August 2001

The New Electricity Trading Arrangements

A review of the first three months

Summary

Introduction

This document provides an initial review (the Review) of the first three months of the New Electricity Trading Arrangements (NETA), introduced in England and Wales from 27 March 2001 ('Go Live'). One of Ofgem's objectives is to ensure that NETA is delivering effective trading arrangements. Ofgem is committed to monitoring whether NETA is meeting this objective. A further full review of NETA and its impact will be undertaken shortly after the end of its first year of operation.

At the request of the Minster of State for Energy and Competitiveness in Europe, Ofgem has undertaken a review of the impact of NETA on smaller generators over the first two months of its operation. A report that sets Ofgem's findings has been published on Ofgem's website at the same time as this document.

Background

The new arrangements were introduced to address some of the fundamental weaknesses of the wholesale electricity trading arrangements under the Electricity Pool of England and Wales (the Pool), introduced in 1990 at the time of privatisation of the electricity industry. These included: wholesale electricity prices that had not fallen in line with reductions in generators' input costs; a lack of supply side pressure and demand side participation; and inflexible governance arrangements that had prevented reform of the arrangements.

The new trading arrangements were designed to address the weaknesses of the Pool and to deliver significant benefits over the Pool arrangements. In particular, NETA was designed to deliver more effective and competitive arrangements. Market participants have a greater choice of markets in which to trade under NETA and there is more scope for active demand side participation in the market. It was envisaged that forward trading would lead to the emergence of forward price curves that would better facilitate new entry, by providing both generators and suppliers with clearer signals of when entry is likely to be profitable – thereby enhancing security of supply. The new balancing arrangements were designed to ensure short-term quality and security of supply, while the Settlement Process was to provide more accurate cost targeting and sharper cost incentives to manage risks. It was believed that the new arrangements would offer the

prospect of reductions in wholesale electricity prices and hence lower prices for both industrial and domestic customers.

Overview of NETA

The new, more market-based, trading arrangements are based on bilateral trading between generators, suppliers, traders and customers. They operate as far as possible like other commodity markets whilst, at the same time, making provision for the electricity system to be kept in physical balance at all times to maintain security and quality of supplies. They include forward and futures markets, which are evolving in response to the requirement of participants, that allow contracts for electricity to be struck up to several years ahead; short-term power exchanges, also evolving in response to the requirements of participants, which give participants the opportunity to 'fine tune' their contract positions in a simple and accessible way; a Balancing Mechanism, which opens at Gate Closure (3 and a half hours before real time), in which the National Grid Company (NGC), as System Operator (SO), accepts Offers of and Bids for electricity to enable it to balance the transmission system (NGC may also contract ahead for balancing services); and a Settlement Process for charging participants whose contracted positions do not match their metered volumes of electricity, for the settlement of accepted Balancing Mechanism Offers and Bids, and for recovering the SO's costs of balancing the system.

The balancing and settlement rules which are incorporated in the Balancing and Settlement Code (BSC) seek to ensure efficient balancing of the system by the SO, whilst encouraging generators and suppliers to contract ahead for most of their requirements in forward, futures and short-term markets. The BSC includes flexible governance arrangements to allow for modification of the rules in the light of operational experience of NETA. In determining whether Modification Proposals should be made, Ofgem must judge them against pre-defined criteria.

To help assess the likely physical balance of the system, the SO asks participants to notify their expected physical position for each half hour trading period (i.e. their planned generation output and metered demand). The final submission of physical notifications (FPNs) takes place as the Balancing Mechanism opens. These notifications also provide the baseline for Bids and Offers from generators and from the demand-side.

A wide range of participants are able to make Bids and Offers to the SO through the Balancing Mechanism, including generators, suppliers and customers. Participants wishing to make Bids and Offers are required to sign the BSC. However, nobody is obliged to make Bids or Offers into the Balancing Mechanism.

The position of all BSC Parties is assessed to determine whether their metered output or consumption of electricity matches their contracted position. If it does not then they will be 'out of balance'. The price paid or charged to 'out of balance' market participants varies depending on whether they are over-contracted (or 'long') or under-contracted ('short'). In general, generators who are under-contracted (and suppliers who are over-contracted) and 'spill' electricity on to the system, potentially imposing balancing costs on the SO, can expect to receive a lower (System Sell) price for their electricity than if they had resolved their imbalance in forward markets. Suppliers who remain under-contracted as the Balancing Mechanism opens (and generators who under-generate), thereby potentially imposing balancing costs, can similarly expect to be charged a higher (System Buy) price than if they had entered into contracts for their full requirements. These different charges reflect the additional costs incurred by the SO in instructing generators, suppliers or customers to vary their output or consumption at short notice to keep the system (i.e. aggregate generation and consumption) in balance, from moment to moment. The costs of any forward contracts used by the SO to maintain a balance of overall supply and demand are also included in the calculation of imbalance prices.

As well as achieving an overall physical balance of electricity supply and demand the SO may also need to accept Bids and Offers at short notice to maintain the quality of supply and at different locations to overcome transmission constraints. These system costs are recovered from all signatories to the BSC on the basis of their metered generation and consumption. The costs of any forward contracts used by the SO to balance the system are also recovered in this way.

NGC, as SO, faces commercial incentives to manage the total costs of system operation on behalf of customers. Under these incentives, NGC is set a target level of system operation costs. If NGC manages to beat this target, NGC keeps a proportion of the difference, subject to a cap. If actual costs exceed this target, NGC must pay a proportion of the difference, again subject to a cap.

Main findings

The Review covers the first three months of NETA operation. It provides an early indication of how NETA is working. Ofgem recognised that this will not necessarily be typical of the longer-term situation when the market settles down and the rules are modified as necessary in the light of operational experience.

Lower prices in the NETA markets

Forward prices[1] have fallen substantially on the UK[2] Over The Counter (OTC) market and the three new power exchanges (Figure 1). In the forwards and futures markets the average price for all UK OTC Baseload trades for the first three months was £19.21/MWh. For the same period last year this figure was £20.51/MWh - representing a fall of 6 per cent. The average price for all UK OTC Peak trades in the first three months was £24.81/MWh. For the same period last year this figure was £31.24/MWh - an annual fall of 21 per cent.

It is likely that these reductions in wholesale prices will have real and continuing benefits for consumers. This general fall in wholesale electricity prices has taken place against a rising wholesale gas cost that has increased by approximately 12 per cent over the past year. Over one third of installed generation is now gas fired.

[1] The Grid Trade Master Agreement (GTMA) replaced the standard Electricity Forward Agreements (EFA) contract which was traded under the Pool. The most significant changes are that power is now traded at a notional national balancing point rather than at the station gate and that generators pay a portion of NGC's system balancing costs. These changes do not increase the overall cost of electricity, but instead they transfer costs previously borne by suppliers. The increase in generators cost is approximately equal to £1/MWh. Ofgem has not sought to adjust any numbers in this report to reflect this change in contractual terms.

[2] Throughout this document prices are referred to as 'UK'. This is consistent with price reporting convensions, although the geographical market is the England and Wales market.

Figure 1 - UK OTC Winter Baseload year on year comparison[3]

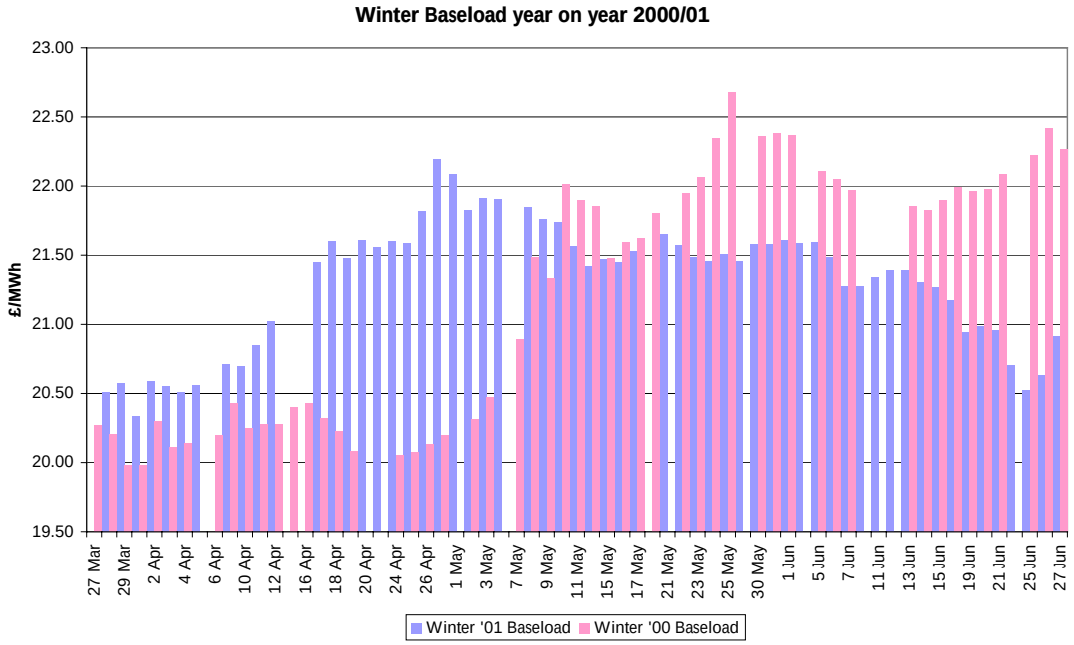
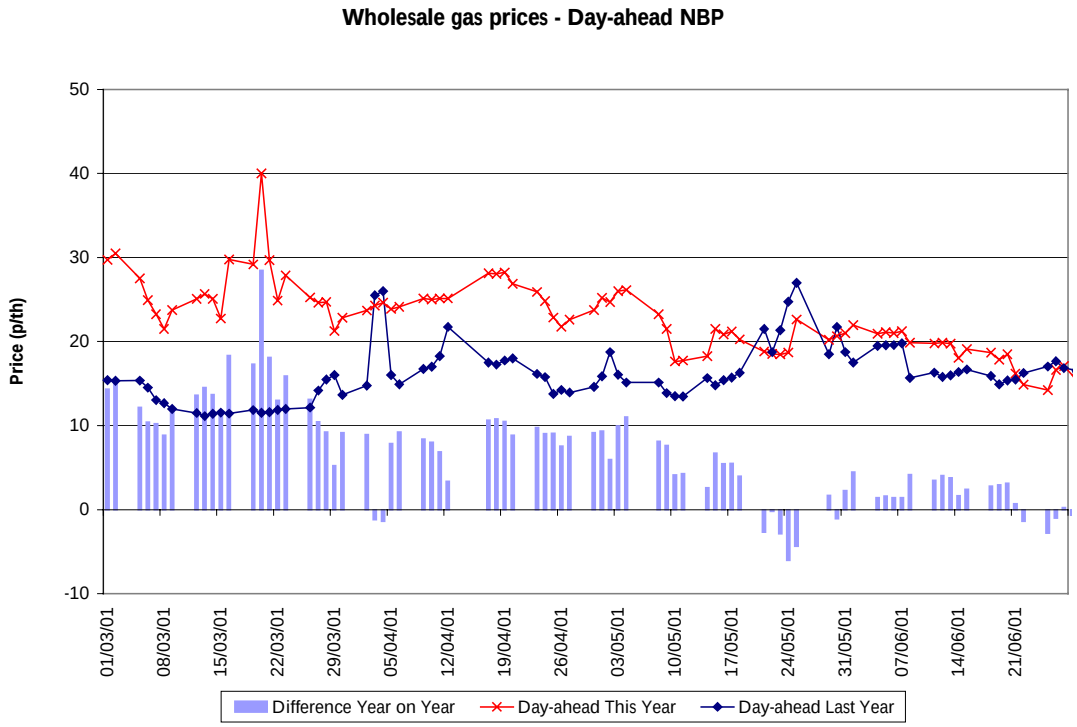


Figure 2 - Wholesale gas prices[4]



[3] Source: Heren European Daily Electricity Markets (EDEM).
[4] Source: Heren EDEM.

In addition to lower longer term prices under NETA, prices in the day-ahead markets have to date been substantially less volatile than under the Pool arrangements. The chart below compares the volatility in the day-ahead NETA markets with day-ahead Pool prices.

Table 1 - Pool and NETA Price volatility[5]

St. Dev.	Year	April	May	June	July
Pool Purchase Price (PPP)	**2000**	27.00	17.99	13.00	9.87
UKPX Reference Price	**2001**	5.68	6.02	6.29	6.09

Emerging market mechanisms

The introduction of NETA has resulted in a large and rapid development of the wholesale market. NETA has created a more transparent wholesale contract market that is closer to the way other commodities are traded. A number of power exchanges have been established and there have been significant developments in liquidity in both these power exchanges and in the OTC market. Forwards, futures and spot markets have evolved in response to the requirements of participants.

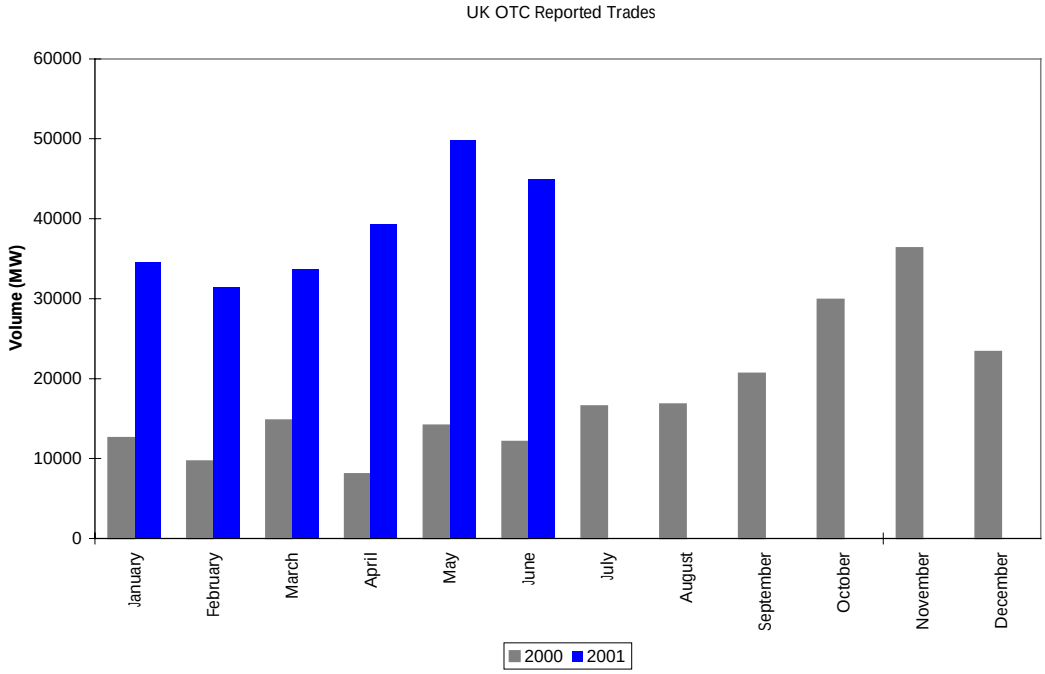
The majority of forward trading under NETA has been conducted though the OTC market. NETA has seen significant developments in liquidity in the OTC trades both in terms of the total volume of trades reported and in the variety of products on offer. The chart below shows the growth in daily traded volumes year on year.

Year on year there has been a 315 per cent increase in the number of contracts traded and an increase in the variety of products offered – in 2000 24 different products were reported, by 2001 this had grown to 148 an increase of 517 per cent.

The three main power exchanges that have developed since NETA Go Live are the UKPX, the UK APX and the IPE. Of these, the UKPX and UK APX offer a spot market while the UKPX and IPE offer futures contracts. The vast majority of trading on the exchanges has been through the spot markets with participants actively using these markets to fine tune their contractual position as their uncertainty reduces. Trades on the UKPX account for most of the non-OTC traded contracts, with 1,254,715MWh (250,943 trades) traded since Go Live.

[5] Source: Heren and Platts.

Figure 3 - Reported UK OTC power trades[6]



Although liquidity in general has increased significantly there are still particular contracts on the forward curve that are not trading in large volumes. In particular there is a lack of liquidity in the within-day spot day markets. This may reflect several factors including the initial spread between System Buy and System Sell Imbalance Prices, portfolio generators self insuring before Gate Closure against plant failure, a lack of reporting of individual participants' contractual positions from central systems and the timing of Gate Closure. To the extent that they reflect a problem, some of these issues have already been addressed through Modifications to the BSC, and others are being discussed at present or are the subject of Modification Proposals. If there is a demand for such trades, liquidity in the spot markets will grow as any barriers to within day trades are removed.

Under the Pool there was a lack of transparency in long term contracts for wholesale electricity with limited price reporting of EFAs trades. In addition to the overall improvement in wholesale market liquidity NETA has created a more transparent market. A number of price reporters (for example Heren, Platts and Reuters) have entered the market and forward prices are available through a range of media, at varying levels of costs. Table 2 summarises the type of information available. Price reporters

[6] Source: Heren EDEM.

operate a subscription service that allows subscribers to access information both in an electronic and a paper based format.

