A degree of change

The weather market hasn't escaped the effects of the drop in risk appetite in commodity markets more broadly – but end-user business remains solid and new opportunities, such as in renewable energy, are keeping participants busy. Mark Nicholls reports

It's very much a case of sunshine and showers for the weather risk market. While the forecast for the traded market is somewhat gloomy, with reduced risk appetite and changing energy market fundamentals casting a pall, things look brighter in terms of the sale of weather hedges to end-users, where dealers report steady (if not spectacular) growth in the volume and variety of weather risk hedging. And, while the energy market remains the bedrock of end-user demand, online weather risk platforms are gradually increasing their penetration into new sectors.

"The OTC [over-the-counter] end-user market is very strong, and it's continuing to grow," says Bill Windle, the managing director of RenRe Energy Advisors, which was voted Best Dealer in the North America and Europe categories, and runner-up for Asia. "Our business model is to provide bespoke structured transactions, and we're seeing an increasing customer base."

> *"The actual risk transfer in the weather market is pretty robust"*
>
> Nick Ernst, Evolution Markets

Indeed, figures from the Weather Risk Management Association (WRMA) showed that, while the overall market grew 18%, to $11.8 billion in the year to 31 March, the value of the OTC market was up nearly 30%, to $2.4 billion.

But this is some way off the heady days of 2005/06, when the market reached $45 billion – of which the vast majority took place on the Chicago Mercantile Exchange (CME). This year, trading has slumped on the exchange, with heating degree day futures (which cover the winter season) down 48% by the end of November, and cooling degree day futures (for the summer season) down 61%.

Bill Windle, RenRe: "This year we completed a wind transaction for the first time"

Broadly speaking, the weather risk market is made up of two parts. Its foundation comprises the transfer of weather exposures from end-users such as utilities or others within the energy markets to insurance companies or investors in the capital markets. Typically, their exposures are skewed towards the risk of mild winters or cool summers reducing energy demand. On top of this lies the traded market, where some of this end-user risk is traded and hedged, and where speculators can trade around weather forecasts or other, weather-related energy markets. The US accounts for the majority of the market, but Europe and Asia are growing, say dealers.

"The actual risk transfer in the weather market is pretty robust," agrees Nick Ernst, director of weather markets at Evolution Markets, voted Best Broker, North America and Asia, and runner-up for Europe. But traded volumes have suffered "as a continuation of the general commodities depression, and a lack of volatility in some of the energy commodities."

"We've seen a larger percentage of our business migrating towards the end-user side," he adds.

Eric Anderson, at rival broker Tradition – voted Best Broker for Europe, and runner-up in North America – says that "as far as the financials and the hedge funds are concerned, there aren't fewer of them [in the market], but the dynamic for taking on risk has taken on a more concentrated approach."

And some note that the traditional

	Winner	Runner-up
North America		
Best Broker	Evolution Markets	Tradition
Best Dealer	RenRe Energy Advisors	–
Europe		
Best Broker	Tradition	Evolution Markets
Best Dealer	RenRe Energy Advisors	EDF Trading
Asia		
Best Broker	Evolution Markets	–
Best Dealer	MSI GuaranteedWeather	RenRe Energy Advisors
Global		
Best Advisory/Data Service	Speedwell Weather	MDA EarthSat Weather
Best Law Firm	Clifford Chance	–
Best Exchange/Online Platform	WeatherBill/Climate Corporation	The Beast/VCM

links between weather markets and other energy markets have broken down. "The role of the CME was primarily to express energy risk in a weather market," says Stephen Doherty, CEO of Speedwell Weather Derivatives, the UK-based weather data and analytics firm voted Best Advisory/Data Service, for the third year running. "But if the link between energy prices and weather breaks down, there will be less interest in the listed contracts."

That link came under pressure in the economic downturn in the US. As demand for natural gas and other energy products fell, supply and demand became less closely balanced – meaning that weather became less of a marginal influence. And the growth of shale gas has exacerbated that trend. "Supply isn't tight, so the dependency on weather isn't there," says Doherty.

However, in terms of the health of the market, volumes on the CME are a secondary concern – as much of the trading is essentially 'zero-sum'. "The economic contribution to the industry that the CME makes was always junior to a few decent OTC trades," argues Doherty, as these typically involve end-users paying a premium to transfer weather risk – and WRMA found that OTC activity in 2010/11 was the highest since 2004/05.

"We can confirm that the OTC market is healthy," says Jens Boening, London-based head of weather derivatives at EDF Trading, the trading arm of the French utility, voted runner-up Best Dealer for the European market. "Most of the largest [European] utilities are active in the weather market."

