate Rule (CAIR) – a programme designed to replace and upgrade the old Acid Rain and NOx Budget Trading systems. CAIR requires sources to cut acid rain-causing sulphur dioxide (SO₂) emissions by 70% from 2003 levels by 2015. That, in turn, means that from 2010 the various power plants responsible for this SO₂ will need to deliver twice as many allowances as at present.

"I think [CAIR] is a signal to hold on to allowances, either to defer pollution control investment or as an insurance policy against delays or operating difficulties," explains Pete Zaborowsky, managing director at New York-based brokerage Evolution Markets, which was voted Best Broker, SO₂, for the sixth straight year. "What little supply is coming forward, speculative players are anxiously grabbing."

As a result, prices of SO₂ allowances, which began 2004 at around \$200/ton, climbed to \$700 over the course of that year and reached \$1,475 a ton by 30 November 2005. That kind of appreciation has drawn all kinds of attention – and new players, such as investment banks JPMorgan Chase and Credit Suisse First Boston, and hedge funds DE Shaw, Citadel and RNK Capital. "The bottom line is you have new players in the market that are taking in inventory that could have gone to a

[power plant]," says Francisco Padua, Houston-based emissions broker at SO₂ runner-up Amerex.

And while these new players are providing some liquidity and new deal types, they have not been able to overcome the fact that this market is fundamentally short of supply. As a result, trading volumes are down and smaller lot sizes have become more common than they once were – and participants aggressively buy whatever supply comes into the market. "The only thing that is going to reverse this trend is the influx of new supply," Zaborowsky adds. "SO₂ could double again and a lot of coal generation would still be economical," given the current differential between coal and other fossil fuel prices.

This lack of supply and low trading volumes in SO₂ have encouraged increased activity in the federal NOx programme, which had its first full season this year. It, too, faces a new future courtesy of the EPA's new CAIR package that, from 2009, turns NOx from a summertime affair – covering emissions only during the May through September ozone season – to a year-round programme, and which eliminates existing constraints on the banking of allowances.

But it was the weather that drove NOx prices this year. "We had a spike in the dead of summer when we had a pretty big heat wave," says Eric Klein, New York-based senior emissions broker at TFS, voted Best NOx Broker. It marks the second year in a row that Klein and his colleagues have scooped that honour, coming over from Natsource in April of this year. "It's a repeat for us, just at a different shop," says fellow senior emissions broker Brian Carroll.

But the NOx market also saw some odd behaviour that was not weather-related. In October, after the close of the five-month summer NOx season, prices for 2005 allowances shot up – reaching as high as \$3,050 a ton in late October – instead of, as is normal, settling back to parity with other banked allowances, like those for 2004. It took until the end of November for 2004 and 2005 prices to reach parity at around \$1,900 per ton.

Plus, during that flurry of activity, 2005 allowance prices were actually higher than future-year allowance prices, seeming to indicate that this year's allowances were more valuable than next year's, even though the season was over.

All this may have been because of the new CAIR rules, say brokers. "The new CAIR rules say put your acorns away, because in 2009 they'll have full value," explains Zaborowsky

US EMISSIONS MARKETS		
Emissions – SO₂		
Best Broker	Evolution Markets	Runner-up: Amerex
Best Trading Company	Morgan Stanley	
Emissions – NOx		
Best Broker	TFS	Runner-up: Evolution Markets
Emissions – NOx (Reclaim)		
Best Broker	Evolution Markets	Runner-up: Cantor Environmental Brokerage
Emissions – NOx (Houston/Galveston)		
Best Broker	Amerex	Runner-up: Evolution Markets
Emission Reduction Credits		
Best Broker	Evolution Markets	Runner-up: Cantor Environmental Brokerage

of Evolution, which finished second in the NOx category. In essence, NOx traders decided that they would rather not dip into their banked allowances to ensure compliance for this year, but would rather build up that bank even further, looking ahead to 2009 when all banked allowances will be of equal value to new allowances. (Currently, complex 'flow control' rules mean that banked allowances can be discounted when used for current-year compliance.)