Table 2 - Summary of daily information available from price reporters

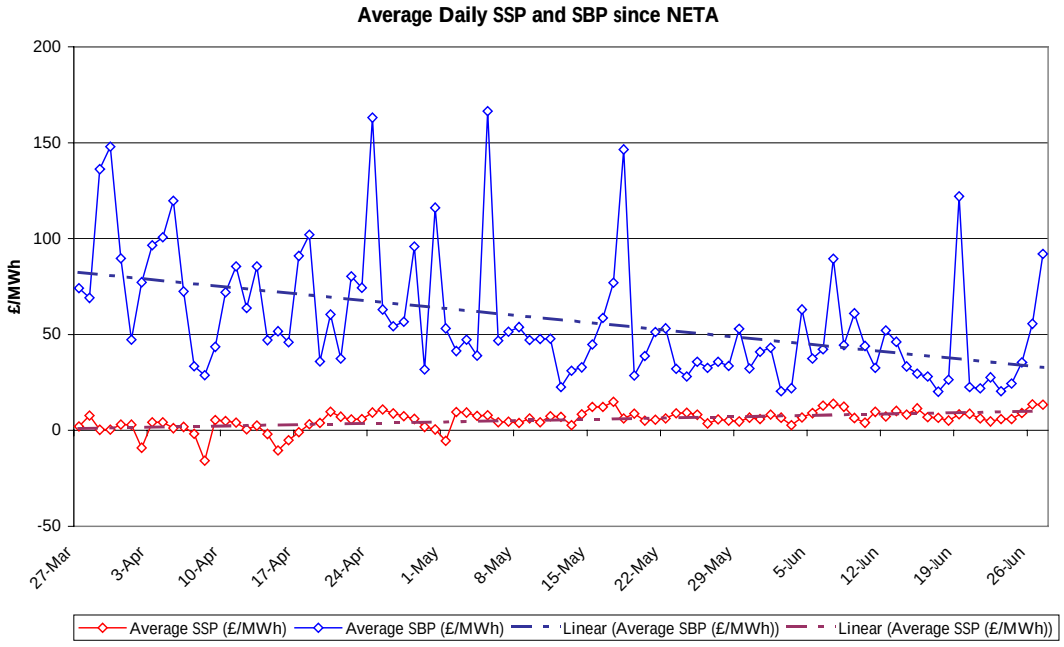
OTC Trading	• UK OTC price assessments • UK trades
Power Exchange	• UKPX prices and volumes • UKPX, IPE and APX settlement prices
Balancing Mechanism	• Previous day System Buy and System Sell Prices and volumes

The operation of the Balancing Mechanism

The Balancing Mechanism is one of the tools that the SO has available to it to ensure that short-term quality and security of supply are met. The Balancing Mechanism and the Settlement Process required new IT systems to be built and operated. These new central systems have operated successfully since NETA Go Live (with only a few very minor teething problems) and have maintained short-term security of supply.

The Balancing Mechanism has been operating as expected both in terms of volumes of energy traded and in terms of prices. To date only a small proportion of total volumes of energy traded, around 3 per cent, has been traded through the Balancing Mechanism. Also as expected, prices in the Balancing Mechanism and imbalance Settlement Process have been volatile, since supply and demand has to be matched at very short notice and also, in part because the volumes of accepted Bids and Offers in the Balancing Mechanism have been very small. Figure 4 below shows the trend of System Sell Price (SSP) and System Buy Price (SBP) paid to or by out of balance participants.

Figure 4 - Average SSP and SBP since Go Live[7]



The chart shows that in May and June there have been fewer occurrences of high prices than in April and fewer negative prices. The chart additionally illustrates the trend of the spread between the SBP and SSP reducing over time.

The imbalance prices are based on the average prices that NGC has to pay participants in the Balancing Mechanism and through contracts to maintain an overall system balance. Since NETA was implemented, NGC has tended to find at Gate Closure that generators were intending to generate more power than was required to meet national demand (i.e. the system was long). In some half hours, however, a sudden, unanticipated and short duration increase in demand has occurred. As a result, during the first three months, NGC has, on occasion, needed to instruct very flexible generation units to increase frequency at very short notice and at relatively high cost.

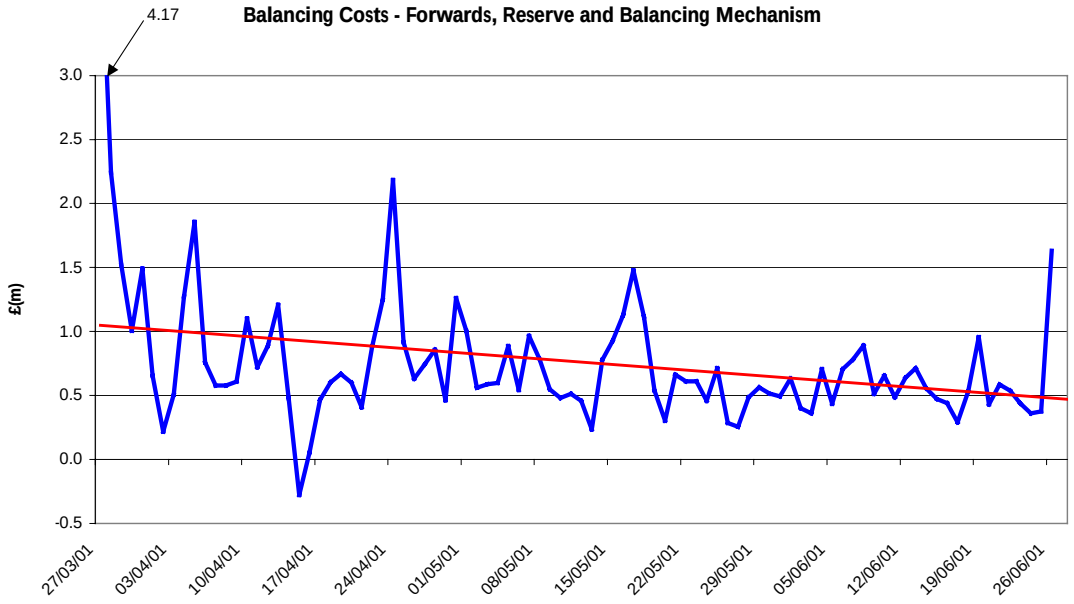
Ofgem has recently approved a Modification to the rules designed to better reflect the costs of NGC's actions to achieve an overall balance between supply and demand in imbalance prices by excluding others costs of maintaining system stability[8]. This Modification, when implemented, is likely to see further convergence of the SSP/SSB prices.

[7] Source: Balancing Mechanism Reporting Service (BMRS).
[8] System balancing costs, such as those associated with correcting short duration frequency excursions within the half hour balancing period.

In addition, NGC and market participants have responded to the new arrangements and price signals. NGC has successfully reduced the number of occasions where it has had to call very expensive highly flexible plant at short notice. NGC has additionally sought to enter into a number of alternative balancing service contracts to reduce imbalance costs.

Daily Balancing Costs

Figure 5 - Daily balancing costs under NETA[9]



The chart shows that there has been a substantial reduction in balancing costs as NGC has learnt to more effectively manage the system[10]. There have additionally been encouraging competitive responses to high price spikes with generators exploring the flexibility of plant and the demand side increasingly competing with high priced, flexible generation close to real time.

Participants' behaviour

Overall the first three months of operation under NETA has been a learning experience for market participants. One of the key features of NETA is that, unlike the Pool where NGC centrally dispatched generating plant, generators now self dispatch and are subject to imbalance prices if their generation does not match their contracted output. This

[9] Source: BMRS, NGC and ELEXON.
[10] This decline in costs may, in part, be a function of seasonality.

increased exposure to the risk of plant failure has seen an increase in the reliability of generating plant.

A major feature of the new arrangements is that the 'demand-side' is fully incorporated into the new balancing arrangements. Suppliers and customers can offer load reductions into the Balancing Mechanism in direct competition with generators. In addition suppliers, in seeking to manage their 'out of balance' position, are more responsive to their customers. Encouraging signs of demand side development have begun to occur with the demand side responding in direct competition to generators in NGC tenders for balancing services. This suggests there is the potential for greater demand side participation in the arrangements than has been seen to date and this will result in lower balancing costs and consequently benefits for consumers.

Under NETA the incentive for suppliers to understand their customers' demand requirements more fully and to work closely with those customers able to offer load management services is much greater than under the Pool arrangements. Ofgem also expects that there will be market development in this area. It is expected that this market development will result in benefits to consumers from both the general lower level of wholesale prices and the likely reduction in system balancing costs.

Flexible governance arrangements

The Pool's governance was widely recognised as inadequate and cumbersome. During the 11 year life of the Pool, most of the expected reforms set out at privatisation were blocked under its governance structure. In designing the new trading arrangements it was recognised that the governance structure would have to be sufficiently flexible to facilitate changes to the rules as the arrangements developed.

The rules governing the Balancing Mechanism and Settlement Process are incorporated in the BSC. These rules need to evolve in light of experience of the implementation and operation of NETA. To date the process of proposing and implementing modifications to the BSC has operated as intended. In the first three months of the operation of NETA, market participants have submitted a total of 28 Modification Proposals to the BSC. A further 6 have been proposed since then. In the first three months, a total of 7 modifications have been taken to their conclusion, and therefore completed the BSC modification process. In particular, the new governance arrangements allowed initial

teething problems resulting from the new trading arrangements to be addressed urgently with solutions being found within weeks of the problem being identified.

The Modification process allows greater participation by all interested parties. The Modification process also prescribes and limits the position of Ofgem. Ofgem cannot initiate Modifications, and must judge any Modifications proposed against defined criteria.

Conclusions

Overall, Ofgem believes that the new trading arrangments are resulting, and will continue to result in, real and sustainable benefits to consumers. Ofgem is encouraged by the development of markets and learning by market participants in the period since Go Live. There are a number of areas, as was to be expected, where further market development is expected to emerge. Ofgem believes that this market development will ensure that wholesale electricity prices will continue to be lower than those likely to have emerged under the Pool.

The BSC rules have had to evolve in response to issues that have arisen in the markets. There has been an encouraging competitive response (including from the demand side) to high prices in the Balancing Mechanism. Over the three months there has been a significant reduction in the SSP/SSB imbalance price spread.

Table of contents

1. Introduction

Purpose of this document

1.1 This document provides an initial review (the Review) of the first three months of NETA, introduced in England and Wales from 27 March 2001 ('Go Live'). One of Ofgem's objectives is to ensure that NETA is delivering effective trading arrangements. Ofgem is committed to monitoring whether NETA is meeting this objective. This Review has been conducted in response to requests from market participants to understand Ofgem's views on the initial success of the new trading arrangements in the context of Ofgem's objectives when introducing them. A further full review of NETA and its impact will be undertaken shortly after the end of its first year of operation.

1.2 At the request of the Minster of State for Energy and Competitiveness in Europe, Ofgem has undertaken a review of the impact of NETA on smaller generators over the first two months of its operation. A report that sets Ofgem's findings has been published at the same time as this document.

Background

1.3 The new arrangements were introduced to address some of the fundamental weaknesses of the wholesale electricity trading arrangements under the Electricity Pool of England & Wales (the Pool), introduced in 1990 at the time of privatisation of the electricity industry. These included: wholesale electricity prices that had not fallen in line with reductions in generators' input costs; a lack of supply side pressure and demand side participation; and inflexible governance arrangements that had prevented reform of the arrangements.

1.4 The new trading arrangements were designed to address the weaknesses of the Pool and to deliver significant benefits over the Pool arrangements. In particular, NETA was designed to deliver more effective and competitive arrangements. Participants would have a greater choice of markets in which to trade and there would be more scope for active demand side participation in the market. It was envisaged that forward trading would lead to the emergence of

forward price curves that would better facilitate new entry, by providing both generators and suppliers with clearer signals of when entry is likely to be profitable – thereby enhancing security of supply. The new balancing arrangements were designed to ensure short-term quality and security of supply, while the Settlement Process was to provide more accurate cost targeting and sharper cost incentives to manage risks. It was believed that the new arrangements offered the prospect of reductions in wholesale electricity prices and hence lower prices for both industrial and domestic customers.

Outline of this document

1.5 In Chapter 2 we set out the regulatory framework for the wholesale electricity market and an overview of the trading arrangements. In Chapter 3 we review the prices and the emerging markets mechanisms under NETA whilst Chapter 4 reviews the operation of the Balancing Mechanism over the first three months. In Chapter 5 we give an overview of the new governance arrangements. Finally, Ofgem's conclusions are set out in Chapter 6.

The way forward

1.6 Ofgem will continue to monitor the development of NETA and communicate to market participants, customers and other interested parties our views on issues that arise under NETA. Shortly after the first year of NETA Ofgem will be publishing a full Review.

2. Background

Introduction

2.1 The new electricity trading arrangements were developed over a period of about three years through a process involving extensive consultation with industry, customers and other interested parties.

2.2 NETA was implemented with effect from 00:00 hours on 27 March 2001. This date is often referred to as the 'Go Live' date. This Chapter provides an overview of the Pool and NETA, the reasons and objectives of reform and the regulatory background of the new trading arrangements.

The Pool

How the Pool worked

2.3 The Pool in England and Wales was one of the first mechanisms of its kind when it was set up at privatisation in 1990. This meant that in its creation, and in the rules associated with it, there was limited experience from other countries to draw upon. It was developed in a process that gave considerable weight to the existing arrangements operated pre-privatisation by the Central Electricity Generating Board (CEGB), when the electricity system was publicly-owned and centrally planned.

2.4 The principles of the Pool were relatively simple, and were largely inherited from the CEGB Merit Order. The Pool was:

- a set of rules defining how electricity in the market was to be traded;
- the actual system through which generators had to offer wholesale electricity, and from which those who wanted to purchase wholesale electricity had to buy;
- the mechanism by which wholesale electricity prices were set, for each half hour, and plant was despatched; and

- the settlement system, by which generators were paid and suppliers were charged.

Reasons for reform

2.5 There were a number of problems with the Pool including a:

- a lack of competition in price setting;
- a relative lack of supplier pressure and of customer and demand side participation;
- the complexity of bidding and price setting;
- the limitations of the capacity payment mechanism[11];
- inefficient gas and electricity market interactions; and
- inflexible rules and governance arrangements.

2.6 The overall result was that Pool prices over the last decade have not reflected changes in generators' input costs and improvements in efficiency, despite a much improved generation market structure and considerable new entry. Prices remained broadly constant in real terms over the life of the Pool despite these downward pressures and they appeared to be higher than they would have been in a more competitive market, in part due to the trading arrangements. Customers, both domestic and industrial, suffered from higher prices than would otherwise have been the case.

2.7 As a result, on 23 October 1997 the Minister for Science, Energy and Industry invited the Director General[12] to consider how a review of electricity trading arrangements might be undertaken.

[11] Under the Pool Rules, all generators were paid an administered capacity payment that was designed to provide an incentive to encourage generating stations to maintain availability in the short and long run.
[12] With the commencement of relevant provisions of the Utilities Act in December 2000, the duties and functions of the Director Generals of Electricity and Gas Supply were transferred to the new Gas and Electricity Markets Authority.

The New Electricity Trading Arrangements

The objectives of reform

2.8 NETA was designed over three years and it involved extensive consultation with market participants, interest groups, other regulatory bodies and interested parties to develop a new set of trading arrangements to replace the increasingly outdated and flawed Pool. The main original objectives of NETA, outlined in the Review of Electricity Trading Arrangements (RETA)[13] , were to consider whether, and if so what, changes in the electricity trading arrangements would best:

- meet the needs of customers with respect to price, choice, quality and security of supply;
- enable demand to be met efficiently and economically;
- enable costs and risks to be reduced and shared efficiently;
- provide for transparency in the operation of the pricing mechanism and the market generally;
- to respond flexibly to changing circumstances in future;
- promote competition in electricity markets, including by facilitating ease of entry and exit from such markets;
- avoid discrimination against particular energy sources; and
- be compatible with Government policies to achieve diverse, sustainable supplies of energy at competitive prices and with wider Government policy, including on environmental and social issues.

2.9 It was identified that consideration would also need to be given to:

- continued security of electricity supplies in the long and short-term;

[13] 'The new electricity trading arrangements: Volume 1', Ofgem, July 1999

- prices that are transparent and ensure liquidity; and
- appropriate consideration of CHP, renewables generators, small embedded generators, NFFO generators and Interconnections.

2.10 In addition to the objectives listed above, the review considered the impact and future implications that new arrangements would have for:

- the role of NGC;
- the development of competition in generation and supply;
- trading arrangements in Scotland;
- the development of contracts markets (including for physical delivery, CfD's and futures contracts);
- interactions between electricity and gas; and
- legislation on competition and utility regulation in Great Britain and the European Community.

Overview of the new electricity trading arrangements

2.11 The new, more market-based, trading arrangements are based on bilateral trading between generators, suppliers, traders and customers. They operate as far as possible like other commodity markets whilst at the same time making provision for the electricity system to be kept in physical balance at all times to maintain security and quality of supplies. They include forward and futures markets, which are evolving in response to the requirement of participants, that allow contracts for electricity to be struck up to several years ahead; short-term power exchanges, also evolving in response to the requirements of participants, which give participants the opportunity to 'fine tune' their contract positions in a simple and accessible way; a balancing mechanism, which opens at Gate Closure (3½ hours before real time), in which the NGC, as SO, accepts Offers of and Bids for electricity to enable it to balance the transmission system (NGC may also contract ahead for balancing services); and a Settlement Process for

charging participants whose contracted positions do not match their metered volumes of electricity, for the settlement of accepted balancing mechanism Offers and Bids, and for recovering the SO's costs of balancing the system.

2.12 The Balancing and Settlement rules which are incorporated in the BSC seek to ensure efficient balancing of the system by the SO, whilst encouraging generators and suppliers to contract ahead for most of their requirements in forward, futures and short-term markets. The BSC includes flexible governance arrangements to allow for modification of the rules.

2.13 To help assess the likely physical balance of the system, the SO asks participants to notify their expected physical position for each half hour trading period (i.e. their planned generation output and metered demand). The final submission of physical notifications (FPNs) takes place as the Balancing Mechanism opens. These notifications also provide the baseline for Bids and Offers from generators and the demand-side.

2.14 A wide range of participants are able to make Bids and Offers to the SO through the Balancing Mechanism, including generators, suppliers and customers. They are required to sign the BSC. However, nobody is obliged to make Bids or Offers into the Balancing Mechanism.

