

ELECTRICITY DERIVATIVES

FUTURES: DECIDE THE PRICE TODAY, DELIVER AND PAY TOMORROW

When goods are purchased, they are usually paid for and delivered as soon as possible after the transaction has been completed. Futures are different, in that a price for a certain product is agreed today, but the sale or purchase takes place at a later date.

A differentiation is made between unconditional and conditional futures. Unconditional futures (or forwards) must be fulfilled by both the purchaser and the seller. This means that the goods are effectively delivered and paid for or are the subject of a cash settlement between the parties. Conditional futures (options), on the other hand, give one of the contractual parties the right to decide at a point in the future whether it actually wants to effect the transaction at the agreed conditions.

Why do buyers and sellers choose to engage in such transactions? To hedge themselves against detrimental price trends. More specifically, if you can secure a commodity at a certain price today, you do not

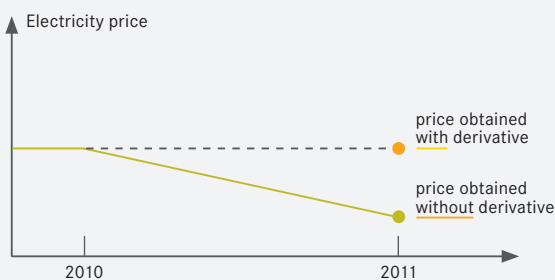
need to fear future price rises, or if you can sell your future production now at a guaranteed price, you do not need to worry about the risks associated with a future fall in prices.

ELECTRICITY DERIVATIVES: SECURITY IN THE EVENT OF PRICE FLUCTUATIONS

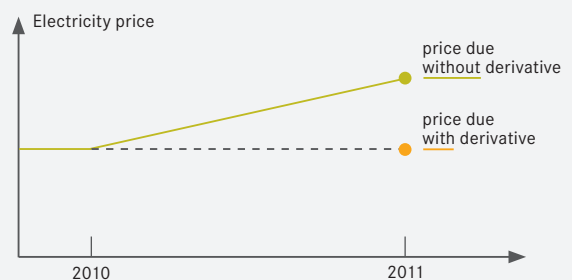
Futures are also used in energy trading. Energy derivatives are futures derived from physical deliveries of energy, in which a product – for example, the delivery of a defined quantity of electricity – is bought or sold at a later date at a price agreed today. They enable electricity producers and major consumers such as towns, cities and industrial companies as well as energy traders to hedge themselves against price risks.

In Europe's increasingly deregulated and liberalised energy markets, electricity prices are highly dependent on supply and demand and

How producers and large consumers use electricity derivatives to hedge against price risks



An **electricity producer** fears that prices are about to fall and sells its 2011 production at a fixed price in 2010.



A **municipal utilities** company fears that prices are about to rise and buys its 2011 electricity requirements at a fixed price in 2010.

therefore vary accordingly over time (volatility). The most important factors for prices are demand for electricity, availability of power stations, fuel prices, CO₂ certificate prices and rates of exchange. Derivatives trading is based on expectations regarding the development of these determining factors. If, for instance, a municipal utilities company thinks that electricity prices are likely to rise, it will try to obtain the electricity it requires to supply its customers in the future by conducting a futures trade today, at current market prices. Likewise, if an electricity producer is concerned that prices are likely to go down because new power plants are about to come online, leading to an increase in the amount of electricity on the market, it will attempt to sell its future production now, at current prices.

As previously mentioned, futures may also be conditional, giving the contractual parties the option to decide at some time in the future whether an agreed deal should take place or not. This means that a market participant can acquire the right to buy a certain quantity of electricity at a future date, but at a price defined today – and therefore protect itself against the risk of any unfavourable development in electricity prices. If the option rises in value because of an increase in the market price of electricity, the owner of the option may decide to sell it at a profit to another interested party.

MANAGING AND LIMITING RISKS

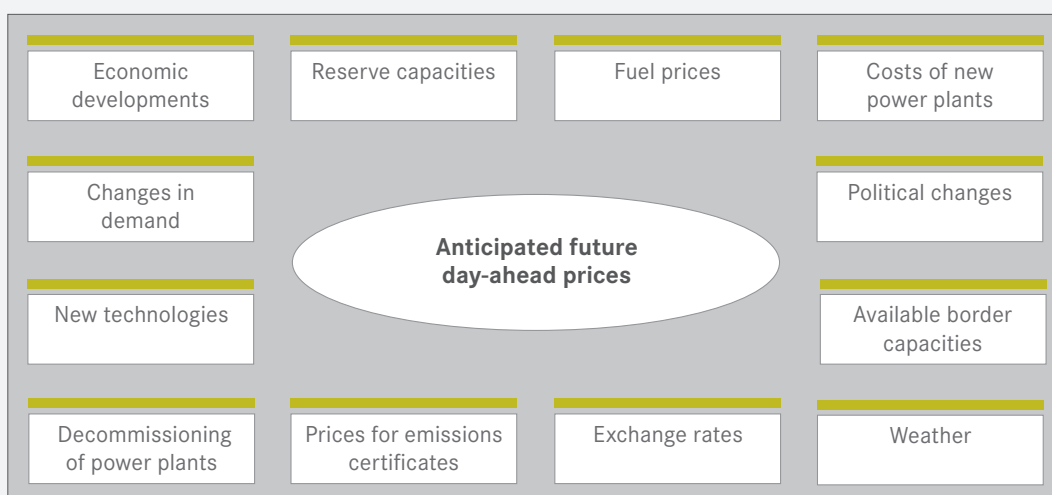
Electricity derivatives serve to hedge against price risks. But what happens if a market participant makes a wrong call with regard to price changes and invests in a derivative that suddenly becomes worthless or even makes a loss?

In principle, energy derivatives are directly related to the original electricity trade and structured in a transparent manner, which means that the risk attached to such products is lower than with more complex and often more opaque derivatives. In addition, professional electricity traders also carry out comprehensive risk management, which includes accurately assessing market developments and operational, regulatory and market risks. Thorough credit checks are also carried out on trading partners and customers in order to minimise credit risks and clear limits set for each individual trader. This coupled with close monitoring prevents traders from acting improperly and taking uncontrollable risks.

In this way, successful energy traders, producers, distributors and large consumers are able to manage and limit the risks posed by derivatives and use them to hedge against their own inherent risks.

Factors influencing electricity derivatives trading

Derivatives trading is based on what market participants anticipate will happen with regard to the development of individual influential factors on the development in electricity prices. Many factors are involved:



Would you like to find out more about electricity trading? Why not take a look at our brochure **“Energy know-how in a nutshell: Electricity trading”**. You can find it on our **website (sector “publications”)** or you can order a copy by e-mail.