But nowhere was the impact of rule changes felt more than in California's RECLAIM market. During the energy crisis of 2000, power generators in the state were temporarily exempted from the programme, to protect them against rocketing compliance costs. Prices for allowances, whether for individual compliance years or so-called streams that guarantee allowances for this year and the years to come, plummeted, dropping from above \$22/pound to below \$1 for some vintages.

This year, however, those power generators were brought back in and the regulators announced a reduction in the overall alloca-



Eric Klein, TFS: hot weather behind NOx price rise

tion, bringing it down by as much as 22.5% by 2011. Add to that some new sources – that don't receive any allocation at all and must buy from existing sources – and price rises were inevitable.

So, while the spot market remained basi-

cally steady, prices for forward streams of allowances tripled, from \$3/lb at the beginning of the year to \$10/lb by the end of November. "There's uncertainty whether credits will be available in 2008 and beyond," says Samantha Unger, director of West Coast emissions at Evolution, which won Best RECLAIM Broker for the first time this year. "Things are going to heat up with the projected demand for energy out there."

That demand is also heating up the need for Emission Reduction Credits (ERCs), which are required when a new source is built in an area that doesn't meet federal clean air standards. And there are rule changes at work in this market as well. "Under the revised eight-hour ambient air quality standards, ERC markets are going to broaden," says Zaborowsky of Evolution, which was also voted top broker in this market. "There are new areas in the Midwest and Southeast that are going to need them for the first time."

In fact, the only market that didn't see significantly more activity was the NOx trading programme in the Houston-Galveston Area, where local firm Amerex took top honours. But that may have been because the market hasn't had to absorb any rule changes this year: they took place last year, instead. **EF**

Discover

The Markets at Amerex

Natural Gas

Electric Power

Emissions

Data

Crude Oil

Refined Products

Freight

The markets are moving at Amerex...SO2 is trading at record levels. The CAIR act is changing the fundamental outlook on the North American market. The continued growth in market participation is fueling liquidity. These diverse influences are brought into focus through the markets at Amerex. Discover our unique liquidity, innovation, and depth of resources.

DISCOVER THE MARKETS AT AMEREX



www.amerexenergy.com

fpadua@amerexenergy.com +1 281-340-8004

Rainy-day returns

Hedge funds have helped drive a huge increase in activity in the weather risk markets, but end-user business is also ticking up, the winners of *Environmental Finance's* Market Survey tell

Mark Nicholls

It's been a good 12 months for the weather derivatives market, rounded off as it was by news that volumes had almost doubled between 2003/04 and 2004/05. The results of the annual Weather Risk Management Association (WRMA) market survey, unveiled later than usual at a November meeting of the organisation, showed notional volumes for contracts which began between April 2004 and March 2005 standing at \$8.4 billion, up from \$4.6 billion for the previous 12 months.

This dramatic growth – driven to a large extent by rocketing activity on the Chicago Mercantile Exchange (CME) – looks set to continue. Speaking at the November meeting, Felix Carabello, associate director of environmental products at the CME, predicted that notional volumes in the exchange's weather contracts could hit \$25 billion this calendar year.

But, despite its expansion, the market is on a less firm footing than many participants would like. Trading in the European secondary market has been sporadic (the WRMA survey showed a drop of approximately 25% year-on-year), in part illustrating the extent to which one firm – Swiss Re – had been driving activity in that region. And while interest from the investment and hedge fund community in the asset class is on the up, growth in end-user business has not been sufficiently strong to tempt many new providers into the market, or to encourage existing teams to staff up.

Nonetheless, it's been a good year for TFS, which once more swept the board in the broker categories, winning in all three geographic regions. Such global coverage is becoming a growing imperative for the weather market, says its Stamford-based

global head of weather derivatives, Kendall Johnson.

"We're seeing more and more risk placed in different timezones to that in which it's originated," he says. "There are enough groups out there that will take on risk from another country – it allows us to get the most efficient pricing."

