# Lessons learnt in price risk management

Steven Jones of Morgan Stanley outlines the importance of putting in place a proper energy price risk management programme, from the top down.

Companies with meaningful exposure to energy prices such as oil, power and gas, will now be all too aware of the extreme volatility inherent in these markets compared with most of the more traditional financial markets. Oil and gas consumers who have not been hedged against adverse price movement would have seen significant swings in their operating results as prices have gone from historically low levels two years ago to the historically high prices observed in more recent months. Consequently, energy price risk management has moved up the agenda for many corporates which are not already addressing this risk effectively. This is now the case with many of the UK and European industrial companies which are now facing the opportunities and risks associated with liberalised power and gas markets.

The purpose of this article is to share some personal observations and opinions on what constitutes an effective energy risk management programme.

***Is managing energy price risk really necessary?***

Before embarking on any risk management programme the company has first to decide whether the risk in question is something it can live with, or actually wants. For instance, some integrated oil companies or exploration and production (E&P) companies have policies of not hedging. In the past, Exxon have publicly stated that the cyclical nature of their integrated businesses is a short-to-medium term risk that they, and their shareholders, can live with. Similarly, E&P companies often tell you that their shareholders are investing in their stock for the oil price exposure. However, this theory has been blown out the water in the recent price rise where E&P stocks have languished dramatically in relation to the oil price. This seems to imply that investors of E&P stocks discount price spikes above, say, $20 per barrel (bbl) but rather evaluate the likely cashflows and associated stock performance based on a longer term price expectation.

> It is surprising how little attention this subject gets with many companies

If your company has a meaningful exposure to energy prices but your business is not to invest or trade in the underlying energy markets, then this price exposure is likely to be a risk that you would rather control. Even so, it is surprising how little attention this subject gets with many companies, although more 'traditional' risks such as interest rates and currencies seem to sometimes warrant an army of treasury staff. The relative importance of these risks can be seen in *Figure 1*, which shows the historic volatility of different energy prices compared to some typical currency and interest rates. If your company's cost base or revenues are affected by energy price moves, this volatility chart should be considered with your P&L in mind.

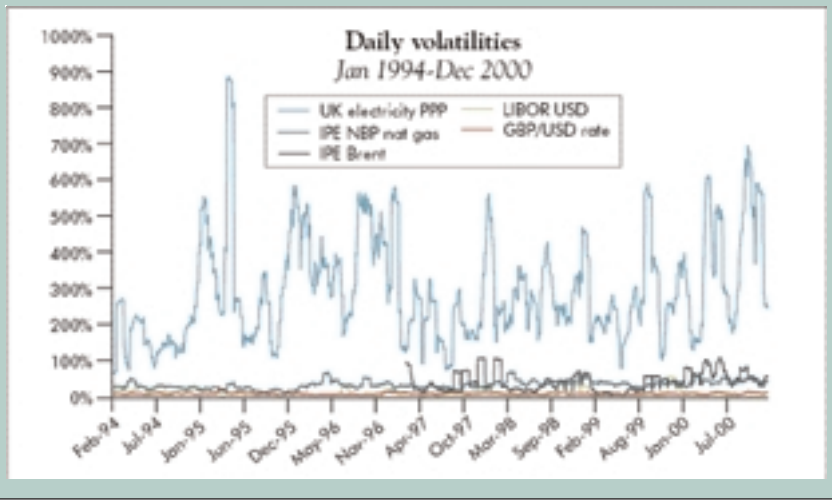
For example, airline sector results over the last year have mostly been reported with some reference to the contribution of the oil price. Jet fuel typically constitutes 12-15% of an airline's costs, so those companies that were insufficiently hedged during the last price escalation have reported a dramatic adverse impact on their overall results. Whereas those airlines that have managed this risk well, such as Lufthansa, can choose either greater profit margin or an aggressive capture of market share when their under-hedged competitors are raising ticket prices to counter the fuel cost rise. The airline sector analysts at MSDW will tell you that they often grade a like-for-like airline that does not hedge with a lower rating than the one that effectively manages this risk. They believe it reflects prudent cost management, plus they know the impact this risk can have on future cashflows. Of course, the unhedged airline will be in a similarly advantageous position when prices fall dramatically, however this assumes a static risk management strategy by the competition and, more importantly, would imply a less prudent, more speculative, management approach which equity analysts often view negatively. Disciplined management of this significant risk enables analysts and investors to better predict the likely impact on cashflow of a company's core strategic policies.