2.15 The position of all BSC Participants is assessed to determine whether their metered output or consumption of electricity matches their contracted position. If it does not then they will be 'out of balance'. The price paid or charged to 'out of balance' market participants varies depending on whether they are over-contracted (or long) or under-contracted (or short). In general, generators who are under-contracted (and suppliers who are over-contracted) and 'spill' electricity on to the system, potentially imposing balancing costs on the SO, can expect to receive a lower price for their electricity (the System Sell Price) than if they had resolved their imbalance in forward markets. Suppliers who remain under-contracted as the Balancing Mechanism opens (and generators who under-generate), thereby potentially imposing balancing costs, can similarly expect to be charged a higher price (the System Buy Price) than if they had entered into contracts for their full requirements. These different charges reflect

the additional costs incurred by the SO in instructing generators, suppliers or customers to vary their output or consumption at short notice to meet unanticipated imbalances between overall demand and supply.

2.16 As well as achieving an overall physical balance of electricity supply and demand (the costs of which are charged to out of balance generators and suppliers) the SO may also need to accept Bids and Offers at short notice to maintain the quality of supply and at different locations to overcome transmission constraints. These system costs are recovered from all signatories to the BSC on the basis of their metered generation and consumption.

Regulatory Framework

NETA Legal Framework

2.17 In order to introduce NETA in England and Wales, it was necessary to make changes to the electricity transmission, generation and supply licences under which participants are empowered to participate in the trading and supply of electricity. The then Secretary of State, using powers conferred on him by the Utilities Act 2000, introduced the necessary licence changes in the electricity licences on 8 August 2000. However, the NETA licence modifications did not take effect on this date. Instead, the Secretary of State was given the power to direct that certain conditions, or parts of conditions, come into force, or cease to have effect, on different dates.

2.18 Some of the NETA licence modifications were directed to take effect on 14 August 2000, the date when the BSC was established, also known as the 'Go Active' date. Further licence changes came into effect, or ceased to have effect, on 27 March 2001, the date when trading began under the BSC, i.e. the 'Go Live' date.

2.19 One of the licence conditions which came into effect on the Go Active date required the licensees to be a party to the BSC Framework Agreement[14] and

[14] The parties to the BSC Framework Agreement are contractually bound to comply with the BSC.

comply with a BSC which sets out the terms of the balancing and settlement arrangements.

2.20 Licence holders and other parties signed the BSC Framework Agreement on 14 August 2000. Further parties have become parties to the BSC Framework Agreement since then. However, as mentioned above, trading under the BSC did not commence until 00:00 hours on 27 March 2001, the Go Live Date.

2.21 Companies who benefit from licence exemptions, such as licence exempt generators, are not required to sign the BSC Framework Agreement, but they can choose to do so if they so wish. Responsibility for Metering Systems, BM Units and Trading Units under the BSC brings with it both obligations and entitlements and responsibility for rights and/or liabilities (including Trading Charges) that accrue in respect of those Metering Systems, BM Units and Trading Units under the BSC.

2.22 NGC's actions are governed by the Electricity Act 1989 (the "Act") and the licence to transmit electricity granted to it under Section 6(1) of the Act by the Secretary of State.[15] NGC is currently the sole holder of an electricity transmission licence in England and Wales, however, it is possible for further transmission licences to be granted. NGC's licence may be modified in accordance with the provisions in the Act after a process of consultation with the Licensee, market participants and other interested parties.

2.23 NGC is obliged by the Act and its transmission licence to operate the Transmission System in an efficient, economic and co-ordinated manner. NGC has a SO incentive scheme outlined in Condition 4 of their Transmission Licence. The incentive scheme is designed to provide NGC with strong commercial incentives to manage and reduce the costs of balancing the system.

2.24 NGC is responsible for the residual purchasing and selling of energy to keep the system in electricity balance. In addition NGC is responsible for maintaining the system balance by contracting for other Balancing Services. NGC are permitted to contract ahead of Gate Closure for the provision of Balancing Services, such

[15] A copy of NGC's Transmission Licence is available from Ofgem's website, www.ofgem.gov.uk

as frequency control and voltage support. It is intended that NGC procures any Balancing Service contracts competitively via transparent processes. Therefore, Condition 7B of NGC's Transmission Licence requires NGC to have in place (i) Procurement Guidelines, (ii) Balancing Principles, and (iii) the Balancing Services Adjustment Data (BSAD) Methodology Statement[16].

2.25 The Procurement Guidelines sets out the sort of Balancing Services that NGC may be interested in purchasing, together with the mechanisms envisaged for purchasing such Balancing Services. To increase industry awareness and understanding NGC have established an industry forum, the Procurement Guidelines Forum[17], to inform and discuss the Procurement Guidelines and the provision of information regarding the procurement of Balancing Services. In addition NGC has established a regular Operational Forum[18] to provide information on how they use balancing services. The Operational Forums are held on a regular basis and focus on operational issues associated with the Balancing Mechanism and they provide an opportunity for reporting by NGC and consequent discussion.

2.26 The Balancing Principles Statement is produced to assist BSC participants in understanding NGC's actions in achieving the efficient, economic and co-ordinated operation of the transmission system. It defines the broad principles and criteria (the Balancing Principles) by which NGC will determine, at different times and in different circumstances, which Balancing Services will be used to assist in the operation of the transmission system.

2.27 The BSAD Methodology statement sets out the information on relevant Balancing Services that will be taken into account under the BSC for the purposes of determining Imbalance Price(s). Specifically, the BSAD Methodology Statement attempts to target back costs of contracts relating to energy balancing through energy imbalance prices. NGC will be consulting with market participants as to any changes that are necessary to the BSAD in light of market developments in October 2001.

[16] Details of the Procurement Guidelines, Balancing Principles and the BSAD Methodology Statement can be found at NGC's website www.nationalgrid.com/uk.

Modifications to the legal framework for NETA

2.28 NGC's Transmission Licence and the BSC set out the procedures for modifying the BSC.

2.29 Ofgem does not have any powers to initiate Modification Proposals to the BSC. A Modification Proposal to the BSC can be proposed by any BSC Party, energywatch[19] or (in limited circumstances) the BSC Panel.[20]

2.30 Any Modification Proposal to the BSC will be subject to a consultation and reporting process before the Modification Proposal is submitted by the BSC Panel to the Authority for determination. The Authority needs to consider each Modification Proposal to the BSC and will decide whether to approve or reject such a proposed modification.

2.31 In deciding whether to approve a Modification Proposal to the BSC, the Authority must consider whether the Modification Proposal would, as compared with the then existing provisions of the BSC, better facilitate achieving the applicable BSC Objectives[21] set out in Condition 7A.3 of NGC's Transmission Licence. The Authority will also need to take into account its principal objective and other provisions under Sections 3A to 3C of the Act in evaluating a Modification Proposal.

2.32 Where the Authority considers that the Modification Proposal better facilitates the achievement of the applicable BSC Objectives, and having had regard to its general duties under the Act, the Authority may then direct NGC to make the

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[17] The Procurement Guidelines Forum is organised by NGC and is open to all interested parties.
[18] For details of the Operational Forums see NGC's website www.nationalgrid.com/uk.
[19] Energywatch is the body representing Britain's energy consumers that replaced the Gas Consumers Council and the Electricity Consumers Committees with effect from Wednesday 1 November 2000.
[20] A body set up by the BSC which is responsible for the overall supervision of the new trading arrangements, including the supervision of the process whereby any changes to the BSC are proposed and promulgated.
[21] The Applicable BSC Objectives are:
(a) the efficient discharge by NGC of its licence obligations;
(b) the efficient, economic and co-ordinated operation by NGC of its transmission system;
(c) promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity; and
(d) promoting efficiency in the implementation and administration of the balancing and settlement arrangements.

proposed modification to the BSC under Condition 7A.5 of NGC's Transmission Licence.

2.33 Hence, the powers of the Authority in respect of proposed changes to the BSC are limited and prescribed. It is open to a variety of parties, if they so choose, to propose changes to the BSC that they believe will better enable it to achieve its objectives.

3. Prices and the emerging new market mechanisms under NETA

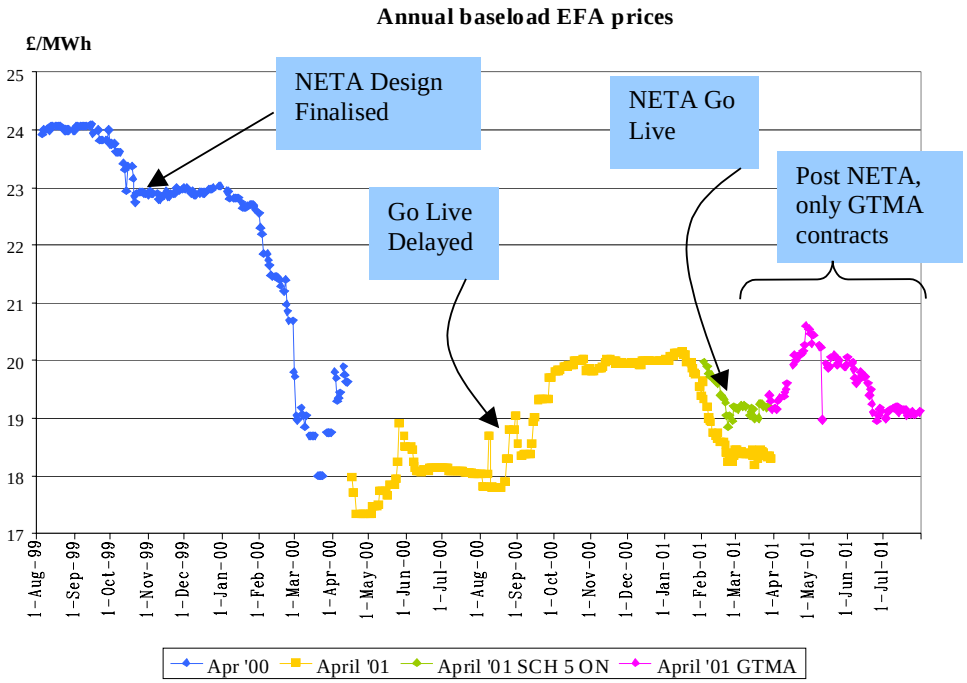
Introduction

3.1 This Chapter provides an overview of the price trends that have occurred in anticipation and since the introduction of NETA. In addition, the Chapter also examines the development of traded markets in response to the introduction of the NETA. Whilst some of these markets were set up in anticipation of the introduction of NETA others, such as the UK Automated Power Exchange (APX) did not begin trading until the NETA Go Live date.

Wholesale electricity price prior to the introduction of NETA

3.2 Prior to the introduction of NETA there were substantial falls in the prices of wholesale electricity. Large customers have reported that over the past three years contract prices have fallen in excess of 20 per cent. The reductions in prices have in part, been the result of more generation becoming available on the system (between 1998 and 2001 installed capacity increased by 5.8 GW from 62.4 to 68.2 GW) whilst peak demand only grew by 1.8 per cent. They are also likely to reflect suppliers' anticipation of effects of the introduction of NETA and the potential benefits that the new arrangements were expected to bring. This is illustrated in the chart below which shows the impact on forward prices when Ofgem announced that NETA was delayed for 4 months.

Figure 3.1. The effect of the delay on the implementation of NETA on prices



Forward Prices under NETA

3.3 The trend of lower wholesale prices under the Pool has continued with the introduction of NETA. It is, however, difficult to make simple forward price comparisons year on year. This is because the standard industry contract has changed its terms. The most significant changes are that power is now traded at a notional national balancing point rather than at the station gate and that generators pay a portion of NGC's balancing costs. These changes do not increase the overall cost of electricity to consumers, but instead they transfer costs previously borne by suppliers to generators. We would expect the generators to reflect the increase in their cost price – this difference is approximately equal to £1/MWh[22]. Some forward contract prices did increase further which was partly a consequence of a 'dash' to enter contracts post Go Live; the original price volatility in the Balancing Mechanism; and the spread between SSP and SBP.

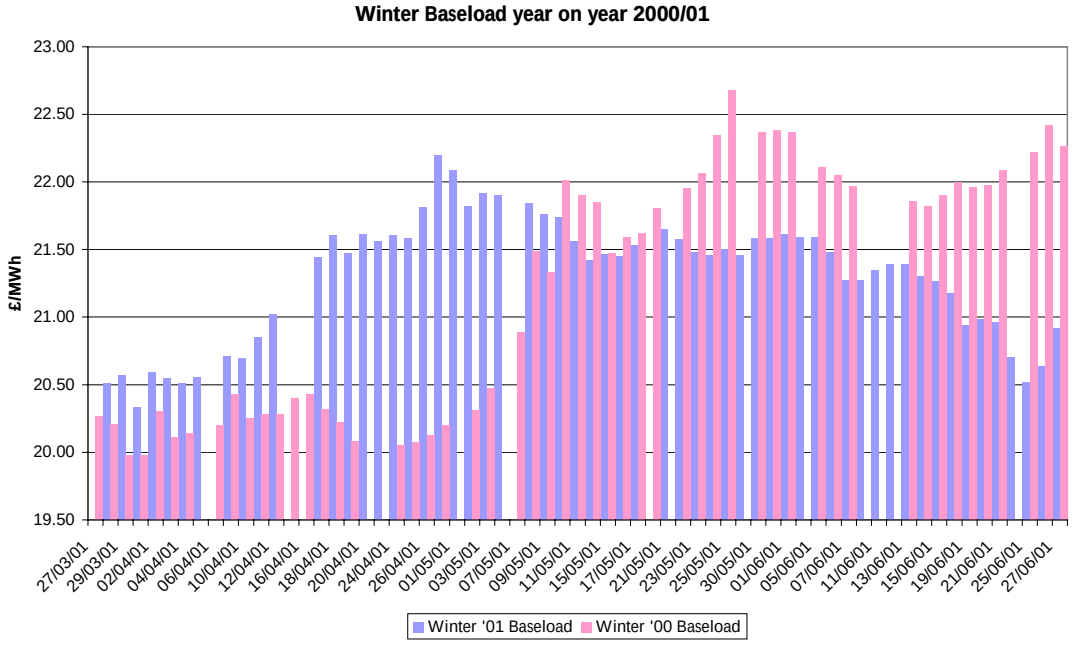
[22] This figure also includes an increase in costs due to their exposure to Balancing Services Use of System (BSUoS) charges.

3.4 Most trading is done over-the-counter (OTC) via direct bilateral trade between participants. OTC baseload prices have fallen substantially. The average price of all OTC baseload trades for the three months of NETA was **£19.21/MWh**. For the equivalent period last year, this figure was **£20.51/MWh**, representing a fall of around **6 per cent**[23].

3.5 The most dramatic fall in forward prices can be seen in the levels of peak prices. The average price for all OTC peak trades was **£24.81/MWh** whereas last year the figure was **£31.24/MWh** – a fall of **26 per cent**.

3.6 The chart below shows the weighted average price for Winter baseload contracts in the three month period since Go Live and for the corresponding period in the previous year. The figures show a general downward trend in price[24] as would be expected when temperature rises in the summer months at the time when contracts are signed.

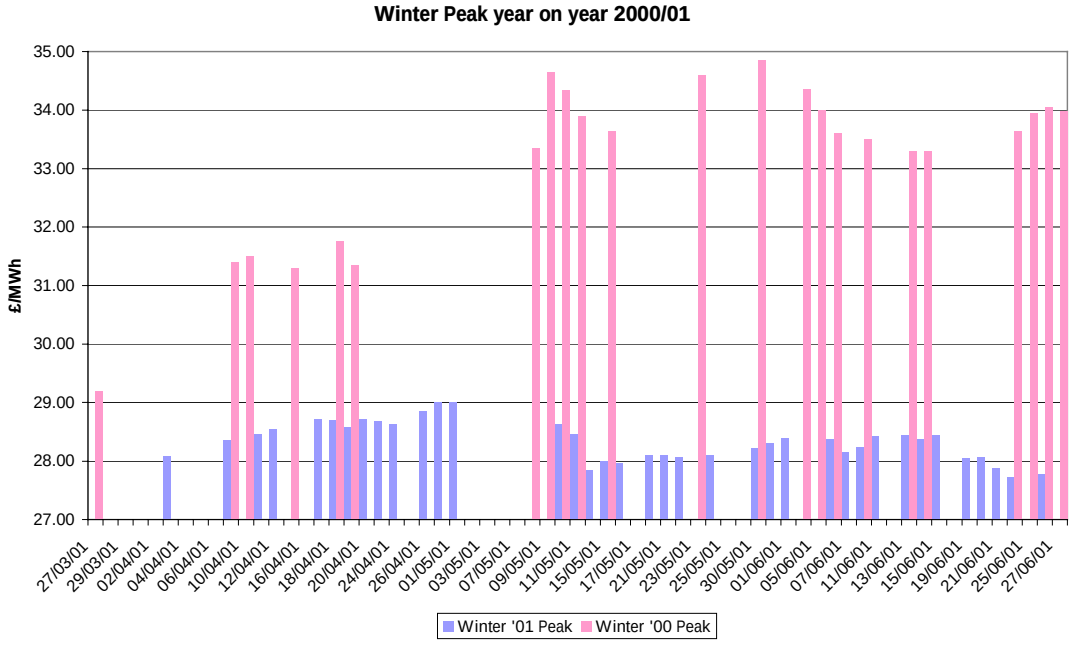
Figure 3.2 - UK OTC Winter Baseload year on year comparison



[23] The Winter '01 prices have not been adjusted downwards by £1/MWh to reflect additional costs now borne by generators.
[24] The prices have not been adjusted for inflation.

