

Let there be light

The European Electricity Directive, like the Gas Directive of 1998, was updated in 2003 because of 'significant shortcomings and possibilities for improving the functioning of the market'. Two years on, Liz Bossley, Richard Cockburn and Rob Kelvey consider the lack of progress towards a fully liberalised European market

THE INITIAL findings of the latest European Union (EU) Competition Commission's inquiry into rising prices in gas and electricity markets should be published by December. The inquiry was launched to address concerns voiced by consumers and market entrants about high and rising prices, the slow development of wholesale markets and limited consumer choice.

However, to account for rising prices, the Commission might be well advised to consider the conflicting actions and objectives of regulators around the EU and European policies, before blaming market manipulation. Additionally, actions taken to promote security of power supply and to confront global warming are inconsistent with the hoped-for lower prices that were the driving force behind the introduction of competition through the European Electricity Directive.

Less volume is being traded in the European wholesale power markets, giving rise to a lack of transparency and liquidity

Like the gas market, the power market has suffered from the trend of mergers between large companies over the last few years. Recent examples are the potential take-overs of Scottish Power by E.ON and of Endesa by Gas Natural. This gave rise to an unlikely alliance among members of the Major Energy User's Council (MEUC) – npower, British Energy and a number of other UK companies – in lobbying the EU over the lack of progress with the liberalisation process in some countries.

MEUC's director general, Andrew Bainbridge, said recently: "We feel disadvantaged by lack of liberalisation in European markets. There will be some serious complaints about the failure of other members to follow the UK's example. We are talking about Germany, France, Spain and Italy."

Germany has offered outsiders access to its wholesale market, but gaining access to the retail customer base has been more difficult. Even companies that have succeeded in trading in the German wholesale market complain about the extent of market power commanded by E.ON and RWE.

With more and more of the market in the hands of large, vertically integrated players, less volume is being traded in the European wholesale markets, giving rise to a lack of transparency and liquidity. Liquidity is a mea-

sure of the ability to transact large volumes without having a significant effect on price. For example, a recent drop in UK power prices from £68 (\$120) a megawatt hour (MWh) to £50/MWh on 14 July 2005 took place based on a very small volume of 350 MW of front-season, baseload contracts.

A recent study by Heron Energy shows that the traded volume in the power market is down by a third from last year. It estimates the power market in 2005 is likely to trade at a little under twice its physical size, compared with the oil market, which trades many times its physical volume. This lack of liquidity is damaging the UK power market, significantly adding to the trading risk.

Although the 17% price drop in July had a considerable effect on traders' positions, it also affected volatility – an important component of the value-at-risk calculations performed by managers when setting limits on traders' activities. The less liquid a market, the less traders are allowed to deal, further eroding liquidity.

The high cost of fuel

An obvious consideration in the assessment of power prices is the cost of fuel. Over the last year, gas prices have risen because many European long-term import contracts are tied to escalating oil prices, despite the development of direct gas-indexation in the UK. European gas supplies, notably in the UK, have been on a declining trend over the last couple of years. Investment in new infrastructure, including liquefied natural gas import capacity, has not yet come to fruition and this is reflected in the price rise.

Coal prices have also risen, reflecting increased world demand for both coal and freight. Increased Chinese exports of goods and imports of coal and US imports of goods and exports of coal have had an unsurprising upward effect on prices.

International business leaders gathered in London in early October for a conference – Climate change: the business forecast – hosted jointly by the Department for Environment, Food and Rural Affairs, the Department of Trade and Industry and the Climate Group. Noticeable by its absence was Ofgem, the UK energy regulator, even though when it comes to the price of electricity, the price of carbon has become a driver it cannot ignore.

Europe's approach to tackling climate change is the cap-and-trade Emissions Trading Scheme (PE 5/05 p31). This places a limit on the amount of carbon dioxide instal-

lations are allowed to emit and obliges them to invest in greener technology, cut output, or buy allowances to cope with any excess.

Given uncertainty over the future development of emissions legislation and the lead times involved in commissioning power plant, investment in greener technology is not an option available to generators in the short to medium term. Similarly, electricity regulators require that power plants keep generating to prevent brown outs, even when it makes no economic sense to do so, and cutting production is an option of only limited applicability to power generators trying to keep within their emissions caps.

This leaves generators with the option of buying emissions allowances in the market. However, the lack of competition from foreign electricity supply means this carbon price is passed on to the consumer.

Ultimately, the objective is to encourage generation from renewable sources, but reliance on renewables is limited by ramp (generation response) rates that are not quick enough to provide power to the grids. Consequently, generation from fossil fuels, which can respond more quickly to demand from the grid, is here to stay.

The carbon effect

However, power generation from coal can emit as much as three times and oil twice the amount of greenhouse gases per megawatt hour as gas-fired generation, depending on the age and configuration of the plant. Consequently, over the long term, rising carbon prices will drive European power generation towards gas and away from coal.

This is already evident in market behaviour and in a noticeable correlation between the carbon price, the spark spread (the price differential between gas and power) and dark spread (the price differential between coal and power). Oil prices show a less obvious correlation with carbon given the numerous other influences acting on oil prices.

Carbon prices have risen in this first year of the ETS from Euro8 a tonne (\$9.6/t) to Euro30/t, before settling into a Euro22-23/t range. But we are yet to see what peak winter power and gas demand will do to demand for emissions allowances and their price. Because installations can borrow from 2006/2007 emissions-allowance allocations, this effect may or may not be apparent in winter 2005. But if Europe suffers cold winters over 2005 to 2007, we could see much higher power prices, unless regulators are prepared to accept power cuts. □