***Physical supplier or risk management provider?***

Before oil derivatives were available, companies often looked to their oil supplier to take the price risk by providing a fixed price on a term basis. Some companies still take this approach and some of the bigger oil companies are very efficient in providing this service. However, this is now more typical in the European gas and power markets where there is not yet a sufficiently developed underlying market that can warrant the participation of financial institutions. This liberalisation of the utility markets is gathering pace and soon all companies will be able to approach banks and trading houses for their energy risk management needs. The UK gas and power markets are already fully tradable (subject to NETA in power) and are open to many participants.

Industrial companies are starting to change their traditional procurement practices. For example, in the UK gas market, industrial companies typically go to tender each year for the best fixed price supply deal for their specific volume (including swing) and geographic delivery profile. This restricts these consumers

FIGURE 1




to 'hedging' at a specific time of year for a set period, usually one year forward. Also, it restricts the consumer to seeking the best fixed price from only those suppliers that can efficiently handle their physical delivery requirements. The scope for consumers to be caught out by short-lived price spikes just when annual contracts are being agreed may be more than coincidental and certainly damaging to the P&L!

As was the case in oil, larger consumers in the gas and power markets will start to separate the physical supply and the risk management. Companies moving to this approach find that their overall net price will be enhanced by working with the best physical supplier who can meet their requirements at the best margin above a floating market reference, eg UK natural gas at the National Balancing Point (NBP). The consumer will then have the choice of asking their banks to submit risk management proposals and derivative prices that may well be preferable to those offered by their physical suppliers. This would also allow the consumer to decide when is the optimum time to enter the market to hedge the risk and for how far forward, eg three months or three years. This is not to say that oil companies or utilities do not also offer this service but, from experience, many of these companies do not like to hold longer term fixed price risk or options on their books and will themselves often go to the banks and trading houses to cover this risk.

***Strategic or opportunistic?***

One of the great lessons learnt through the price cycles of the energy markets over the last ten years is the need for a consistent, disciplined approach. It is common to see companies which remain unhedged or significantly under-hedged because they were always looking to catch the top or bottom of a price cycle, ie, they are aiming to make money on their hedge. Of course it is natural for the person responsible for this job to want to show positive cashflow on the derivative because it implies that he has done a good job in recommending the choice of instrument and the timing. However, companies rarely hedge 100% of the energy exposure so they would actually be better off as a whole if they were paying out on the hedge contracts as this then implies that they would be making more back on a greater volume of physical contracts. Many companies fail to accept what is only an opportunity cost and will often reduce or stop their hedging activity if this opportunity cost becomes too great.

Companies with such an approach tend to go through the classic hedge cycle of reducing their cover after paying out on hedge contracts and are then underhedged when prices move against them. They then panic into hedging after this period of high costs or low revenues but could then be paying out on these hedge contracts during the next cycle. And so the hedge cycle continues. It is astonsihing how often we see this behaviour repeated across all business sectors.

If companies truly want to consistently manage their energy price risk then discipline is required to accept that energy derivatives should not be regarded as a means of making additional profits. A strategic, rather than opportunistic, approach is required. Companies should also accept that energy markets tend to be cyclical and have a historical tendency to revert to a historical mean price. In the same way that I did not believe oil prices would go to $5 for a sustainable period, I do not believe that they would go to $50 for a prolonged period, as some analysts recently predicted. Supply and demand tends to react to such extremities, albeit sometimes slowly. So the challenge for the energy risk manager is to protect the company against these adverse price developments and also to minimise the opportunity cost of unwanted fixed price commitments when prices move favourably. This brings us to the next point.

***Passive or dynamic approach?***

Some of the key decisions within a risk management strategy will be the portion of exposure that is hedged, for how far forward, and the choice of most appropriate instrument. The underlying risk management objectives should help determine these decisions in terms of the price level that needs to be protected and the degree of price participation that is required. It is usually the economics of the business, budgets, forecasts and management/shareholder expectations which will combine to determine these parameters.

When a company embarks on its energy price risk management programme, the Board of Directors should establish the execution parameters. This is often a painful and arduous process for all involved. Consequently, the risk management strategy rarely changes in many companies. An example might be that the company will only use swaps; will only hedge to the end of the next budget year; will only hedge at a price which betters their budget price; and will only cover a maximum of 50% of their energy requirements. This type of approach is fairly common.

However, in my mind, a company with the flexibility to take a more dynamic approach will have a more effective risk management programme. The volatility of the energy markets necessitates a risk management strategy that can adapt quickly to price developments. It is usually unforeseen meteorological or political developments that can drive prices to unexpected extremes and a company should be prepared to deal with such developments efficiently. For instance, with historically low oil prices in 1998, some consumers seized the opportunity to extend their usual hedging horizon and

hedge some of their exposure for up to five years forward, instead of the usual one to two years. Likewise, in this recent high-price environment, more dynamic companies have extended their choice of risk management tools to incorporate option structures that give them the required protection but also a greater degree of downside participation should prices soften as expected. Some companies also restructure their hedge portfolios to realise gains on some positions and convert the portfolio into something that better complements their desired level of protection, versus price participation, under the changed market environment.