3.7 The chart below shows the equivalent data for Winter Peak contracts over the periods outlined above. Prices are considerably down year on year and are much less volatile. Year on year prices have been, on average, £5/MWh lower, with a peak difference of **£7.01/MWh**.

Figure 3.3 - UK OTC Winter Peak year on year



Spot Prices

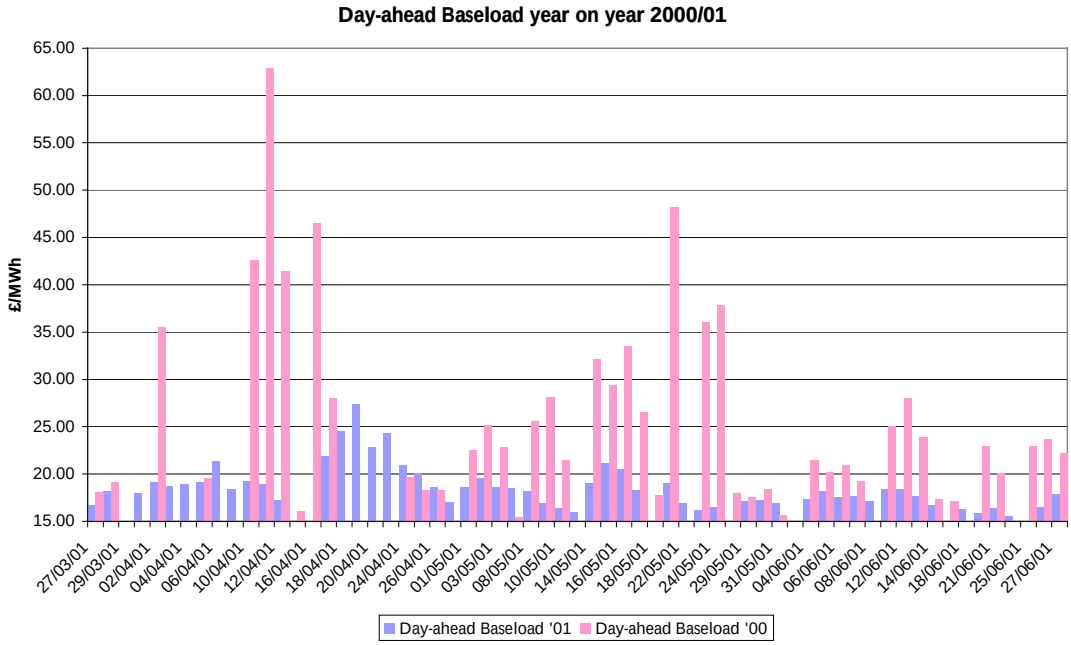
3.8 Participants can trade electricity spot contracts either via OTC contracts or on one of three power exchanges, the UK Power Exchange (UKPX), the Automated Power Exchange (UK APX), and the UK International Petroleum Exchange (UK IPE). For the purpose of this document, spot contracts will be defined as those contracts which are traded closest to real time[25]. The downward trend in prices and volatility across all the spot markets should deliver benefits to consumers in the form of lower prices.

3.9 The chart below shows Day-ahead Baseload OTC prices. It is evident there has been a considerable decrease in weighted average price (WAP) by trade volume

[25] On the UK PX, there are half hourly contracts, on the UK APX, EFA-style blocks are available, and finally, the UK IPE offers daily contracts based on the gas equivalents.

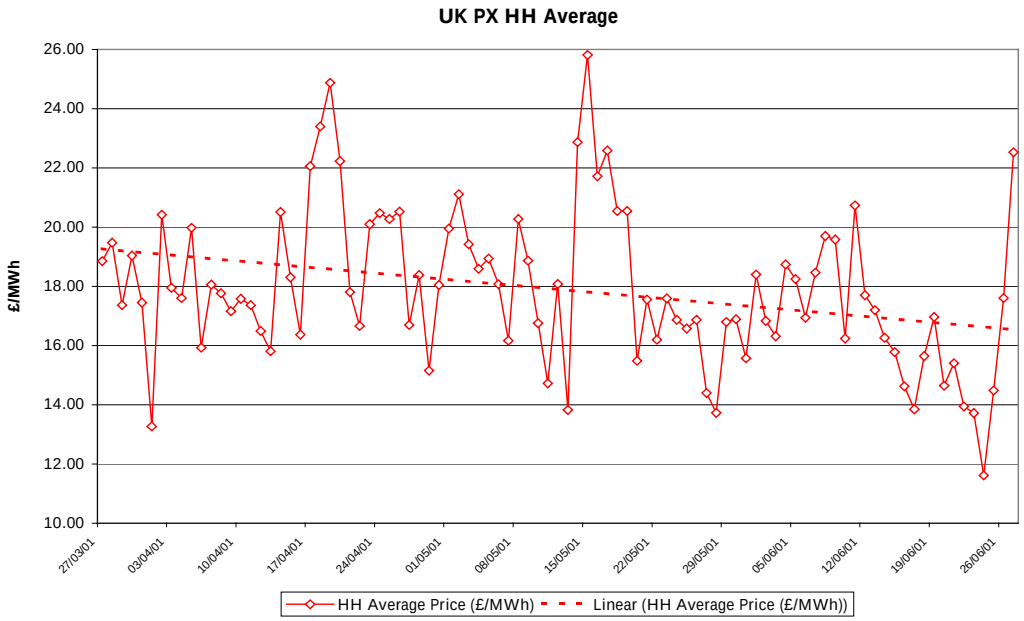
year on year, and considerably less volatility – this year prices have varied between around £15/MWh and £30/MWh as opposed to between £15/MWh and £65/MWh last year. WAP year on year has fallen from **£24.25/MWh** to **£18.44/MWh** – a reduction of **24 per cent**. This fall in prices may be attributed to the increased liquidity that has encouraged a more competitive environment.

Figure 3.4 - Day-ahead Baseload year on year



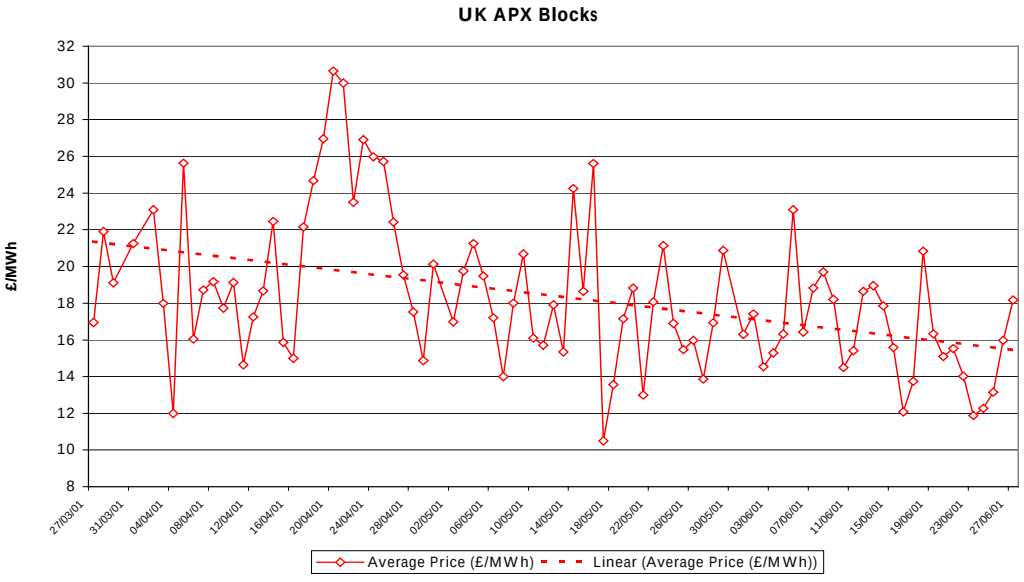
3.10 The UKPX is the largest power exchange by traded volume although OTC volumes are significantly higher. Daily average prices on the UKPX have been relatively stable since NETA Go Live, ranging between £11/MWh and £26/MWh in the three month period. However the overall trend in prices for the UKPX's half hourly contracts has been downwards, as might be expected given rising temperatures and falling demand over the three months analysed.

Figure 3.5 - UKPX Half hourly Lots since Go Live



3.11 The UK APX prices follow a similar pattern to those on the UKPX with a minimum of around £10/MWh and a maximum of around £30/MWh. Over time, volatility has reduced and prices have trended downwards. The reducing volatility may be the result of improving liquidity in these markets.

Figure 3.6 - UK APX Blocks since Go Live

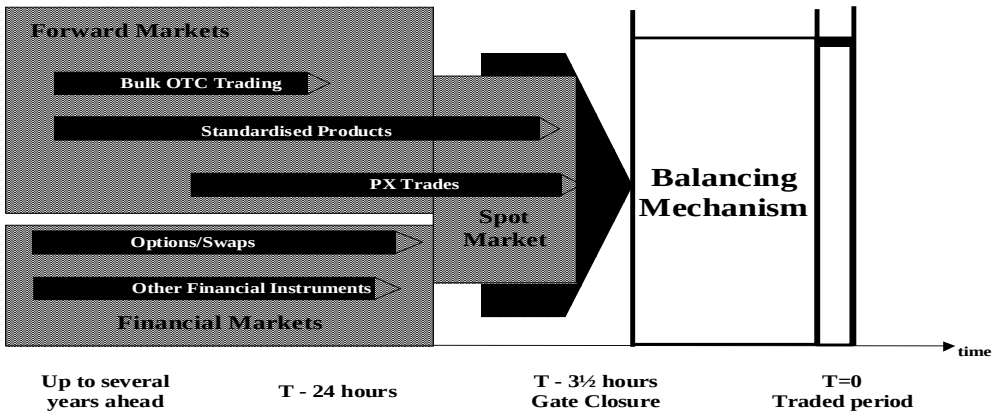


Emerging market mechanisms

Background

3.12 Forwards, futures and spot markets have evolved in response to the requirements of participants. These markets allow contracts for electricity to be struck over timescales ranging from several years ahead to within-day. Figure 3.7 is a schematic diagram showing both the variety of markets that have/could develop under NETA and their relationship in time to the start of the trading period.

Figure 3.7 - Traded markets under NETA



3.13 Under NETA, it was envisaged that the bulk of electricity would be bought and sold in the forwards, futures and short-term markets. By the time of Gate Closure when the Balancing Mechanism opens for a trading period, it was expected that participants' contracts position would generally closely match their anticipated physical position. The liquidity in the forwards, futures and short-term markets is important to enable participants to secure cover for their likely output or demand, at competitive prices, and to ensure that the correct price signals are communicated to the market to indicate future supply needs.

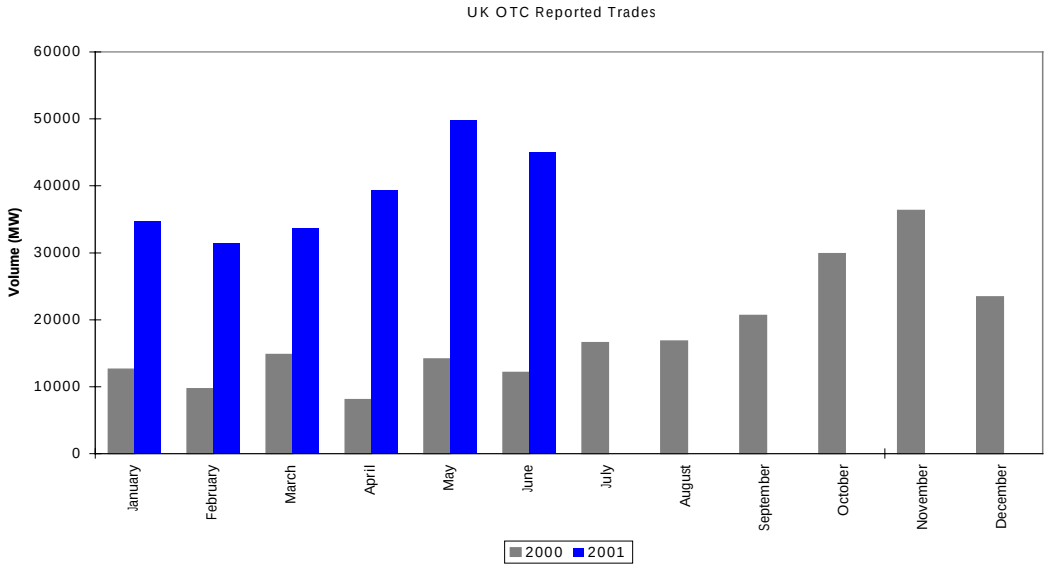
Experience to date of market liquidity and transparency

3.14 As discussed above, there are four main markets in which participants may trade, the OTC mechanism a bilaterally traded market, and the power exchanges – UK Power Exchange (UKPX), UK Automated Power Exchange (UK APX), and the International Petroleum Exchange (IPE)

OTC Markets

3.15 A common feature of a well functioning traded market is liquidity. The introduction of NETA has resulted in a large and rapid development of the OTC market both in terms of both the total volume of OTC reported and in the variety of products on offer. The chart below shows the growth in liquidity year on year.

Figure 3.8 - Reported UK OTC power trades[26]



3.16 The graph illustrates that there has been a dramatic growth in daily traded volumes year on year. The total volume, in MW, of OTC trades has increased by 315 per cent for the period 27 March to 26 June 2001 compared with the same period last year.

[26] Source: Heren EDEM

3.17 This increase in liquidity is illustrated further by the table below which looks, in aggregate, at both the total number of contracts traded and the number of types of contracts traded over the two periods.

Table 3.1 - A comparison of both the total number of contracts and the number of types of contract offered[27]

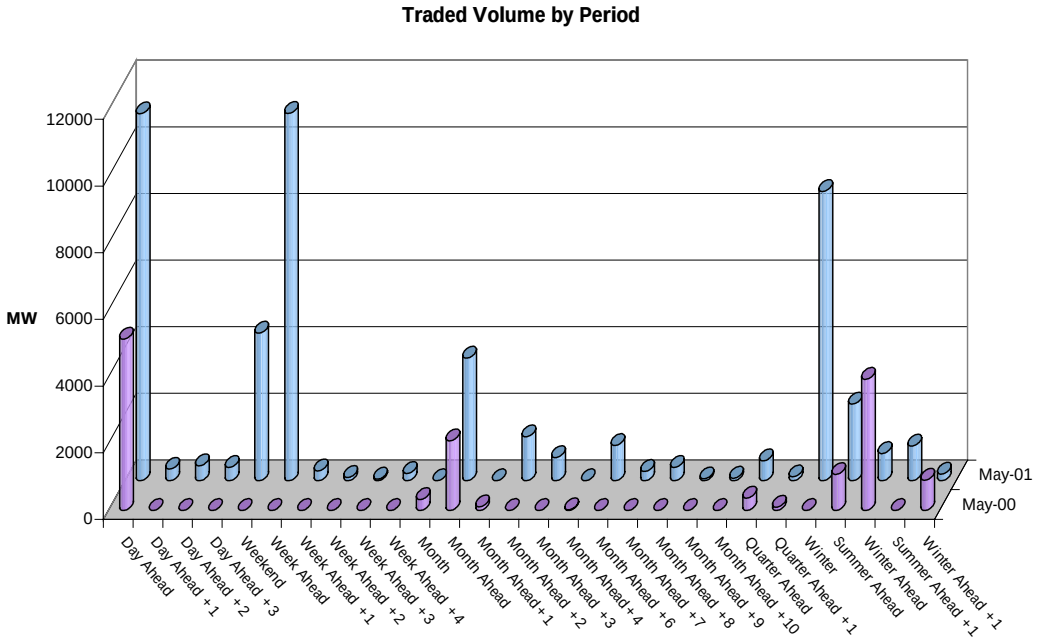
UK OTC	**2000**	**2001**	**% Change**
Volume (MW)	34096	141490	315%
No. contracts traded	1104	4292	289%
No. of different contracts	24	148	517%

3.18 Year on year (Table 3.1.) there has been a 289 per cent increase in the number of contracts traded and a five fold increase in the variety of products offered – in 2000 24 different products were reported, by 2001 this had grown to 148.

3.19 Products for a range of timescales are traded from spot contracts to seasonal and annual baseload contracts. Activity has been increasing across and along the forward curve, showing that participants are beginning actively to trade energy forward, securing their energy requirements many months and even on occasion years in advance. The resultant forward prices are beginning to signal the need for additional supply in the future, sufficiently in advance given planning and investment lead times for new entry and thus enhance the security of future supplies. Figure 3.9 shows the increase in the volumes traded, for given OTC, during the course of May between 2000 and 2001.

[27] Source: Heren EDEM, the data is for the NETA Review period and for the corresponding period in 2000.