Europe has traditionally lagged the US in terms of weather hedging among its utilities, but the picture is changing. Aside from EDF, RWE, E.ON and Centrica are all active.

"We're now seeing each of these transferring large volumes of weather risk to the market each winter," says Boening, with brokers estimating that the numbers are in the hundreds of millions of euros of weather risk from each utility. And, unlike in the past, where utilities tended to be 'one way' – that is, exposed to the risk of mild winters, "we're seeing demand for both warm and cold hedges", he says. For example, energy retailers can find themselves exposed to a cold winter pushing up the prices at which they have to buy power or gas.

However, business in the European market tends to be concentrated in the winter months – low penetration of air conditioning, compared with the US, means utilities face limited weather risk in the summer.

Alejandro Turullols, who leads Tradition's European weather risk business, adds that interest in the market is moving eastwards. "The CME now has market makers for six [European] locations, including Oslo, Berlin and Essen – that's helped some of the dealers come in" to trade those locations. "It's not just London, Paris and Amsterdam these days."

In Asia, in addition to the established market in Japan, leading dealer MSI GuaranteedWeather is seeing interest from new markets such as South Korea, Singapore, Taiwan and Hong Kong, says the company's Kansas-based co-CEO Brad Davis. While most of this is still at enquiry stage, he says that "some large deals have been done", but these remain private and out of the public eye. In several of these markets, "there are still regulatory issues, such as how best to transact, whether through derivatives or insurance".

The weather risk market – especially at the wholesale level – remains very much concentrated within the energy sector, where weather risk tends to be most closely correlated with revenues, and where end-users are large enough to look to transfer significant volumes of risk.

Within that sector, however, weather risk management is finding new applications. Dealers report growing interest – and business – from the renewable energy industry. "This year we

Cat risk market bounces back

While 2011 is on course to be a relatively healthy year for the issuance of catastrophe bonds – which transfer natural catastrophe risks from insurers to the capital market – a couple of factors held the market back.

"It's going to be the fourth biggest year on record," with between $4 billion and $5 billion of cat bonds issued, says Markus Schmutz, managing director at Swiss Re Capital Markets, voted Best Structurer, Cat Risk.

Two factors, however, weighed upon issuance: the revision by RMS – voted joint Best Advisory/Data Service – of its catastrophe models; and Japan's earthquake and tsunami.

While the latter is likely to be one of the world's costliest natural disasters, its effect on the catastrophe risk market was relatively muted, says Schmutz. "The market held up well," he says, but it has slowed issuance. "It's not that it's turned sponsors away, but it has delayed their timing – the last quarter of this year has therefore been very active, and I would expect that to continue into 2012."

However, the cat bond market is only one part of the picture, says Barney Schauble, the San Francisco-based managing principal of Nephila Advisors, the US affiliate of Nephila Capital, which was voted Best Trading Company, Cat Risk.

While cat bonds suit some insurers and reinsurers, "the vast majority of the market is direct transactions … that look a lot like cat bonds, with collateralisation, etc … but which are privately placed."

Precise figures don't exist for the size of the private market, but Schauble estimates it at between $10 billion and $20 billion of risk transferred each year. "That has grown every year, year on year."

And on the buy side, Schauble adds that the appeal of the asset class to institutional investors is becoming well understood. "As we hoped would happen over time, the value proposition to pension funds is more clear – [cat risk funds offer] positive yields, that aren't correlated to other markets."

He says that pension funds now account for 80% of assets under management – Nephila Capital manages what is understood to be a $5 billion-plus catastrophe risk fund – whereas previously fund-of-funds accounted for the bulk of investment.

Catastrophe risk management

	Winner
Global	
Best Structurer/Arranger	Swiss Re
Best Trading Company/Investor	Nephila Capital
Best Advisory/Data Service	= RMS
	= AIR

completed a wind transaction for the first time," says Windle at RenRe. "The deal mitigated wind resource risk – it was basically thinking of wind as a fuel," he says, and used a 'quanto' structure, with the trigger being wind speed over time, while the payout was linked to the power price.

While the weather risk industry has been discussing weather hedges for the renewables sector for some years, few deals have been closed because of problems squaring basis risk and providing sufficiently long tenor, says Windle. The main problem with wind farms, in particular, is that wind speed is a very localised variable – and the weather stations which have the long-term data sets needed to price weather hedges are typically some miles away from the wind farm.

"There are lots of wind farms in west Texas," says Windle, "but the available data may be 30 to 50 miles away from where the wind farm is."

