

## **FACTORS OF RISK-MANAGEMENT IN ENERGY MARKET**

In most financial market there are a fairly small number of fundamental price drivers which can be easily translated into pricing and risk-management models. But energy markets are concerned with bulky, dangerous commodities that have to be transported over vast distances, often through some of the most politically unstable regions of the world. This means that there are a large number of factors that can affect energy prices.

A fairly short list of such factors might include:

- the climate;
- political tensions;
- changes to tax and legal systems;
- decisions taken by OPEC;
- comments made by the leaders of certain countries;
- analysts' reports;
- shipping problems etc.

All of these contribute to the high level of volatility in energy markets, which often experience sudden price movements from one day to the next or even from one minute to the next.

For understanding how these factors combine to influence energy prices is to use list of financial risk:

- price risk;
- credit risk;
- liquidity risk;
- cash-flow risk;
- legal risk;
- operational risk;
- tax risk.

*Price risk.* This is the risk of losing money as a result of price movements in the energy markets and is sometimes referred to as “market risk”. Typically,

produces will lose money when prices fall, while users will find themselves out of pocket when prices increase.

*Credit risk.* Credit risk is the risk of financial losses arising when the counterparty to a contract defaults. It is often said that a hedge contract is only as reliable as the credit standing of the counterparty and credit-risk management has moved to the top of priority list for the energy industry. The credit crunch felt in the USA energy sector in the aftermath of the Enron disaster has prompted energy traders to review credit policies and also to review effective methods to control and reduce credit risk wherever possible.

*Liquidity risk.* In the context of this research, this is the risk of losses caused by a derivatives market becoming illiquid. This happened during the Gulf War when there was so much volatility in the markets that many banks and oil traders would not give a bid or offer price. Companies who were exposed to those markets at the time were sometimes unable to close out their positions or could only do so at great cost themselves.

*Cash-flow risk.* This is the risk that an organization will not be able to produce the cash to meet its derivatives obligations. In the late nineties, Korean Airlines found itself in this kind of situation and suffered heavy losses as a result. The company had been hedging against movements in the jet-fuel price by using derivatives which were denominated in dollars. When the Korean won suddenly fell in value against the dollar, the company found that the cost of the dollars needed to service its derivatives contracts had soared. The company lost out because it had not hedged against the risk of negative movement in the currency differential between the won and the U.S. dollar.

*Legal risk.* This is the risk that derivatives contracts may be enforceable in certain circumstances. The most common concerns in this area surround clauses on netting of settlements, netting of trade, bankruptcy and the concern that the liquidation of contracts may be unenforceable.

*Operational risk.* The risk that may occur through the errors or omissions in the processing and settlements of derivatives is known as operational risk. Internal control alongside an appropriate back-office system (whether manual or computerized) should be employed to reduce this risk.

*Tax risk.* Tax risk can occur when there are changes to taxation regulations that affect either the derivatives market directly or the physical underlying energy market in some way. This can create additional costs to the trade. For derivatives

contracts, the issue of imposed withholding taxes on any settlement payments is normally.

**Summary.** When designing an energy-price risk management or trading program, it is essential to be aware of all the risk that are involved in the energy market and the ways in which they interrelate.