Figure 3.9 - Traded volume by Period[28]



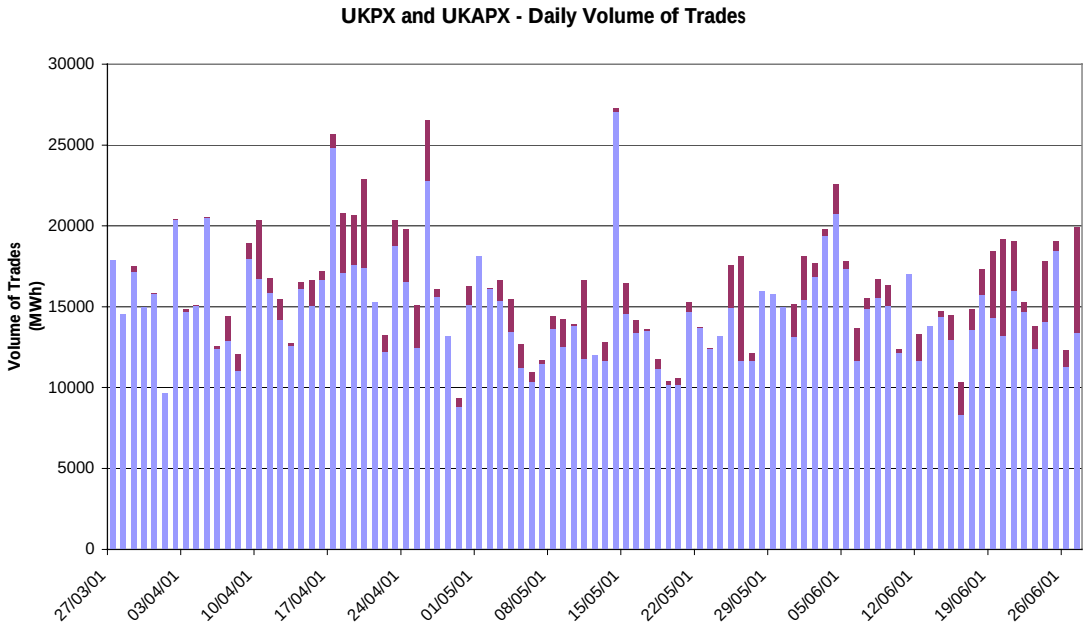
Power exchanges

Introduction

3.20 Three main cleared power exchanges have developed since NETA - the UKPX, the UK APX and the UK IPE. Two of the three power exchanges are trading significant volumes of electricity in the short-term markets (Figure 3.10) – however volume further out on the forward curve is still concentrated in OTC trades. Liquidity in the spot markets is important to short-term security of supply as firms seek to ensure sufficient supply to meet their customer's demand within-day.

[28] Source: Heren EDEM

Figure 3.10 - Energy volumes traded on both the UKPX and UK APX[29]

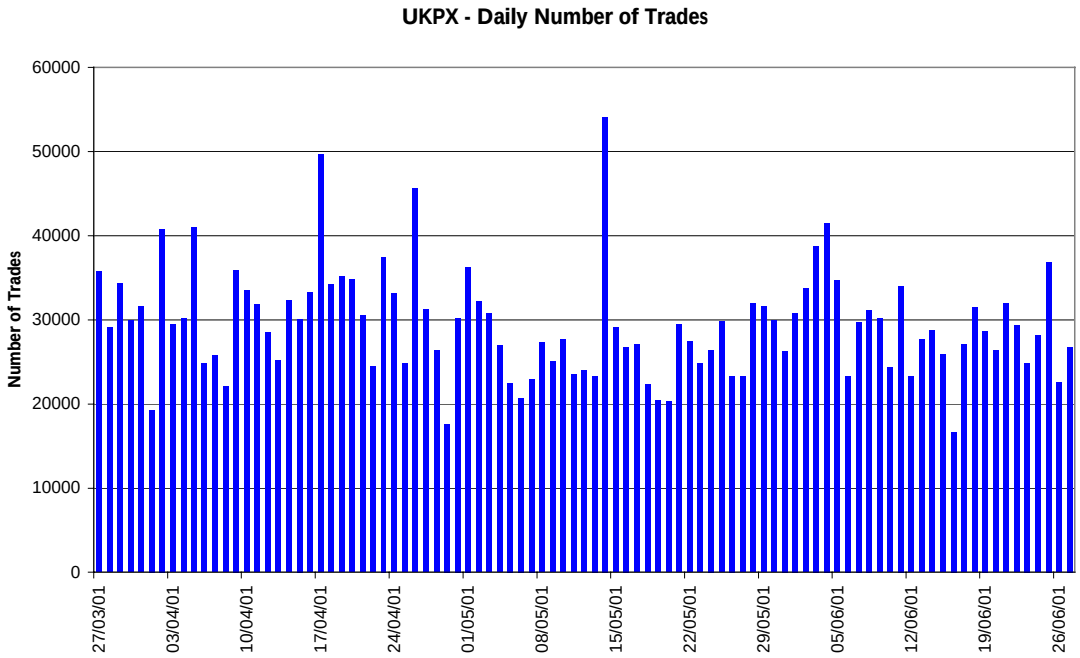


UKPX

3.21 The UKPX Half Hour contracts were launched on 25 March 2001. Half Hour Contracts are traded in lots of 0.5MWh, and are traded from the start of the day until the time of Gate Closure for a respective half hour. Trades on the UKPX account of most of the non- OTC traded contracts, with 1,254,715MWh (250,943 trades) traded since Go Live. Figure 3.11 shows that daily traded volumes on the UKPX have remained fairly constant since Go Live. Although volumes declined slightly in June this is consistent with a decline in traded volumes in June in other parts of the market (Figure 3.8) as demand falls with the warmer weather.

[29] Source UKPX and UKAPX websites.

Figure 3.11 - UKPX daily traded volumes[30]



UK APX

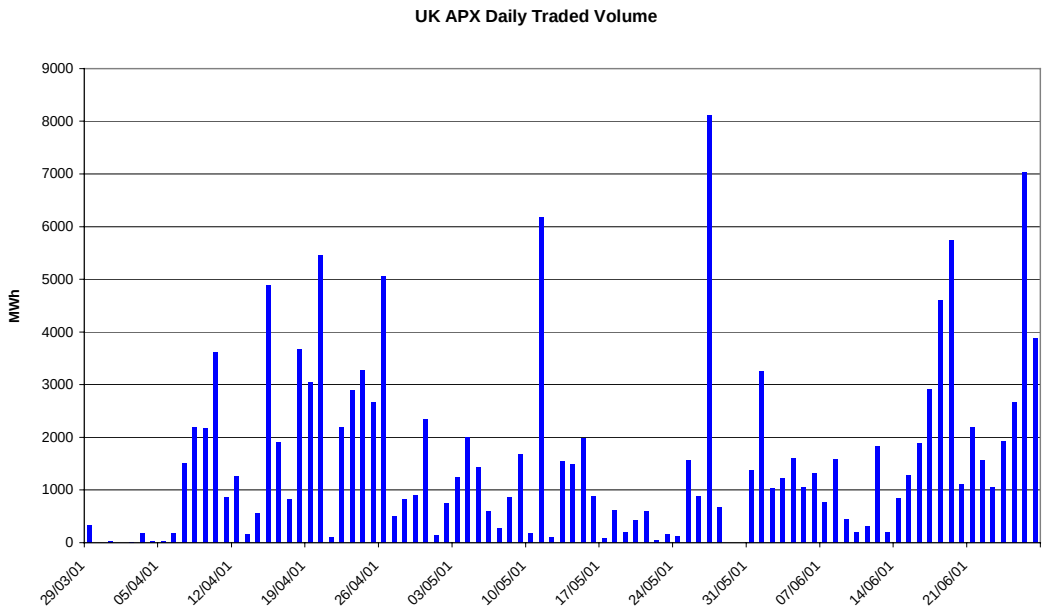
3.22 The UK APX opens, for each EFA Block period, from 5 days ahead and closes 30 minutes before Gate Closure for the block closest to delivery in the EFA block. The exchange is open 24 hours a day and seven days a week. Access to the UK APX is available through one of two routes, a party may either access the UK APX over the internet or by leased line. The internet service is currently set up to offer EFA Days, EFA Blocks and half hourly spot contracts, however to date the UK APX has only quoted information for its four-hourly EFA blocks (traded in 1MW lots).

3.23 Figure 3.12 shows daily volumes of energy traded on the UK APX for the period 27 March 2001 to 27 June 2001. The graph shows that recently the number of trades on the UK APX has increased as participants increasingly favour the four-hour block product offered. Daily traded volumes on the UK APX has risen from zero lots (1MW each) traded on the 27 March 2001 to a maximum of 6500MWh on the 26 May 2001 and the 27 June 2001. Daily total traded

[30] Source UKPX .

volume since Go Live to 27 June 2001 was 117,512MWh. However, in comparison with the UKPX, the UK APX has seen a high degree of volatility in daily traded volumes

Figure 3.12 - Liquidity on the UK APX since NETA[31]



Online Transaction Platforms

3.24 Online trading platforms and exchanges offer both buyers and sellers more choice of counterparties and are transparent in their disclosure of prices to the market real-time. Through its provision of a level playing field, the, internet allows smaller players to enter the trading market. Enron Online and Spectron Live were the first online platforms to be launched in the UK, and are the two most actively traded, non power-exchange, screen based platforms for electricity transactions.

3.25 Online transaction platforms have helped improve liquidity by widening the range of players who are able to participate in energy trading and through increased transparency improves the ease with which prices are communicated to the market.

[31] Source UK APX .

Issues requiring further development

3.26 Whilst there is a significant level of liquidity developing further out of the forward curve, there has not been the same growth in within-day contracts. This short-term market liquidity is important to ensure that market participants are able to 'fine tune' their positions in the market, and hence to enhance short-term security of supply.

3.27 A number of possible explanations have been put forward by market participants to explain the lack of liquidity in short-term contracts. These include:

- the length of Gate Closure;
- portfolio generators part-loading plant to self-insure against plant failure within day;
- a lack of reporting from central systems making participants unwilling to notify contracts; and
- risks associated with potential exposure to imbalance prices.

3.28 In addition, the fundamental changes brought about by NETA have led participants to make significant changes to their own internal processes and systems. As a result, it might be expected that it will take some time before participants are able to track their contract position with confidence close to real time and to be in a position to 'fine tune' contract positions and thus allow trading closer to real time.

3.29 There are, at present, two proposed modifications to the BSC that seek to address these short-term liquidity issues. The first would shorten Gate Closure to one hour. This would be a potentially significant development as it is likely that portfolio generators who are at present 'self insuring' against plant failure will offer plant to the market. The second would increase the data that participants receive from the central systems about their aggregate contract positions close to real time, reducing the risk of inadvertently moving into imbalance if trading close to real time.

Conclusion

3.30 The introduction of NETA has been a success in terms of market development. There has been a significant growth in liquidity in forwards markets, which enhances future security of supply through the communication of clear price signals of future energy supply needs. The reduction in electricity prices is developing (and will continue to) deliver significant benefits to customers in terms of lower electricity prices.

3.31 Under NETA, a number of new power exchanges and other platforms have been launched. Participants now have much greater choice in how, where and when to trade electricity and this has led to a significant increase in trading liquidity. Several price reporters, (such as Heren, Reuters and Platts) have emerged to keep participants and customers informed of market prices across the forward curve. The services offered by these price reporters are constantly changing in response to market needs. Year on year we have seen both a three-fold increase in the volume of contracts traded on the OTC and a five-fold increase in the variety of products traded. Significant volumes of trades have been seen on in both the UK APX and the UKPX.

3.32 Forward prices have fallen substantially on the UK OTC and the three new cleared power exchanges. The UK OTC prices illustrate the point with aggregate average baseload prices for the three months we are looking at having fallen by 6 per cent over the equivalent period last year, whilst aggregate average peak prices have fallen by over a quarter – 26 per cent. Liquidity has improved and prices have fallen under conditions of enhanced competition – a primary objective of NETA.

3.33 Spot prices have also followed this trend with the UK OTC's Day-ahead Baseload weighted average price falling by some 24 per cent. Contracts offered on the power exchanges have exhibited a steady downward trend since Go Live.

4. The operation of the Balancing Mechanism

4.1 The Balancing Mechanism is one of a number of tools that the SO has available to it to ensure that short-term quality and security of supply are met. This Chapter provides an overview of prices in the Balancing Mechanism in the first three months of NETA. In addition it provides an overview of the participants behaviour in the Balancing Mechanism.

Background

4.2 The role of the Balancing Mechanism is to provide a mechanism for NGC to adjust participants' intended operating levels of generation and demand in real time. Under NETA, the SO determines what actions need to be taken in the Balancing Mechanism in order to maintain the required national and local balances of generation and consumption. The Balancing Mechanism allows the SO to match system-wide imbalances between electricity production and consumption; to adjust local and bulk power flows to ensure the security of the transmission system; and to procure other Balancing Services. Balancing Services are technical services purchased by the SO in order to maintain the reliability and security of the transmission network, by, for example, supporting system voltage and frequency.

4.3 Once generators and suppliers have decided the levels at which they wish to operate, they are required to notify in accordance with the Grid Code the SO of their intended operating level by submitting Initial Physical Notifications (IPNs) and Final Physical Notifications (FPNs). An IPN relating to expected operating levels throughout the whole day must be submitted to the SO by 11.00am the day before trading. A FPN relating to proposed operating levels in a particular half hour must be submitted to the SO by Gate Closure.

4.4 When notifying their proposed operating level to the SO, generators and suppliers may, if they wish, also indicate a willingness to deviate from their intended operating levels. In exchange for payment, generators may be willing to increase or decrease the output of their generating units, and suppliers may have in place arrangements for their customers to be able to increase or decrease

their demand. To this end, generators and suppliers may submit Bids and Offers into the Balancing Mechanism. Offers indicate a willingness to increase the level of generation or reduce the level of demand. Conversely, Bids indicate a willingness to reduce the level of generation or increase the level of demand. The SO may accept particular Bids and Offers placed by generators and suppliers in order to control the national and local balance of generation and demand. Accepted Offers (of more generation or less consumption) will be paid for at the prices offered; accepted Bids will be paid as Bid. NGC as SO is responsible for keeping the system in balance in real time. As a result, only NGC can accept Bids and Offers in the Balancing Mechanism, because only they have a complete picture of aggregate demand and generation.

4.5 NGC is also able to trade for balancing purposes outside of the Balancing Mechanism in power exchanges and other short-term markets. NGC is free to strike, outside of the Balancing Mechanism, for Balancing Services (i.e. reserve, frequency control, voltage support).

4.6 NGC, as SO, faces commercial incentives, put in place at Go Live to manage the total costs of system operation on behalf of customers. Under the incentive scheme, NGC is set a target level of system operation costs. If it manages to beat this target, it keeps a proportion of the difference, subject to a cap. If actual costs exceed this target, NGC must pay a proportion of the difference, again subject to a cap.

4.7 The combination of moment to moment Bids or Offers, and longer-term contracts, enables NGC as SO to balance the system safely and efficiently.

Settlement

4.8 An important feature of NETA is settlement. The process of Imbalance Settlement requires a comparison of the quantities of electrical energy that parties have purchased and sold under contract with their metered quantities of physical generation and demand. The calculation of energy imbalances, and the settlement of payments for imbalances, are the central responsibilities of the settlement system. The central NETA systems are designed to measure these

surpluses and deficits (or imbalances) and to determine the prices at which they are to be settled in order to send out invoices and payments for them. The processes involved in calculating and settling these imbalances volumes is referred to as Imbalance Settlement.

Prices in the Balancing Mechanism

Background

4.9 Imbalance cash-out prices are designed under the rules to reflect the costs to the system of imbalances having to be resolved by the SO over short timescales. These costs were expected to differ from the costs of simply purchasing wholesale electricity on the forwards market – imbalance prices should also incorporate the additional value associated with the flexible delivery of electricity i.e. the ordering and delivering of electricity after Gate Closure.

Imbalance prices in the first three months of NETA

4.10 As expected Imbalance Prices have been volatile, in part because the volumes of accepted Bids and Offers in the balancing mechanism have been very small. Figure 4.1 and Table 4.1 below show the trend of SSP and SBP.

Figure 4.1 - Average SSP and SBP since Go Live

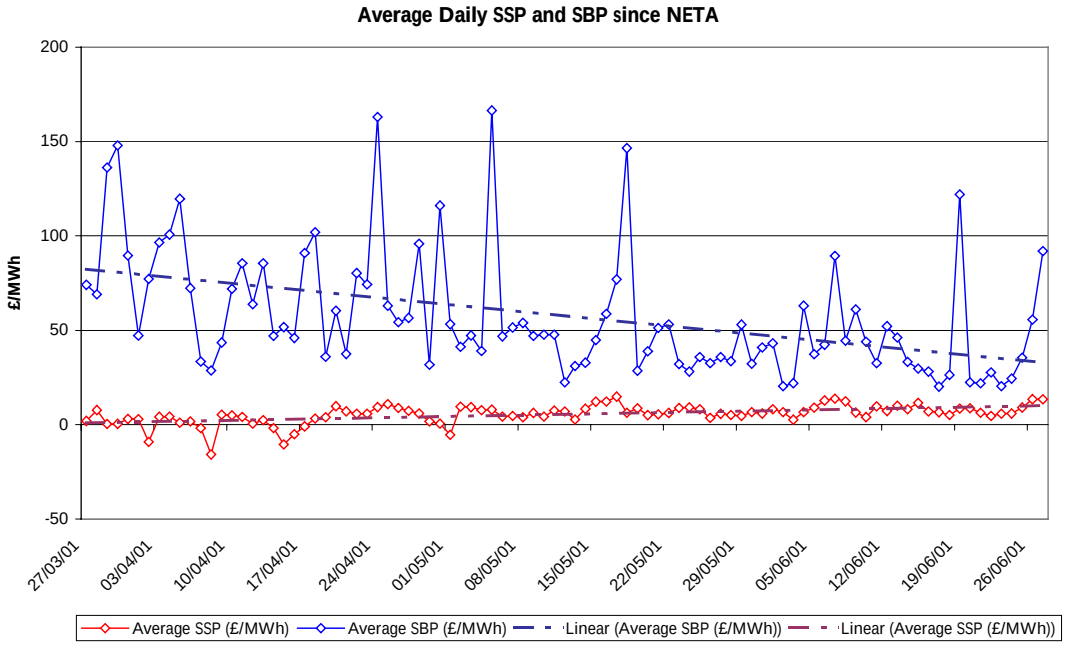


Table 4.1 - Overall price distributions

Month	Average SSP (£/MWh)	St. Dev of SSP (£/MWh)	Median SSP (£/MWh)	Average SBP (£/MWh)	St. Dev of SBP (£/MWh)	Median SBP (£/MWh)
Mar-01	2.73	17.92	6.45	103.37	189.82	43.20
Apr-01	2.22	22.52	7.65	71.67	149.33	29.92
May-01	6.69	16.19	9.99	50.14	168.13	23.44
Jun-01	8.05	7.63	10.39	41.79	157.55	21.77
Total	5.40	17.13	9.29	57.69	161.30	25.06

4.11 Over three months, the overall pattern for SSP has been to trend upward whilst SBP has trended down. Monthly average SSP has increased by 195 per cent whilst the average SBP has decreased by 60 per cent. The table additionally shows that the Imbalance Prices have been highly volatile at times. This is illustrated through the standard deviation in prices - this shows that the volatility of both SSP and SBP has declined since Go Live.

