As the first significant expiration date for Phase II of the EU Emissions Trading Scheme nears, AIDAN FREEBAIRN and BRETT GENUS analyse the impact this could have on the growing options market

Options on trial

After nearly two years of trading, the global carbon dioxide (CO_2) options markets are to get their first test in December, with the first significant expiry of both EU allowance (EUA) and certified emissions reduction (CER) options. Contracts on the European Climate Exchange (ECX) expire on 10 December, following the 21 November expiration for options listed on Nymex's Green Exchange.

These events should present a great opportunity for market participants that have an interest in trading closer to expiry, when options inherently have more "optionality". But it is also bringing into sharper focus additional steps the derivatives market must take to accommodate fully the growing interest in carbon hedging.

Emissions options are currently written on two underlying commodities: EUAs, the EU Emissions Trading Scheme (ETS) allowances; and CERs, the credits that result from Kyoto Protocol Clean Development Mechanism projects. The more liquid and mature of the two markets is the EUA options, but CER options have had an explosion in growth since becoming exchange-listed (first on the Green Exchange and then ECX) this year.

According to ECX, for which year-on-year data is available, EUA options volume for the month of July totalled 20,195 contracts, versus 6,790 contracts a year ago (each contract represents 1,000 allowances). This equates to a year-on-year increase of 197%. EUA futures volume in July came to 235,349 contracts, up 97% year on year from 119,268 in 2007. It would seem that the concerns over whether the market is liquid enough to engage in options trading are finally beginning to be put to rest – despite the continuing credit crisis in other global financial markets.

Investors' appetite and pursuit for yield has never been greater but it's proving challenging to place money in the current economic climate. The unfolding credit crunch, the full extent of which is still unknown, and the increased likelihood of a recession, makes the careful choice of investment paramount. However, against the backdrop of general economic constraints, it has become evident that carbon is becoming recognised as an asset class of its own.

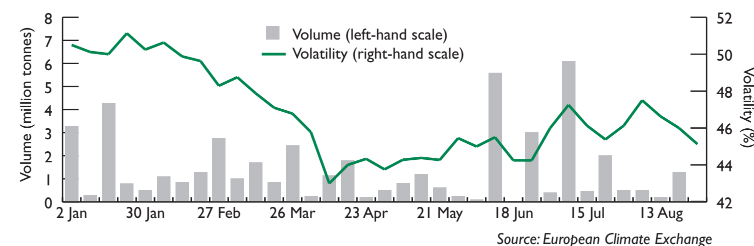
Carbon options volume is on an impressive trajectory. Yet, the currently available contracts are far from perfect. Unlike any other listed exchange-traded commodity, options based on EUA and CER futures currently only trade on a yearly expiry. In general terms, and for most of their lifetime, carbon options have a rather lengthy time-to-expiry (103 days, at time of writing, for December 2008 expiry).

This ultimately comes down to the fundamental design of the EU ETS, whereby compliance users are only required to surrender their allowances for compliance once a year. Initially, market participants using exchanges or the over-the-counter market for the trading and delivery of the underlying allowances and certificates did so for yearly delivery, typically the first trading day in December. The first options contracts, not surprisingly, followed the pattern.

The problem is that the lengthy time to expiry coupled with the rather high volatility of the underlying instruments has had a direct bearing on the overall cost for initiating an options play. Essentially, it has made premiums relatively expensive compared to other energy options markets where shorter-dated contracts exist.

There is an emerging demand from the market for the listing of quarterly and or monthly options, particularly as the more sophisticated players begin to look at this emerging asset class. The need for a more 'tradable' product list (ie with shorter-dated expiries) is taking hold. The ECX is planning to introduce quarterly expiries from the first quarter of 2009, whilst Green Exchange already lists quarterly options from 2009.

ECX EUA options contract: volume and volatility, 2 Jan–28 Aug 2008



Source: European Climate Exchange

Due to the lack of liquidity in shorter-dated contracts, we have largely only seen CO_2 options being utilised for the purpose of hedging. Subsequently, unlike most other options markets, to date there have been few traders that typically execute outright speculative plays or that employ a typical inter-market volatility strategy, for example playing power against emissions, or dispersion volatility-based strategy.

Nonetheless, here we are – with late November and early December expiries fast approaching, and the market is getting ready. As the December 2008 options contracts begin to take on the characteristics of shorter-dated products, a surge in volume is likely as new and existing participants begin to diversify their strategies.

As this first expiry approaches, some option strikes will no doubt be more in demand than others, as participants potentially attempt to pin where the underlying contracts will be priced when the options expire. Essentially, it opens up a multitude of different trading opportunities – for instance, allowing users the opportunity to exploit anomalies or discrepancies between prices in volatility terms, or between different strikes.

Another factor that should contribute to an increase in volumes and interest is the need for a variety of participants to roll their positions into the next expiry. Current open interest in exchange-listed options stands at in excess of 100,000 contracts for EUAs and 31,000 for CERs, with more than 86,000 of these expiring in December. There is certainly potential for a busy end to the year based on the rolling of positions alone. It should be noted that the potential for a large proportion of these contracts being rolled also opens up further opportunities with short-term price discrepancies between the different vintages likely.

Waiting in the wings are some seasoned options participants looking to take advantage of the almost certain price anomalies that are inherent with a less mature and relatively inefficient options contract. With new contracts, open interest turnover and price volatility, it is shaping up to be an interesting end to the year in the CO_2 options markets. ***CF***

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