The ability of the market to absorb larger deals was evidenced by TFS' latest weather risk auction, carried out in October to place a \$70 million-plus slug of temperature risk on behalf of UK gas utility Centrica. While Johnson is constrained by a confidentiality agreement from providing more details about the auction, he says it shows that "it's no longer about needing to find someone with offsetting risk for the market to work".

For Jason Pickard at Baltimore-based Constellation Energy – which was voted Best Trading Company, North America – the recent growth in interest from US-based hedge funds provides plenty of domestic risk-taking capacity for his company's weather exposures.

Pickard, a director of trading in the Constellation Energy Commodities Group, joined the company from XL Weather & Energy in summer 2004, since when he's overseen a steady increase in its weather hedging and own-account trading activities. "The biggest change in the market I've seen is a significant increase in hedge fund involvement, particularly in shorter-term trading," he says.

And the company is taking advantage of the growing liquidity provided by the investment community. "The way the market has been growing presents a lot of opportunities to hedge weather exposures in our load-serving business, and in other commodities – for example, the weather market may present a better offset than power call [options], which might be thinly traded and expensive."

The success of Constellation in this year's survey has come at the expense of Swiss Re, which undoubtedly suffered in the poll from the departure in the summer of the majority of its New York-based weather desk, led by former Enron weather head Mark Tawney. Alongside Bill Windle and trader Bill MacLauchlan, Tawney has joined the investment community, setting up a weather hedge fund called Takara.

Nonetheless, Juerg Trueb, the Zurich-based head of environmental and commodity markets, is bullish about the insurance giant's prospects in the weather markets: "There's no change in focus – we still would like to be a major market participant, and we're in the process of restaffing our New York team."

The insurer's weather risk capability has

WEATHER DERIVATIVES		
North America		
Best Broker	TFS	Runner-up: Evolution Markets/ICAP
Best Trading Company	Constellation Energy	Runner-up: Swiss Re
Europe		
Best Broker	TFS	
Best Trading Company	Merrill Lynch	Runner-up: GuaranteedWeather
Asia		
Best Broker	TFS	
Best Trading Company	GuaranteedWeather/Mitsui Sumitomo	
Global		
Best Advisory/Data Service		RMS
Best Exchange/Online Service		Chicago Mercantile Exchange
Best Law Firm		Clifford Chance



Jens Boening, Merrill Lynch: “considerable interest” for structures combining weather risk and carbon emissions

been combined with its groups covering emissions markets and contingent power price options. All three predominantly serve the energy sector, says Trueb, and all essentially address volume risk. “In all these areas, we aspire to be a principal risk taker,” he adds.

Despite the personnel shifts, Trueb reports significant growth in the weather team’s business, driven by “significant volatility in the weather” in the past couple of years. He points to the extremely mild summer in the US in 2004, followed by a relatively harsh winter in both the US and, in February and March, in Europe.

The combination of very hot weather in the US this summer and the energy supply shock caused by Hurricanes Katrina and Wilma has further alerted companies to their weather-related exposures, he adds. And a clear trend illuminated by the WRMA survey – which showed a jump in the value of summer hedges – is the re-entry, in size, of US utilities protecting themselves against a slump in electricity demand caused by a cool summer.

Brian O’Hearne, president of GuaranteedWeather, thinks growing involvement from US utilities in the summer months will provide an opportunity for dealers such as his – ranked second in Europe and, with its partner Mitsui Sumitomo Insurance, top in Asia – to make in-roads into the agricultural sector: “We started to see some of that come

“The biggest change in the market I’ve seen is a significant increase in hedge fund involvement, particularly in shorter-term trading”

Jason Pickard, Constellation Energy

in about a year ago. They’re concerned about hot, dry summers – it’s a good offset for utilities concerned about cool summers.”