4.12 The table below looks at the distribution of energy imbalance prices over different times of the day.

Table 4.2 - Price distributions by time of day

Month	Average SSP (£/MWh)	St. Dev of SSP (£/MWh)	Median SSP (£/MWh)	Average SBP (£/MWh)	St. Dev of SBP (£/MWh)	Median SBP (£/MWh)
Peak[32]	11.33	6.26	11.47	45.48	149.34	23.96
Shoulder[33]	7.03	19.00	10.32	79.93	134.68	32.02
Off peak[34]	-2.15	19.64	0.36	47.68	192.11	23.51

4.13 From the analysis it is apparent that if a participant spill's electricity there is most risk of receiving a negative price in the off peak periods. This is a result of the system generally being long electricity overnight. Off peak volatility of SSP has additionally been higher than peak volatility of SSP. The distribution of SBP differs in that top-up has, over the first three months, been most expensive in the shoulder periods. The reasons for this and the volatility in SBP are discussed below.

4.14 Since NETA was implemented, NGC has tended to find at Gate Closure that generators were intending to generate more power than was required to meet national demand (i.e. the system was long). In some half hours, however, a sudden, unanticipated and short duration increase in demand has occurred. As a result, during the first three months, NGC has on occasion needed to instruct very flexible generation units (and flexible demand) to increase power (or reduce demand) at very short notice and at relatively high cost.

4.15 Ofgem has recently approved a Modification to the rules[35] designed to better reflect the costs of NGC's actions to achieve an overall balance between supply and demand in imbalance prices by excluding others costs of maintaining system stability. [36] This Modification, when implemented, is likely to see further convergence of the SSP/SBP.

[32] Peak is defined between 11:00 and 19:00.
[33] Shoulder periods are defined between 07.00 and 11.00 and 19.00 and 23.00.
[34] Off peak is defined as between 23.00 and 07.00.
[35] Modification P18A – a copy of the Modification Proposal and the Authorities decision letter can be found on the Elexon website (www.elexon.co.uk)
[36] System balancing costs, such as those associated with correcting short duration frequency excursions within the half hour balancing period.

Participants behaviour

4.16 Overall the first three months of operation of NETA has been a learning experience for market participants. There have been encouraging competitive responses to high price 'spikes' in the Balancing Mechanism with generators exploring the flexibility of plant and the demand side being encouraged to participate in the new arrangements. The Balancing Mechanism has seen a large number of participants with 25 companies submitting Bids and Offers from their generation stations and demand sites

Bid/Offer Acceptances

4.17 The graph below shows that on a daily basis there are generally between 15 and 20 companies whose Bids are accepted in the Balancing Mechanism. The graph also shows that the volume of accepted trades in the Balancing Mechanism has been steadily declining month on month. For example the average daily volume of accepted trades was 48,000 MWh in April, but by June this daily average volume had fallen by 15,000 MWh to 33,000 MWh, a drop of almost a third, suggesting that participants are becoming better at self balancing before Gate Closure.

4.18 Figure 4.2 shows the volume of accepted Bids and Offers as a percentage of total Bids and Offers and it illustrates that, since Go-Live the volumes of Bids and Offers has fallen as a proportion of total Bids and Offers. Figure 4.3 shows the volume of Bids and Offers placed in the Balancing Mechanism has increased sharply during April (see Figure 4.4), it has remained broadly constant since the beginning of May. This indicates that whilst the offers has reduced the volumes of accepted bids has remained relatively constant after the first few weeks.

Figure 4.2 - Total daily volume of accepted trades and number of companies with accepted trades[37]

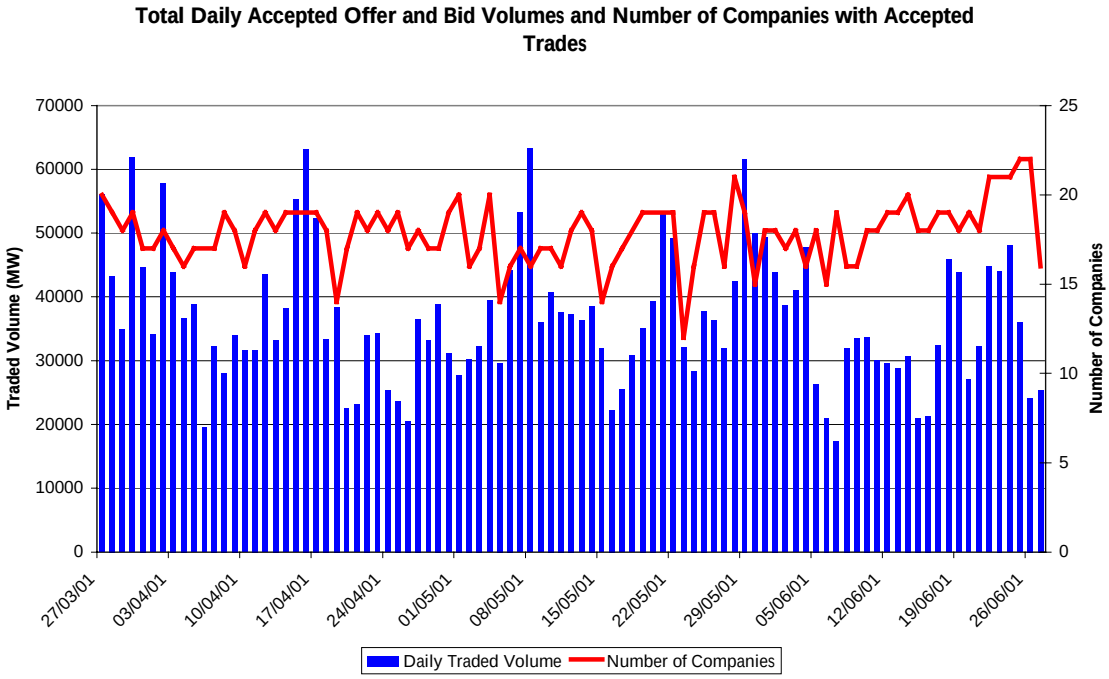
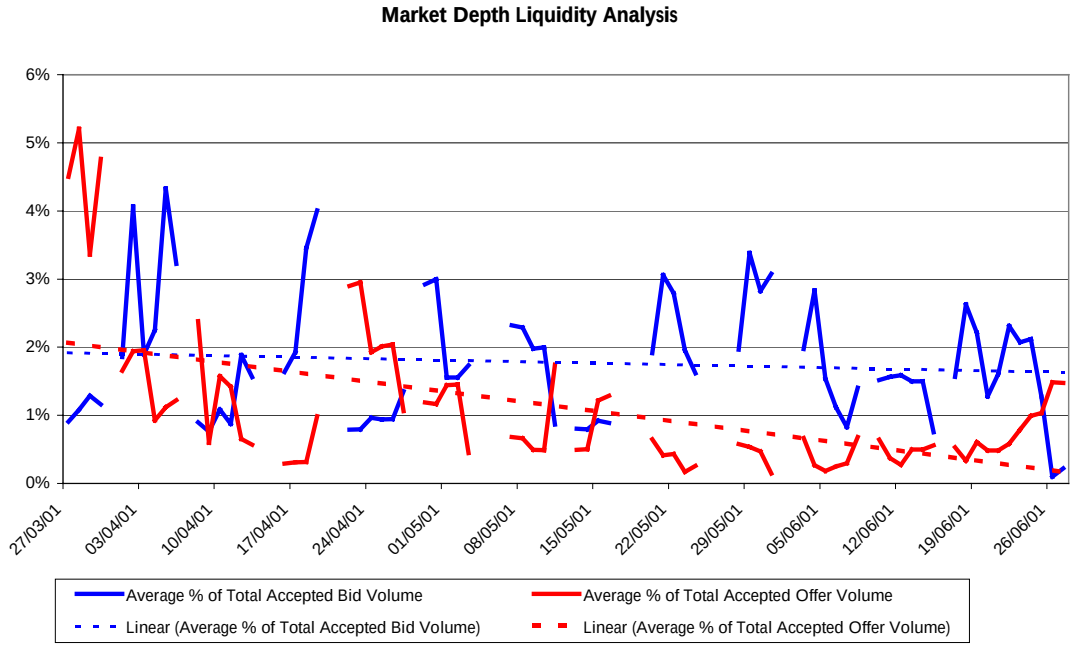
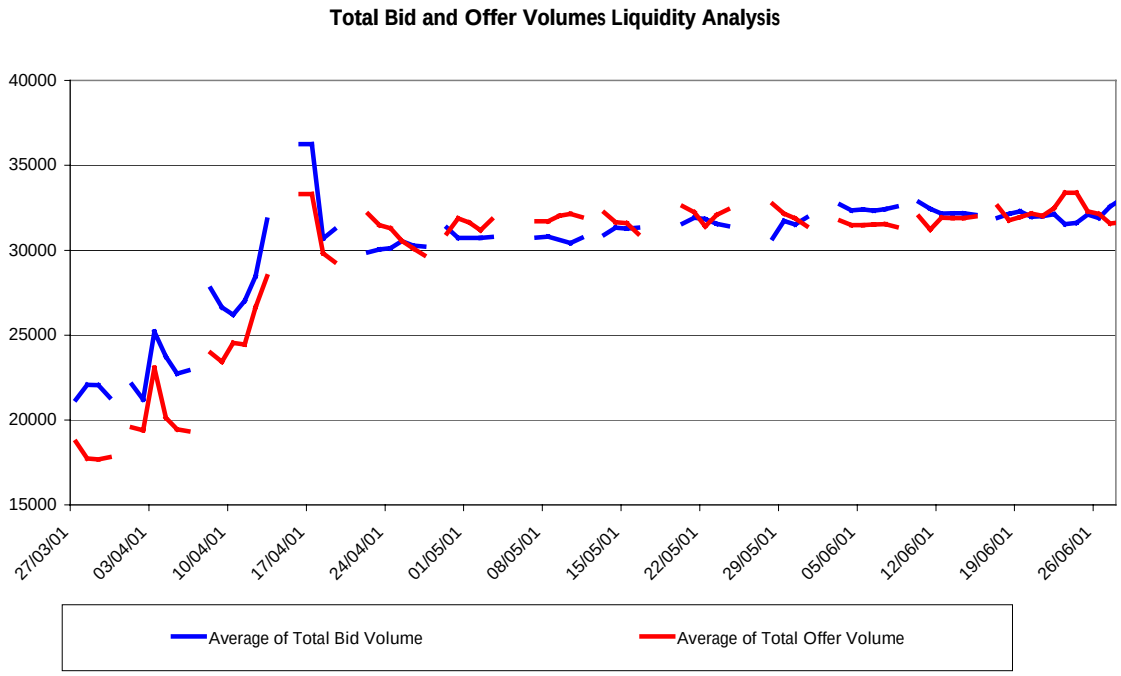


Figure 4.3 - Volume of accepted Bids and Offers as a percentage of total Bid and Offer volumes[38]



[37] Source BMRS.
[38] Source BMRS and Elexon.

Figure 4.4: Average total daily Bid and Offer volumes [39]



NGC

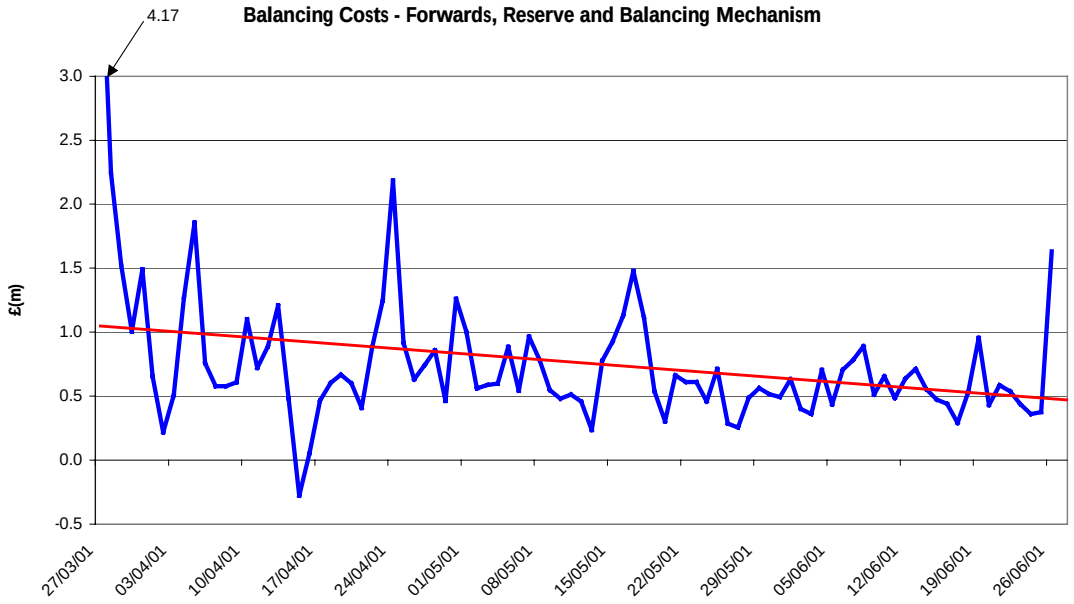
4.19 NGC has responded to the new arrangements and price signals. For example NGC has successfully reduced the number of occasions where it has had to call very expensive highly flexible plant at short notice. NGC has also sought to enter into a number of alternative balancing service contracts to reduce imbalance costs.

Daily Balancing Costs

4.20 The chart shows that there has been a substantial reduction to the balancing costs as NGC has learnt more effectively to manage the system and improved its performance in response to its incentive scheme. There has been a decrease in balancing costs of 22 per cent between April and May, although part of this reduction may be due to seasonal effects.

[39] Source BMRS and Elexon.

Figure 4.5 - Indicative daily balancing costs



4.21 With the introduction of the NETA, NGC's incentive arrangements were developed to match its new role as SO under the new arrangements. Under the Pool NGC was responsible for forecasting system demand, scheduling generation and centrally despatching generation. By contrast, under NETA, market participants contract with each other bilaterally, suppliers forecast their own demand, and generators now self-despatch to meet their contracted generation levels. NGC is now only responsible for the residual purchasing and selling of energy to keep the system in energy balance, though NGC continues to be responsible for maintaining the system balance by contracting for other balancing services such as reactive power. As a result, NGC's system operator function has had to develop and it has begun to acquire new skills, including trading, to enable it to fulfil its new role efficiently.

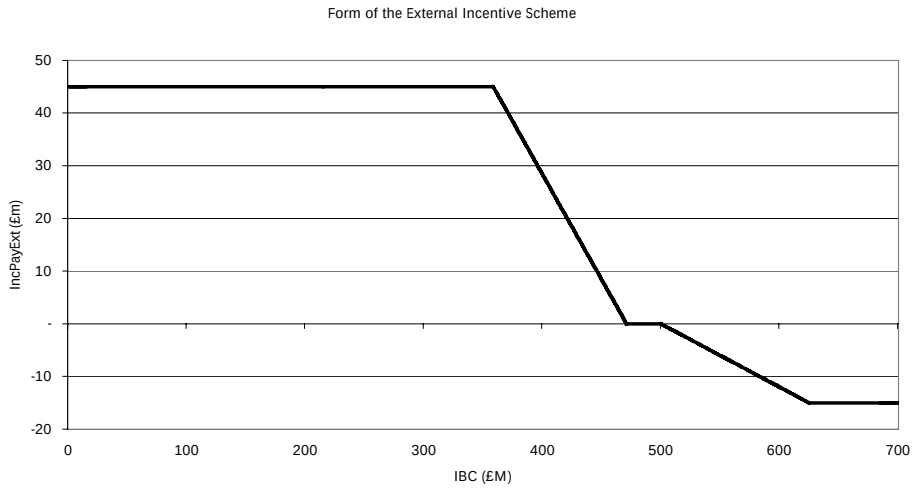
4.22 Ofgem put in place consistent incentive schemes on NGC's internal and external SO costs to ensure that NGC tried to reduce the total costs of system operation (i.e. internal plus external costs). Both schemes are of the profit sharing (sliding scale) type (see Figure 4.6). This involves setting a target (or deadband) for costs. If NGC manages to beat this target, it keeps a proportion of the difference

subject to a cap. If actual costs exceed this target it must pay a proportion of the costs, subject to a collar. The parameters of the SO external cost scheme for the period from Go-Live to 31 March 2002 are shown in Table 4.3.

