Power Auctions – the European Experience

With many operators pointing to the success of well-established energy exchanges on the continent, auctions-based pricing is seen by some as the best way to ensure both viable domestic markets for the greatest number of participants, and efficient, market-based crossborder congestion management. Moffatt Associates' latest European Energy Trends survey highlights some strongly held but divided opinions on what is the optimal structure for Europe's power market.

Setting the scene

Just 18 months before the EU energy markets are fully opened to competition, low liquidity in some of these markets has intensified concern about slow progress in achieving an integrated, liberalised energy market. This lack of liquidity remains an obstacle to the development of the power markets in Europe, and there is a growing debate in energy circles about how to encourage greater volumes and a higher number of participants in the search for more credible and transparent electricity trading.

This quarter's Energy Viewpoints survey reveals that many of our respondents have concerns about this lack of liquidity in certain European markets, although a minority of those questioned believed that on the whole liquidity is sufficient. The degree of liquidity in the market is regarded as an essential indicator for the degree of market efficiency. An open market in which participants can trade without a significant risk of market shifts resulting from individual transactions is clearly necessary for the effective pricing of a traded product. Our panelists agreed that a strong underlying spot market is crucial for the development of a successful wholesale market, by helping to develop a credible price for power.

Achieving liquid power markets depends on several criteria, including the number of players involved, traded volume, adequacy of products and fees charged. A good clearing mechanism is seen as an important feature to attract volume, as is the ease of sourcing supply for new entrants. In addition, the growing trend towards the coupling of different EU power markets should allow a more dynamic allocation of cross-border capacity and lead to a higher level of trading.

The power trading situation in Europe varies greatly depending on the market concerned. Liquidity in spot markets has been improving since the liberalization process began, but forward markets still need to be reinforced. In general, though, the number of participants in the market continues to grow, with end users and ▶

producers increasingly attracted to trading in order to hedge their risks.

Market participation varies across Europe

Several members of our panel were generally agreed that, not surprisingly, liquidity is at its highest in the longest-established trading market, the Nord Pool, but many also expressed confidence that the situation is improving in Germany and in the Netherlands. In terms of the percentage of total annual consumption, the APX, Nordpool and the EEX already have relatively high shares of domestic market consumption.

In Italy, the IPEX is still at a relatively early stage of development but succeeded in gaining an astonishing 46% of physical volume in its first year of operation, despite the widespread view that the Italian market continues to be dominated by the main incumbents. Elsewhere, however, liquidity has been lower on the Powernext exchange in France and the EXAA in Austria.

Problems in attracting volume to the UK market have been particularly noticeable in recent months. Panel members cited a number of reasons for the fall in liquidity, with the reasons most frequently mentioned being consolidation in the power market, a lack of counterparties, and increasing concern about risk. Following its pioneering role in electricity market opening in the 1990s, the UK market is now seen by some as overly complex and opaque, while the return to vertical integration appears to be limiting participation in the market.

In France, after a relatively slow start, the Powernext exchange is now starting to attract volume, although the dominant position held by EDF in the power market remains an obstacle to liquidity. Many of our respondents cited France, along with the UK, as the European market where there is insufficient liquidity, but the French exchange experienced a 90% spot volume increase in 2004 compared to 2003, and an increase of 56% in winter 2004/2005 compared to winter 2003/2004.

In Germany, the price set by the European Energy Exchange (EEX) is increasingly being accepted as a reference price, and liquidity in the German spot market is growing. The APX has also been experiencing significant liquidity, and this is expected to continue. Because of its size and geographical location,

Germany is crucial for price setting and cross-border transmission access, as the market acts as a link between eastern and western Europe. In 2005, a total of 602 TWh was traded on the EEX spot and derivatives market for power, an increase of 52% compared to the previous year, with derivatives proving to be particularly popular. The EEX is the exchange with the highest turnover in Europe and currently has 132 participants from 17 countries.

Although volumes on the EEX are increasing at a higher rate than the APX, the Dutch market is also growing strongly, with Dutch power exchange APX reaching a record volume of 16.05 TWh in 2005, an increase of almost 20% compared to 2004 (13.4 TWh). The Dutch market also benefits from its geographical position at the heart of western Europe, and its strong physical interconnections with neighbouring countries.

Meanwhile since January 1 2006 the new Belgian exchange Belpex, together with Powernext, has been organizing Virtual Power Plant (VPP) auctions for the virtual sale of Electrabel generating capacity.

Prospects for market coupling

One of the key features of trading across Europe is the different approach taken in the various regions. There is a tendency towards market coupling in western European countries, while in central and eastern Europe the trend is towards coordinated explicit auctions. The success or otherwise of market coupling largely depends on having sufficient liquidity in the market, although the size of the OTC/bilateral market that is linked to exchange prices is also important. Some analysts believe that market coupling is better than explicit auctions in the day ahead market, since this provides transparency, open access, netting and avoids contradictory price signals. It generates horizontal liquidity and so can enable the emergence of efficient energy markets where these do not currently exist.

Multinational day ahead implicit auctions have existed for some time in the Nordic region through the use of market splitting. Establishing implicit auctions takes time and can be complicated, as they require the existence of sufficient power exchanges to handle imports and exports through the spot market.

The start of trading on the Belpex exchange this year will focus attention on Belgium and its neighbouring markets. Although there is a high degree of market correlation between prices on the EEX, APX and Powernext, this will be the first time that three European power exchanges have been explicitly linked with a day ahead market coupling mechanism. The market coupling of Belpex, APX and Powernext is considered necessary to reach a suitable threshold of liquidity on Belpex.

Differences across Europe

The way in which the various exchanges were established and the institutional framework within which they operate vary significantly. In Spain and Italy the

exchanges are part of the design of the electricity sector introduced by liberalisation and their role is explicitly recognised and to an extent regulated by the relevant legislation and implementing provisions.

In the Netherlands, Germany and France, the exchanges were launched as voluntary initiatives of coalitions involving market participants, TSOs and financial institutions. The rules governing these exchanges generally are of a contractual nature, even though they may be subject to the general provisions regulating the operation of exchanges.

There are also many different types of auctions, pricing rules and clearing mechanisms. In western Europe, the usual trading system is a double-sided (using bids from sellers and buyers) daily power auction. Day ahead power is traded hourly through auctions at the APX , the EEX, the EXAA, GME, Nord Pool, Omel and Powernext. Power for day ahead trading is available in blocks at the APX, the EEX, Nord Pool, Omel and Powernext. GME and Omel also hold auctions for the adjustment market. In the UK, in contrast, power is continuously traded, rather than through the use of auctions. Some of our panel members supported the introduction of a European-style single price day-ahead auction in the UK, but few believed that this was likely to happen, certainly not in the near future.

Growing liberalization has stimulated interest in trading in continental markets with, as mentioned, the German and Dutch markets in particular showing evidence of increasing liquidity. The complexity of the UK market, and local industry consolidation, have caused some traders to look to other markets, although this may yet turn out to be a temporary phenomenon with pending proposals – outlined in this issue of Energy Viewpoints – aiming to revitalise UK trading.

Looking ahead, mergers between some of the existing exchanges are likely in the medium-term, since the European power market is not large enough to be able to support so many different operations. If this happens, Nord Pool, the APX, EEX and Powernext are the most likely to survive, at the expense of some of the smaller exchanges. The concentration of trading on a few, larger, platforms should help to encourage liquidity in the market while, despite the slow progress in market opening, the introduction of full competition for all users in all EU power markets from July 2007 should also stimulate trading and encourage more participants into the market.