He also believes that trading in Europe is likely to pick up in 2006. “I’d expect Takara to come in and trade Europe, and we’re seeing banks and hedge funds looking at the market.” Indeed, Barclays Capital recently began trading (see *Environmental Finance*, May 2005, page 5), and some of those hedge funds which have contributed so much to volume growth in the US are understood to be considering trading European weather risk.

Home-grown hedge funds are also eyeing the European market, says Claude Brown, a partner at Clifford Chance, which took the Best Law Firm title again this year. “We’ve had enquiries from a number of Europe-based hedge funds – they’re a little way behind their US counterparts.”

Brown also reports a growing move towards structured products, in terms of the legal work his team is doing in the weather markets, “such as compound structures, combining weather and energy commodities, or portfolio trades,” he says. He also says that “we’re being asked to look at increasingly far-flung jurisdictions – licensing and tax issues in the further corners of Europe, Africa and the Far East.”

Despite the drop-off in the traded markets in Europe, Jens Boening of Merrill Lynch says that his firm has had no problem finding risk-taking capacity for European trades or hedging large transactions – it’s simply a question of laying off risk on a more bespoke basis, he says.

The US bank – which bought Entergy Koch Trading (EKT) and its weather desk late in 2004 – was voted Best Dealer, European Weather, regaining a title EKT last won in 2003. Boening says that, in terms of customer business, the European market is becoming more diverse, with demand growing for precipitation and wind speed hedges, as well as more traditional temperature-linked contracts.

“It’s still mostly energy sector, but we’re seeing some transportation deals, and hedges for the construction sector – in addition to the large [Amsterdam] deal that the market has been talking about for five years,” he adds.

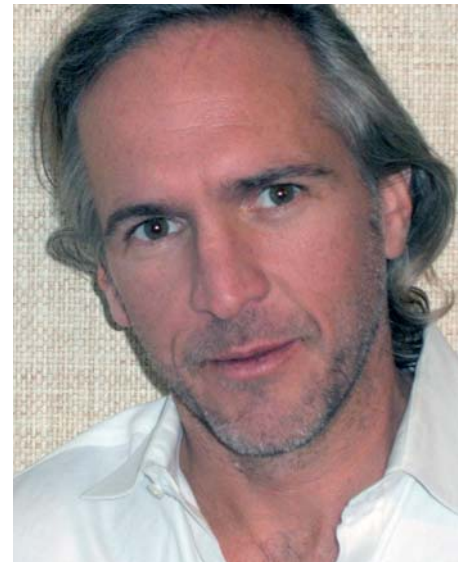
Many market participants attribute part of the drop in weather trading in Europe to the preoccupation of many European energy companies with the introduction last January of the EU Emissions Trading Scheme. Now, however, some are hopeful that the connec-

tions between weather and emissions – with cold weather pushing up energy usage, or low rainfall seeing a switch from hydro to coal-fired generation – will provide a spur to the market.

“We definitely see the correlation,” says Boening, “and there’s considerable interest from the market for the kinds of structures that combine weather and emissions, and people are working on them. But the emissions market is young, so we don’t have the long-term data yet. That’s a bit of an issue.”

Utilities in Japan, meanwhile, have yet to face such distractions, with a domestic emissions trading scheme unlikely before 2008.

Instead, says Yutaka Mouri, general manager of the financial solutions department at Mitsui Sumitomo, “it has been growing more popular for electric power and gas companies to



Kendall Johnson, TFS: “We’re seeing more and more risk placed in different time-zones to that in which it’s originated”

hedge their temperature risk through weather derivatives. The total number of contracts we concluded in the utility sector has grown significantly.”

He adds that Japan has seen steady growth in the use of weather risk management by small and medium-sized companies – a development not seen to the same extent in Europe and the US – partly driven by regional banks offering standardised, and therefore relatively cheap, hedging products.