Table 4.3 - SO external cost incentive summary[40]

Deadband	£471m to £500m
Upside Sharing Factor	40%
Downside Sharing Factor	12%
Cap	£45m
Collar	£15m
Duration	One year scheme

Figure 4.6: The form of the external SO cost incentive



Balancing Services Contract Costs

Introduction

4.23 Balancing Services Contract Costs (BSCC) are the costs of the payments that NGC makes to the providers, under contract, of balancing services[41], excluding

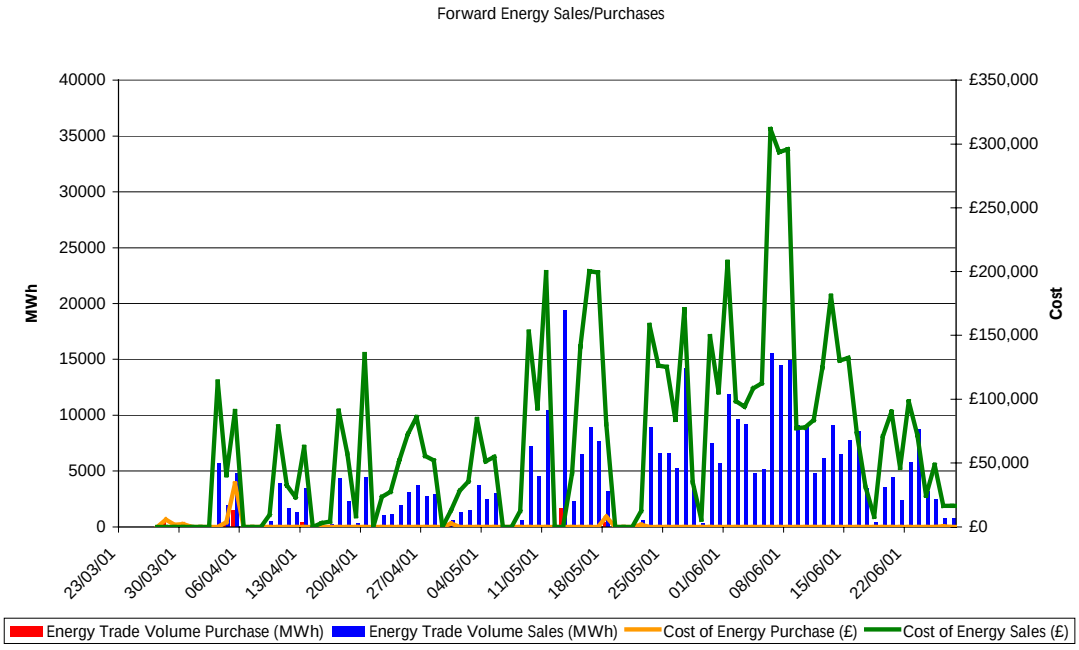
[40] Source 'NGC system operator price control and incentives schemes under NETA: Final Proposals', Ofgem, December 2000.
[41] Associated with the procurement of energy (including forward energy contracts), reserve, frequency response, transmission constraints, black start, reactive power and transmission losses.

any costs paid through the Balancing Mechanism. Two major components of BSCC are the cost of forward energy contracts and the cost of forward reserve contracts and these are discussed in detail in the following two sections.

Forward Energy Contracts

4.24 The cost of forward energy contracts has risen over the first three months of NETA. Forward energy costs, which totalled £1.1m in April, had, by June, risen to £3m (Table 4.4). The increase in total monthly costs was reflected in a rise in average daily forward costs from £39k in April to £99k in June (Table 4.5). Both trends may be viewed in greater detail in Figure 4.7. Much of the volatility shown in Figure 4.7 is the result of variation in weekday and weekend volumes of forward energy, - the average daily cost on Business Days (BDs) was £90k and on Non Business Days (NBDs) the average cost fell to £35k.

Figure 4.7 - Daily costs of forward energy contracts[42]



[42] Source: NGC Website.

Table 4.4 - Monthly costs of forward contracts [43][44]

	Apr-01	May-01	Jun-01	**Since Go Live**
Cost of Energy Purchase (£)	40,423	9,314	246	**59,340**
Energy Trade Volume Purchase (MWh)	2,286	2,155	10	**5,009**
Cost of Energy Sales (£)	1,133,237	2,347,671	2,978,748	**6,459,688**
Energy Trade Volume Sales (MWh)	51,741	141,579	185,246	**378,567**

Table 4.5 - Average daily costs of forward contracts[45]

	Apr-01	May-01	Jun-01	**Since Go Live**
Cost of Energy Purchase (£)	1,347	300	8	618
Energy Trade Volume Purchase (MWh)	76	70	0	52
Cost of Energy Sales (£)	37,775	75,731	99,292	67,288
Energy Trade Volume Sales (MWh)	1,725	4,567	6,175	3,943

Reserve Contracts

4.25 The cost of reserve contracts also rose over the first three months of NETA. Total reserve costs in April were £1.57m, but by June they had increased by 18 per cent to £1.85m (table 4.6). This was mirrored by a rise in the volume of reserve contracts held by from 485 GWh in April to 557 GWh in June – an increase of 15 per cent. Furthermore, the BD/NBD variation, seen in the forward energy costs, is also a feature of the reserve costs though it is less pronounced (the average daily cost was £58k for BD and £50k for NBD).

[43] Source: NGC Website.
[44] The cost of energy sales includes the option fees paid by NGC and this explains why energy sales represent a net cost to NGC.
[45] Source: NGC Website.

Figure 4.8 - Cost of reserve contracts[46]

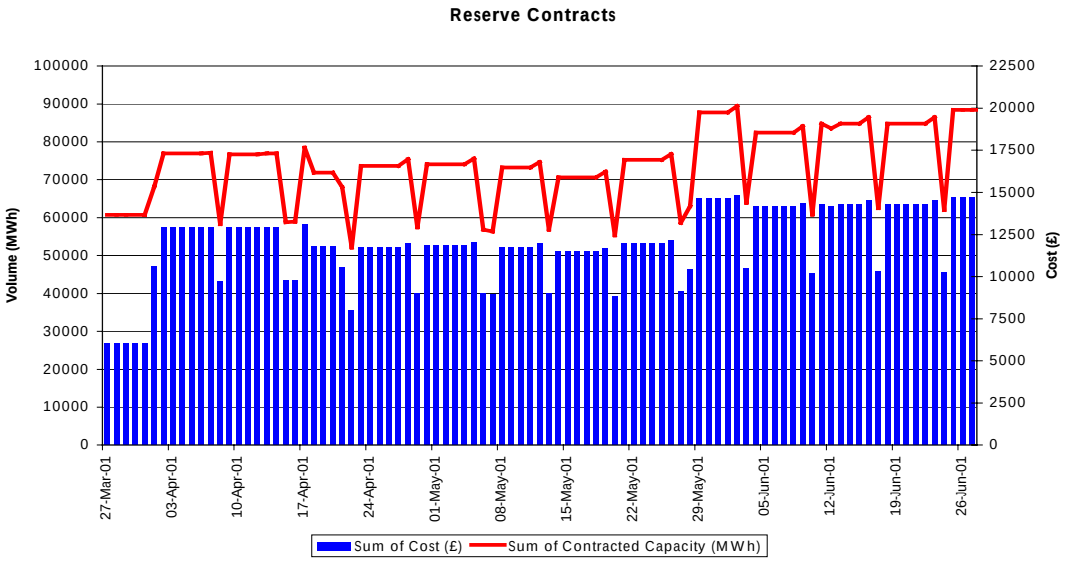


Table 4.6 – Costs of reserve contracts – summary statistics[47]

	Apr-01	May-01	Jun-01	**Since Go Live**
Monthly Cost of Reserve (£)	1,569,613	1,592,193	1,847,271	**5,143,331**
Monthly Total Contracted Capacity (MWh)	485,190	501,293	556,533	**1,611,336**
Average Daily Cost (£)	52,320	51,361	61,576	**53,576**
Average Daily Contracted Capacity (MWh)	485,190	501,293	556,533	**1,611,336**

Balancing Mechanism Costs

4.26 Balancing Mechanism costs are the costs NGC pays for accepting Bids and Offers in the Balancing Mechanism.

4.27 Balancing Mechanism costs, in general, fell over the first three months of NETA – in April Balancing Mechanism costs were £20.4m (Table 4.7), but by June they had fallen to £14m. The costs of Offers far exceed the costs of Bids and this accounts for the large spread between SSP and the SBP[48] – since Go Live the average SSP has been £5.40 and average SBP has been £57.69. If the spike of

[46] Source: NGC Website.
[47] Source: NGC Website.
[48] SBP is the weighted average price of all the accepted offers to sell electricity into the BM within a particular half hour. SSP is the weighted average price of all the accepted Bids to buy electricity from the BM within a particular half hour period.

costs in late June (caused by a tightening of the supply/demand balance as the reaction of the CCGTs to a spike in gas prices corresponded with the Scottish Interconnector being unavailable) is excluded we can observe that, over time, daily Balancing Mechanism costs have steadily fallen (Figure 4.9).

Figure 4.9 - Costs of NGC's Balancing Mechanism actions[49]

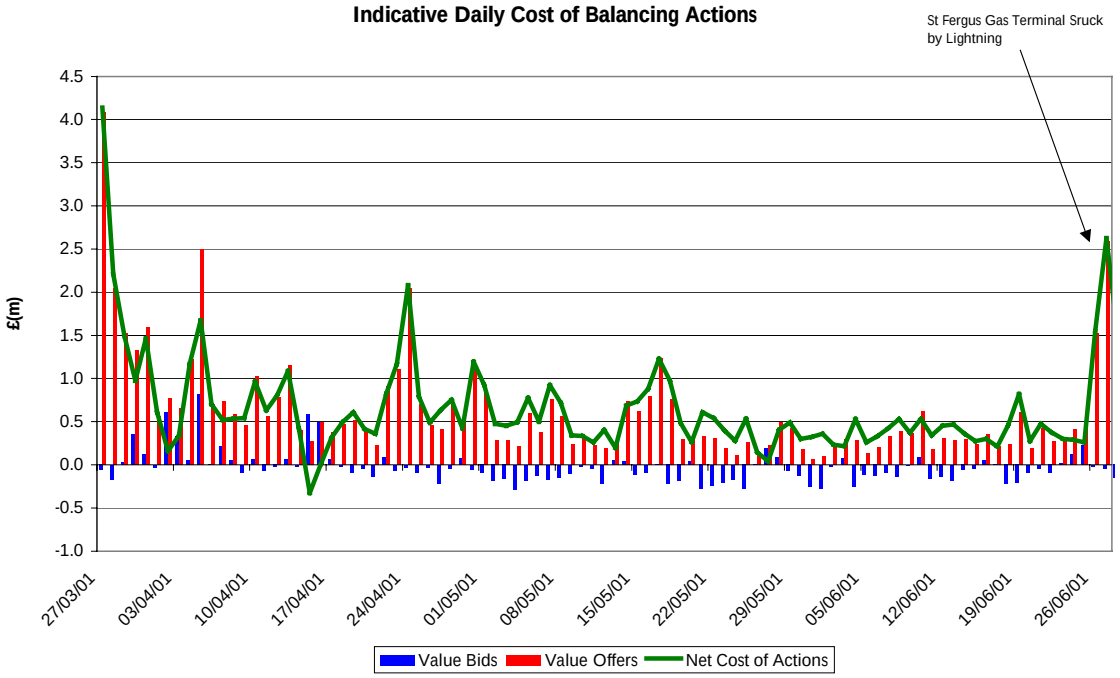


Table 4.7 - Balancing Mechanism costs and revenues[50]

£(m)	April-01	May-01	June-01	Since Go Live
Value of Bids	2.45	-3.54	-2.11	-2.92
Value of Offers	22.83	12.56	13.82	59.77
Net Cost of Balancing Actions	20.37	16.11	15.93	62.69
Average Daily Value of Bids	0.08	-0.11	-0.07	-0.03
Average Daily Value of Offers	0.76	0.41	0.46	0.62

[49] Source: BMRS data.
[50] Source: BMRS data.

The demand side

4.28 A major feature of the new arrangements is that the 'demand side' is fully incorporated into the new balancing arrangements. In direct competition to generators, suppliers and customers can offer load reductions into the Balancing Mechanism in direct competition with generators and they can also respond in NGC tenders for balancing services. This increased competition should see further reductions in balancing costs to the benefit of customers.

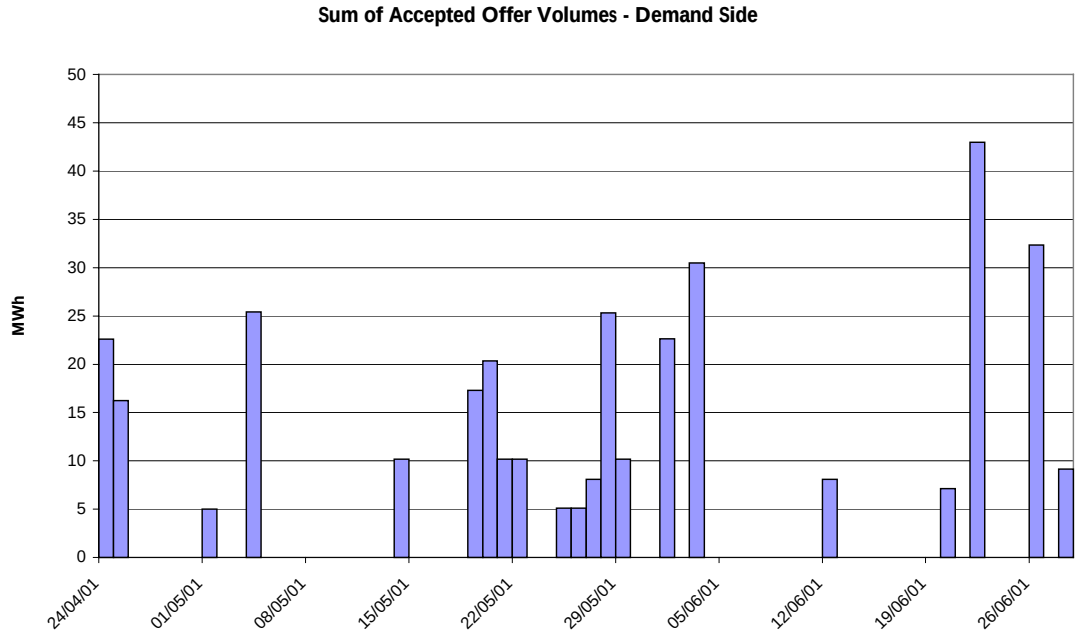
4.29 Under NETA, the incentive for suppliers to understand their customers' demand requirements more fully and to work closely with those customers able to offer load management services is much greater than under the Pool arrangements. Ofgem also expects that there will be market development in this area. More active response from large loads should further reduce the incidence of volatility and price spikes close to real time.

4.30 Figure 4.10 displays the volume of accepted Offers for demand side participants (there have been, to date, no demand side Bids accepted), the volume of Offers has been low (between 7 and 44 MWh), and highly volatile. Since Go Live 60 Offers have been accepted (Table 4.8) from demand-side participants with more than 20 acceptances occurring in both May and June.

Table 4.8 – Number of offers accepted from demand-side bidders

Month	Count of Bid-Offer Pair Acceptances
Apr-01	9
May-01	28
Jun-01	23
Grand Total	60

Figure 4.10 - Sum of accepted demand-side Offers[51]



4.31 The prices for demand-side participation were always expected to be quite high due to the opportunity cost of actively altering demand and this has been the case, see Table 4.11.

Table 4.9 - Average demand side Bid and Offer price of demand-side bidders since Go-Live

Month	Ave. Bid Price (£/MWh)	Ave. Offer Price (£/MWh)
Apr-01	66.67	146.67
May-01	200.00	300.00
Jun-01	200.00	282.61
Grand Total	180.00	270.33

4.32 The Balancing Mechanism arrangements have been to designed to facilitate active participation for the demand-side, and as time progresses we should see a number of consolidators aggregating demand to form a viable proposition. Individually, most consumers do not consume enough electricity to make it worth their while to deal directly with the SO via Balancing Services contracts or Balancing Mechanism Bids and Offers. However, when their loads are grouped together by a supplier, their participation becomes feasible. This suggests there

[51] Source BMRS

is potential for greater demand side participation than has been seen to date that will result in lower balancing costs and consequently benefits for consumers.

Generation

4.33 One of the key features of NETA is that, unlike the Pool where NGC centrally dispatched generating plant generators now self dispatch. This increased exposure to the risk of plant failure has seen an increase in the reliability of generating plant. NGC report that there has been an increase in generation reliability on the day since Go-Live.

4.34 Since Go Live, the average Bid price of all generators has been -£6.65/MWh whilst average Offer price has been £45.92/MWh. Tables 4.10 and 4.11 summarise monthly average bid and offer prices by fuel type and technology (this data is presented graphically in Figures 4.12 to 4.15.

Table 4.10 - Average Bid price since Go Live by fuel type

Month	Advanc-ed Gas Reactor (AGR)	Combi-ned Cycle Gas Turbine (CCGT)	CCGT/ CHP	Combi-ned Heat & Power (CHP)	Coal	Coal Gas Turbine GT	Demand Side Bidder (DSB)	Interco-nnector	Open Cycle Gas Turbine(OCGT)	Oil	Pumped Storage Business (PSB)	Pressurised Water Reactor (PWR)
March	-2464.79	11.76	16.02		-3.21	194.39		23.62	132.53	30.43	-10.67	-769.23
April	0.29	0.62	10.13		-18.10	154.15	66.67	31.74	167.18	26.94	-86.42	
May	0.00	-2.37	3.25		6.40	13.00		-6.67	228.78	9.38	-88.27	
June		-4.08	8.62	0.50	8.32			8.79	100.00	5.50	-25.95	
Ave	-821.50	1.48	9.51	0.50	-1.65	120.51	66.67	14.37	157.12	18.06	-52.83	-769.23

4.35 Negative bid prices indicate that a generator wishes to be paid to reduce its output whilst positive bid prices indicate that it is willing to do so (because of the fuel and other costs it will avoid in not generating). As might be expected, nuclear plant (PWRs and AGRs) have submitted highly negative bid prices (when they have submitted any at all) reflecting the inflexibility of these plant types. Equally open cycle gas turbines, both main and ancillary, have been prepared to pay over £100/MWh to avoid generating, an indication of their high fuel costs.