It is this dynamic approach to energy risk management that will ultimately be more successful. To do this effectively, most companies will need to choose risk management providers to help them make the right decisions. This service will include comprehensive market information, analysis and advice. Also, they should be able to propose creative hedging strategies and instruments that complement the desired levels of protection and price participation. Obviously, the risk management provider must be able to price these different instruments competitively and have the capability and risk appetite to manage such positions for the required volume and duration.

***Internal structure and organisation***

A prerequisite for this more dynamic approach is an internal structure that is flexible and able to respond quickly to proposals. All of these strategy and policy decisions should come from Board level so it is ultimately the responsibility of the Board to make themselves accessible and to organise themselves to be able to make quick decisions in response to a change, or expected change, in the market. The CEO and/or CFO should understand this subject deeply, have delegated authority from the Board and be accessible and willing to take quick decisions regarding the strategy. The people responsible for executing the risk management strategy must always feel that they have the full backing of the Board so the parameters must always be clearly communicated from this level.

Several parts of the company could claim to be best suited to managing this aspect of the business. Typically, the drive would come from the finance division, with the necessary skills for day-to-day management and execution being found in the treasury department. However, depending on the business, other people within the company may have a better feel and understanding of the dynamics of the underlying market. For instance, in many large transport companies management and execution lies with the fuel procurement department, which follows price developments in the underlying energy market and should be better placed to decide on timing of execution. However, it is always vital for these individuals need to have sufficient understanding of the hedging tools, which may not always be the case.

> There are sufficient risk management tools for companies to be proactive in shaping their risk profile

An effective solution may be to have an energy risk management team/committee which consists of treasury and procurement people. This will cover all the required skill set, as well as covering the relationships with both banks and physical suppliers that may provide hedging services. This team/committee will be responsible for proposing strategies to the Board and should then be given reasonable autonomy to execute this strategy as efficiently as they can. The ability to move quickly is very important which necessitates significant responsibility being delegated to a relatively low level. The fact that these lower management levels will have a high degree of autonomy, in turn necessitates effective controls and reporting. The Board should clearly communicate the general parameters of the strategy in terms of volume, duration, types of instruments permitted, price targets, etc. The Board should also establish execution/trading limits. It is good practice to communicate these trading limits to the risk management counterparts.

The risk manager should provide regular reports to firm management regarding position status, market developments, proposals, etc. A good energy risk management provider will be able to help provide much of this information, such as marked-to-market valuations, market reports, etc.

It is sensible to have all confirmations and contracts checked and ratified independently from the people executing the trades. The operations function carrying out this task should report to a separate line manager. The occurrences of 'rogue traders' committing their company to unauthorised loss-making derivative transactions are extremely rare but, in reality, it is difficult to completely prevent such incidents. Having the right reporting and control procedures in place will make it very difficult for this type of problem, as well as genuine mistakes, to pass unnoticed.

***The future – risks and opportunities***

Volatility in the energy markets can be directly transposed to cashflow volatility for the unhedged company. Many companies with oil market exposure have already learnt to effectively deal with this risk, although many more have learnt a harsh lesson during the extreme price moves over recent months. The ongoing liberalisation of the European power and gas markets pose new opportunities and threats to any company who's revenues or costs are meaningfully influenced by underlying price swings. The more developed US markets are perhaps the best example of what we can expect in Europe. Increased competition in the utility sectors has generally resulted in better supply deals for the industrial consumers. However, the extreme volatility in the liberalised spot markets has also led some companies into bankruptcy, especially when power prices surged from around $20/MWH to over $7000/ MWH for periods during the hot summer of 1998. All time price highs on US natural gas during this last winter has also been a huge challenge, to say the least, for any energy consumer. For example, about half of the 1.6m tonnes of aluminium production capacity in the North West of America has been forced to close during recent months because of these high energy prices.

There are now sufficient risk management tools available for managing these price risks, so a company can be proactive in shaping their desired risk profile. Lack of internal expertise cannot be used as a reason for inertia. Providers of these energy risk management services do not stop at simple price provision. Rather, the service includes any additional advice that may be needed to ensure the customer fully understands their risks and how these can be best managed. ■

*Steven Jones is Executive Director, Commodities Marketing, at Morgan Stanley Dean Witter.*