In addition, he notes that weather risk management is beginning to take root in India, Taiwan and South Korea. In the former, small farmers have enthusiastically embraced weather insurance products, in a market seeded by the World Bank. In Taiwan, the regulatory authorities have recently approved the sale of weather derivatives, while Korea’s are contemplating such a move. ■

Certifiable complexity

Green certificates are becoming an increasingly important instrument in financing new renewables capacity. But, as the winners in *Environmental Finance's* Market Survey attest, these are complex markets in which to operate. **Mark Nicholls** reports

Soaring fossil fuel prices. Growing concerns about security of supply. Ever more compelling evidence of global warming. This past year has seen the arguments for more sustainable modes of energy production look more convincing than ever. And, with policy support for renewable energy rising in most European countries, and with the extension of the vital Production Tax Credit in the US, renewable energy equipment manufacturers are struggling to keep up with demand from project developers.

Although the costs of renewable energy generation – particularly of onshore wind power – are becoming increasingly competitive with fossil fuel-fired generation, financing remains a challenge in most markets. But, according to those voted the best brokers in the world's renewable energy certificate (REC) markets, market-based instruments are becoming an increasingly accepted part of the renewables financing jigsaw.

"The renewable energy industry is becoming more mainstream, and so are RECs," says Andrew Kolchins, director of environmental markets at Evolution Markets, which was voted Best Broker, North American RECs. "States are

becoming increasingly aware that RECs are a feasible way of getting renewables built."

Seven US states have some kind of REC scheme in operation, with several others considering their introduction. RECs are used to demonstrate compliance with 'Renewable Portfolio Standards' (RPSs), which typically require electric utilities to source a percentage of their power from renewable sources.

RECs allow the environmental attributes of renewable energy generation to be 'unbundled' from the physical power, allowing generators to sell the power to one buyer and the RECs to another. Such schemes tend to be more cost-effective in promoting increased renewable energy than alternative support structures, such as mandated 'feed-in tariffs' which set a fixed price at which utilities must buy power from renewable sources.

However, with different REC schemes in each state, each of which may be subject to intervention by policy-makers, these are complex markets for developers, investors, and speculators (see page 45).

"Regulatory uncertainty continues to be the largest risk associated with RECs markets," Kolchins says. "But [state regulators] are



Andrew Kolchins, Evolution Markets:
"States are becoming increasingly aware that RECs are a feasible way of getting renewables built"

trying to make rule changes as quickly and efficiently as possible."

"We now see the RECs market becoming a bit more liquid and transparent, and providing investors with more confidence," he continues. This, he says, is encouraging financial institutions and hedge funds to dip their toes in the market with speculative capital.

But the most important next step for the US market is the development of a forward price curve for RECs, providing pricing – and a means for taking on or laying off risk – out to five or 10 years ahead.

"That's the most important key to the RECs market exploding. We're seeing people prepared to enter into three- to five-year deals, and people are testing the water on 10 years. Developers need this to secure long-term financing."

The message that investors need some reassurance on longer-term green certificate pricing is certainly one that regulators in the UK came to understand with its Renewable Obligation Certificate (ROC) market. Last year, the government announced an increase in its target of 10% of power from renewable resources by 2010 to 15% by 2015, underpinning the price of ROCs, and thus the longer-term financing of wind farms.

"ROCs are providing a serious part of renewable energy financing," says Fiona Santokie, head of European renewables at Natsource, which was the runner up in the Best Broker, RECs – UK category, coming second to TFS. "But stand-alone ROC trading is still very quiet – they literally trade every couple of weeks."

The traded market has never quite recovered from the bankruptcies of a couple of energy companies in 2002. The UK's Renewable Obligation scheme allows electricity suppliers that fail to source sufficient ROCs

RENEWABLE ENERGY CERTIFICATES

Renewable Energy Certificates – North America

Best Broker Evolution Markets **Runner-up:** Cantor Fitzgerald

Renewable Energy Certificates – UK

Best Broker TFS **Runner-up:** Natsource

Renewable Energy Certificates – Europe ex-UK

Best Broker GreenStream Network **Runner-up:** TFS

Renewable Energy Certificates – Australasia

Best Broker Next Generation Energy Systems

to pay a 'buy-out' penalty – now £32.33/MWh – to the government, which then recycles that money each year to those suppliers who deliver ROCs. The size of this buy-out pot can be estimated by the market, and is factored into ROC prices. However, should a supplier go bankrupt, without sufficient ROCs, the UK regulators find themselves with little recourse to collect the buy-out money.