The answer is to construct synthetic datasets. "Wind is no longer as 'new' as it used to be," Windle continues, meaning that wind farms will often have three or four years of historical data – sufficient to correlate local wind speeds with weather stations with decades of data.

The data providers are all stepping in with products aimed at the renewable energy market. MDA EarthSat, voted runner-up in the Best Advisory/Data Service category, is developing a tool that can be used both for forecasting likely wind availability – a boon for power traders and grid operators, concerned about the volume of power likely to be delivered by wind farms – and for 'hindcasting' to help price weather hedges. "This is going to become a big part of the weather market," predicts Steve Gaddy, the company's Maryland-based meteorological data manager.

However, the tenor of deals remains shorter than wind farm operators or investors would like. "They're looking for 10-, 15- or 20-year tenors," says Windle. "We've done fairly short-term deals, one to two years, but we'd hope to be able to roll those transactions, and do longer ones as we get more comfortable."

On the plus side, Windle adds that "size is not an issue. In the traditional energy sector, weather deals are quite large, so size is not a factor. There's a lot of capacity out there to be placed."

Dealers have long hoped to apply weather risk management to other industry sectors, with limited success, but online weather platforms are succeeding where traditional approaches have failed. "They are democratising the market," says Windle, allowing smaller end-users to hedge weather at low cost.

David Friedberg, Climate Corporation: "Basis risk is 100% of the problem"

Climate Corporation – which until October went by the name WeatherBill – is probably the best known, and was, once again, voted Best Online Platform. Set up by ex-Google staffers, Climate Corporation offers automated weather insurance to US farmers. Using extensive datasets and complex algorithms, the company can provide highly customised weather hedges to farmers based only on their location, crop type and expected yield, explains San Francisco-based CEO David Friedberg.

The challenge is in ensuring the hedge matches the exposure, he says. "Our core product mission is to reduce basis risk to zero … All it takes is one season where the farmer gets a cheque when he isn't expecting it, or doesn't get a cheque when he is, and they won't come back again.

"Basis risk is 100% of the problem."

In an effort to reduce this risk, Friedberg says that, for example, the company has switched from using a grid of rain gauges across the US to a doppler radar system, which means Climate Corporation "is utilising imagery from directly above your fields".

The company reports dramatic growth this year – a 1,000% increase in the number of policies sold (although it does not disclose absolute numbers) and a trebling of staff in the past six months alone. Friedberg says that, while it is retaining its focus on agriculture – "where our technology provides leverage in providing a scalable business" – the company is planning to expand into overseas markets, with Australia, Canada and Latin America as likely next steps.

"The reason the OTC market exists is because it allows bespoke products"

Claude Brown, Clifford Chance

The runner up in this category – 'The Beast', developed by VCM Capital Partners – is aimed at the other end of the market. Launched just over a year ago, the platform matches buyers and sellers for a whole range of weather risk structures, which are then decomposed and cleared through the CME – combining the customisation of the OTC market with the security provided by exchange clearing.

This is the first winter season that the platform is fully up and running, says Brian Horner at VCM in New York. "We're getting pretty good traction," he says, claiming that the "majority of players are on the system, or getting approval for it".

He is confident that the simplicity of the platform, which offers straight-through electronic processing, will help draw new traders into the weather market. "We feel that the weather market has a way to go – we'd like to get it in front of more traders, power traders, oil traders, anyone looking at weather – we'd like to shake it up a bit."

What certainly threatens to shake up the weather market – in common with derivatives and commodity markets more broadly – are a whole raft of looming regulatory overhauls. The key ones are the Dodd-Frank Bill in the US and, in Europe, reform of the European Market Infrastructure Regulation (Emir) and the Markets in Financial Instruments Directive (Mifid).

Among other things, they are designed to force derivatives trading onto cleared platforms, such as exchanges, which offer protection from counterparty bankruptcy (and the systemic risk posed by collapsing investment banks) – but at a cost. Such reforms, due to take effect by the end of 2012, but expected to slip, will benefit the CME.

However, "the reason the OTC market exists is because it allows bespoke products," explains Claude Brown, a partner at law firm Clifford Chance, which for the past several years has won the Best Law Firm category in the weather risk survey. "These can't go on a central counterparty clearing platform", and instead dealers will have to hold collateral against their positions – making the business more expensive. Meanwhile, Mifid will extend regulatory oversight to commodity markets and, in addition, the EU's Solvency II directive will add to the regulatory burden on insurance companies.

"I don't think the world is going to fall off a cliff in 2012," he says. "But, in 2014 when you look back, things will look different – there will be a change in the way people do business." **EF**