"In long-term deals, banks are still not taking the recycle risk," says Santokie. "Most will expect some kind of underwritten floor price," collectively covering the revenues from ROCs, the power purchase agreement, and from other environmental benefits.

While it may be business as usual in the UK's ROC market, continental Europe has undergone profound changes in its green certificate markets over the past 12 months, says Jussi Nykanen, executive vice president at Greenstream Network, a Nordic brokerage that is expanding beyond its Baltic base.

Although Sweden and Italy have compliance-driven REC schemes, the majority of continental green certificate trading is driven by voluntary demand, says Nykanen. Until January, much of that originated from Dutch buyers, who received attractive tax breaks for buying green certificates. However, this tax break was

discontinued at the start of the year, after the Dutch government decided far too much taxpayers' money was being spent supporting renewable energy elsewhere in Europe.

As a result of significant Dutch demand leaving the market, "the price dropped heavily, from around €5/MWh to €0.5/MWh for large quantities," says Nykanen. "But on the other hand, volumes have gone significantly higher." He estimates that around 100TWh of certificates will change hands this year, compare to 20–30TWh last year.

"Last year, the market was dominated by the Dutch. Now it's much more spread out, and it's focused on 'Guarantees of Origin [GO]';" he says. This is a consequence of the EU's 2001 Renewables Directive, which requires electricity suppliers to state on customers' bills the sources of their power.

"I expect demand to go up – more and more companies are looking at [corporate] disclosure, and want certificates to make their power purchases more 'green.'" He adds that supply is also expected to rise, as a number of countries join the GO registry system.

Meanwhile, Australia's certificate system is

somewhat in limbo, with an initial rush to develop capacity after its 2001 launch now stalled, given the government's unwillingness to raise the 2010 Mandatory Renewable Energy Target.

"The [federal] government is mainly run by the coal miners and the aluminium industry," says Ken Edwards, director of Next Generation Energy Services, which was voted Best RECs Broker, Australasia. "There's really no political will to raise targets."

In June 2004, the government signalled its intention to hold the renewable target steady at 2% of electricity supply in 2010 – equating to 9.5GWh – a decision reinforced by its victory in November 2004's general election. By March, Edwards says, the market realised that there was already sufficient capacity in place to meet that target. "Certificate prices fell from A\$37 (US\$28)/MWh to A\$27 – and we're predicting that the market will drop away further."

As with carbon in Australia, however, there's the possibility that the states will come to the rescue. "Victoria has said it will work to a 10% target, and Western Australia is looking to go to 6%. But these will be individual schemes, not linked to the national programme" – once more underscoring the potential complexity of environmental markets. ■

EARLY REGISTRATION DISCOUNT Through January 20



Fourth Annual National Water Resources Symposium February 13 & 14, 2006

Estancia La Jolla Hotel & Spa, La Jolla California

The Premier Event on Water Finance & Development

Insight from Industry Leaders

- Marketing
- Finance
- Legal
- Technical
- Business

- Making Business Sense of the US Water Market
- Private Sector Financing & Risk Management for Water Projects
- Public Private Partnerships Structures and Approaches
- Is the Water Industry a Good Investment?
- The Desalination Market: Opportunities and Risks
- The Role of Private Activity Bonds in Water Projects
- Meeting the Financial Needs of the Growing Infrastructure Gap
- What is the Private Sector's Future in the Water Industry?
- Water Investment Opportunities Beyond Publicly Traded Water Stocks
- A New Federal Policy Agenda for Water

To Register: 307-742-3232
info@waterexchange.com



Produced By:

WestWater
Research LLC

waterexchange.com

EVENT SPONSOR



SUPPORTING ORGANIZATIONS



OFFICIAL PUBLICATIONS