Table 4.11 - Average Offer price since Go Live by fuel type

Month	AGR	CCGT	CCGT/ CHP	CHP	Coal	Coal GT	DSB	Interco-nnector	OCGT	Oil	PSB	PWR
March	7.51	34.45	30.13		40.91	194.39		68.20	147.75	111.55	1038.79	8.00
April	6.63	22.14	27.13		27.39	157.77	146.67	121.04	190.99	175.87	840.44	
May	5.00	13.32	16.57		20.20	14.00		53.84	228.78	148.50	825.77	
June		18.16	17.85	20.00	21.70			27.95	200.00	165.00	1427.47	
Ave	6.38	22.02	22.92	20.00	27.55	122.05	146.67	67.76	191.88	150.23	1033.12	8.00

4.36 First Hydro, the pumped storage plant, has consistently submitted the highest offer prices, followed by those plant types (oil, GT's) which use oil products to generate electricity.

Figure 4.11 - Average Bid and Offer prices in March by fuel type

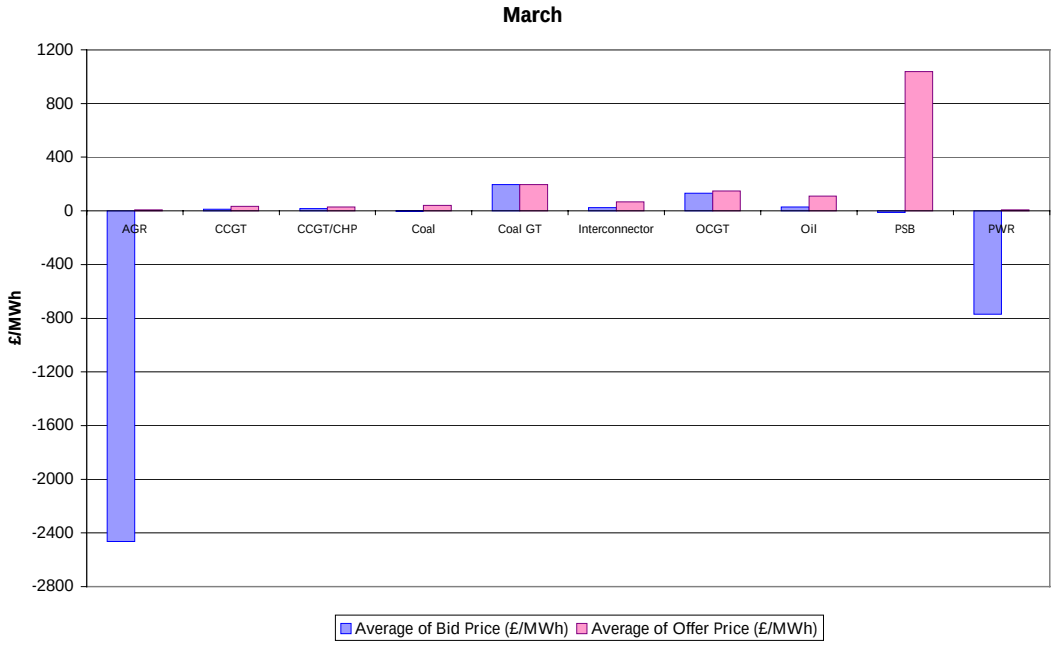


Figure 4.12 - Average Bid and Offer prices in April by fuel type

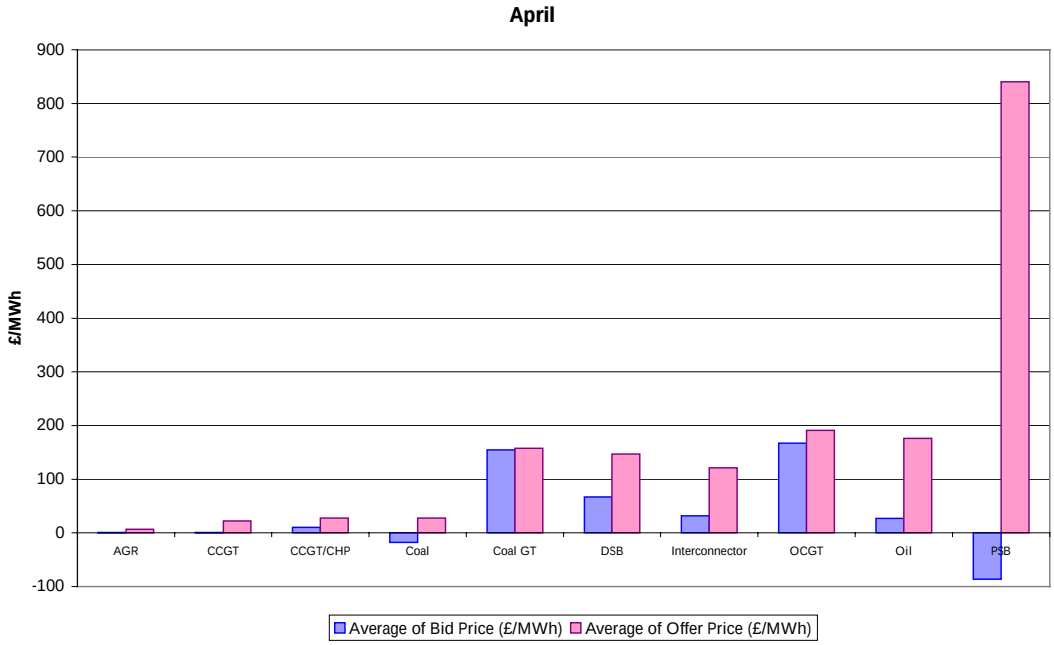


Figure 4.13 - Average Bid and Offer prices in May by fuel type

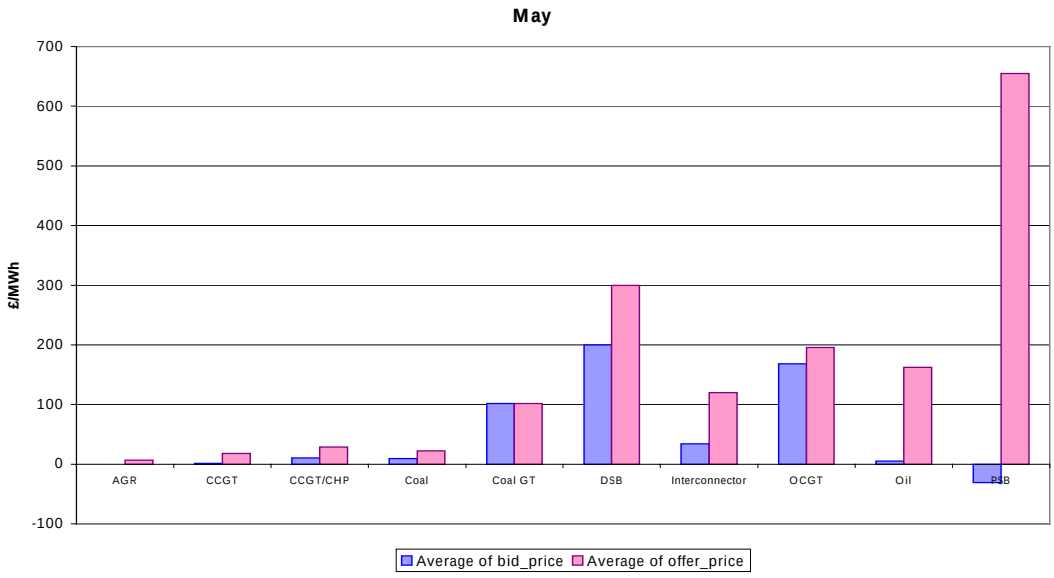
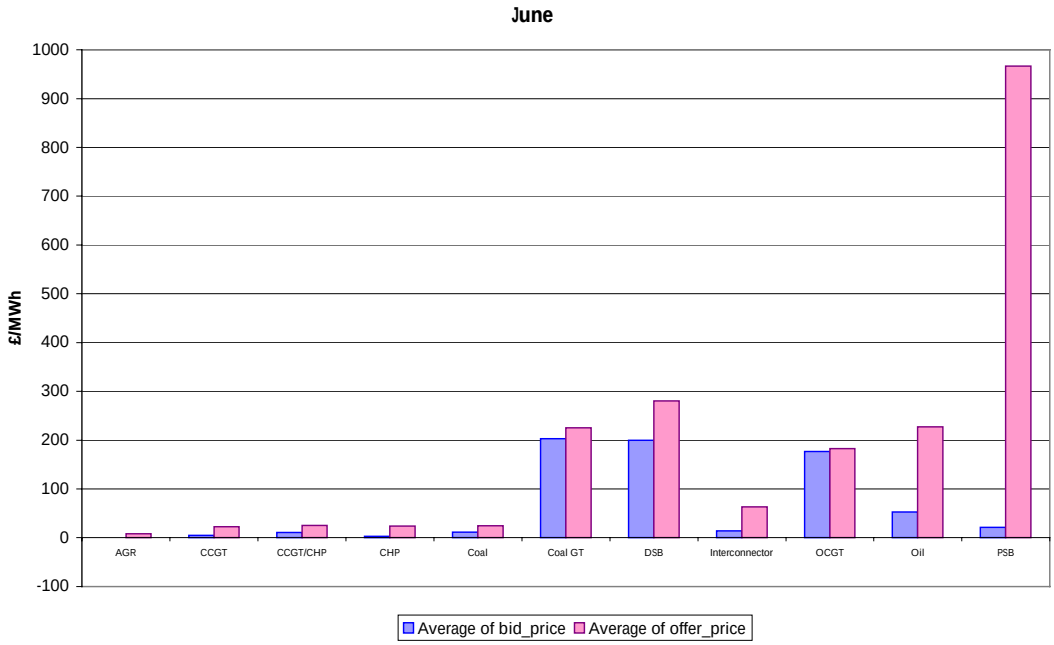


Figure 4.14 - Average Bid and Offer prices in June by fuel type



4.37 As discussed earlier, SSP and SBP have been converging since Go Live, and for June averaged around £8/MWh and £45/MWh respectively. The data presented shows that this is due to a fall in most Offer prices and increases of around £10/MWh in the Bid prices of coal and CCGT plant. These plant types account for around 90 per cent of accepted bid volumes. Furthermore although the high First Hydro offers have led to a number of price spikes, in volume terms First Hydro acceptances account for only around one per cent of accepted offer volumes.

5. Governance Arrangements

5.1 The Pool's governance was widely recognised as inadequate and cumbersome. During the 11 years the Pool existed, most of the expected reforms set out at privatisation were blocked as a result of its governance structure. In designing the new arrangements, it was recognised that NETA's governance structure needed to be sufficiently flexible to allow modifications to the rules as NETA developed and in the light of operational experience.

Objectives of the new governance arrangements

5.2 The governance principles of NETA were intended to meet a number of objectives:

- **Objectivity** – the decision-making processes provided for by the BSC should be objective and not unduly biased by the interests of any particular party or group. The key to achieving this is that decisions should be made by reference to predefined objectives, and that decision makers should have full access to all relevant information;
- **Transparency** – decisions should be taken in a transparent manner. This means that information must be available to all affected parties and that discussion and analysis should be visible;
- **Inclusivity** – there should be no exclusion of relevant information or viewpoints. Consequently, contributions should be allowed from all interested parties on key decisions;
- **Effectiveness** – decision-making processes should balance the need for timely decision making and thorough consideration of issues; and
- **Efficiency** – the scope of the governance arrangements extends beyond the design and overseeing of market rules. It also includes the procurement, management and enforcement of contracts with service providers, the monitoring and enforcement of rules, financial control and

dispute resolution. These need to be undertaken impartially and efficiently, with scope and responsibilities laid out clearly.

Experience of the new BSC arrangements to date

5.3 The rules, which govern the Balancing Mechanism and Settlement Process, are incorporated set out in the BSC. These rules need to evolve in light of experience of the implementation and operation of NETA. To date the process of proposing and implementing modifications to the BSC has operated as intended. In the first three months of the operation of NETA, market participants have submitted a total of 28 Modification Proposals to the BSC. A further 6 have been proposed to date. In the first three months, a total of 7 modifications have been taken to their conclusion, and therefore completed the BSC modification process. In particular, the new governance arrangements allowed initial teething problems resulting from the new trading arrangements to be addressed urgently with solutions being found within-weeks of the problem being identified. A full description of the Proposed Modifications is set out in Appendix 1.

5.4 The NETA governance arrangements allow greater participation by all interested parties. The BSC modification process also prescribes and limits the position of the Gas and Electricity Markets Authority (the "Authority). Ofgem[52] cannot initiate modifications to the BSC, and must decide whether to approve or reject a proposed modification against defined criteria.

[52] Ofgem is the Authority. The terms "Ofgem" and "Authority" are used interchangeably.

6. Conclusion

6.1 Overall, Ofgem believes that the new trading arrangments are resulting, and will continue to result in, real and sustainable benefits to consumers. Ofgem is encouraged by the markets and learning by market participants and the SO in the period since Go Live. As expected prior to Go Live, electricity prices have fallen and the bulk of electricity is traded ahead of the day in forward and futures markets. Only 3 per cent of physical deliveries are bought and sold through the Balancing Mechanism. It therefore represents a useful tool for the SO to balance the system, it is of relatively minor importance in influencing overall wholesale electricity prices.

6.2 There are a number of areas, as was to be expected, where further market developments are expected to emerge. Ofgem believes that this market development will ensure that wholesale electricity prices will continue to be lower than those likely to have emerged under the Pool.

6.3 BSC rules have had to evolve in response to issues that have arisen in the markets. Over the three months there has been a significant reduction in the SSP/SSB price spread. There has additionally been an encouraging competitive response (including from the demand-side) and SO operator responses to high prices in the Balancing Mechanism.

Appendix 1 Proposed Modifications to the BSC

Modification	Summary	Date Proposed	Authority Report Date
P1 Extension of Definition of ECVAA Systems Failure	A proposal to extend the definition of the ECVAA systems to include the High Grade Service communications medium provided by ELEXON from the party to the central ECVAA systems. It is proposed that the modification is applied Retrospectively to take effect from March 27th 2001.	27/03/2001	TBC
P2 Revision of Methodology For Assessing Credit Indebtedness	It is proposed that credit indebtedness is assessed against actual inputs and outputs as soon as they are available and that best estimates are used until they are available. It is further proposed that CAP is only used for pricing during periods when there is no ability to provide additional security.	27/03/01	TBC
P3 Correction Of Price Spikes Generated By De-Minimis Purchases	A proposed modification to the BSC that would prevent the occurrence of price pikes when option fees paid by NGC for provision of reserve (and other balancing contracts) are included in the numerator of the energy imbalance price calculations	28/03/01	06/04/01
P4 Dual Energy Contract Notification	A proposal to introduce dual notification of all energy contract notifications. The contract notification process in the BSC would be altered such that both ECVNAs notify each energy contract and only matched notifications result in a contract being successfully notified. Any non-matched notifications will automatically be rejected by the ECVAA, notifying both ECVNAs of their failure to complete an energy contract notification	28/03/01	TBC
P5 Extension Of Indemnity Under Section B2.9	Modification to Section B 2.9.1 to extend the indemnity to cover actions undertaken in good faith. The words "or in the proper exercise of the powers.." in Section B 2.9.1 should be replaced with "or in the proper or good faith purported exercise of the powers.."	28/03/01	02/07/01
P6 Removal Of Obligation To Publish Price Data In FT	A proposal to remove the obligation on BSCCo to publish System Sell Price and System Buy Price information in the press. It is proposed that the price data should continue to be published on the BSC Website.	05/04/01	09/05/01
P7 Allocation Of Supplier Demand To Same BM Unit in a GSP Group	The modification proposes that the Supplier demand, for all supply companies in the same company group, can be allocated to the same BM Unit within a GSP Group.	18/04/01	TBC
P8 Introduction Of A Price Adjuster To Reflect Option Fees	The recent Modification (P3) implemented a Price Adjuster for System Sell Price and System Buy Price by altering the Balancing Services Adjustment Data Methodology and implementing workaround W024. This modification proposes to retain the same functionality, but to implement the Price Adjuster within the BSC and ELEXON's central systems.	20/04/01	TBC
P9 Correction of Technical Error In Respect of ECVNs	Modification to Section P.2.3 and U.2.5 to permit BSC Parties to correct submission of ECVNs (retrospectively or otherwise) which are incorrect due to no fault technical error.	04/05/01	23/05/01
P10 Eliminating Price Spikes Caused by Truncating Effects	Modification of the SBP and SSP calculations to remove price spikes caused by spurious Bid/Offer Acceptances registered by the settlement software as a result of truncating National Grid instructions to a whole number of minutes or an integer volume of MW	02/05/01	11/05/01
P11 Revision Of Minimum Credit Cover Requirements	A proposal to introduce a minimum credit requirement for Trading Parties based on historical Energy Indebtedness (EI) levels. Trading Parties would be required to maintain a minimum level of Energy Credit Cover (ECC) in order to be able to transact.	10/05/01	TBC

P12 Reduction Of Gate Closure From 3.5 Hours To 1 Hour	A proposal to reduce the Gate Closure period from 3.5 hours to 1 hour.	10/05/01	TBC
P13 Change to Modification Group Procedures	It is proposed that all Modification Group meetings should be held in open session by default.	16/05/01	N/A
P14 ME Provisions Where Bid/Offer Acceptance not Acted Upon	A proposal to allow erroneous instructions to be cancelled or rescinded where manifest error is identified before a Bid or Offer has been delivered. "Erroneous" and "rescinding" acceptances will then be excluded from setting imbalance prices.	22/05/01	TBC
P15 Removal Of Price Spikes (Syst Balancing From Syst Prices)	It is proposed that Bid-Offer acceptances with an acceptance time after [30] minutes before the start of the real time half hour period be tagged and excluded from the calculation of SBP and SSP	23/05/01	15/06/01
P16 Removal Of Restriction For Submitting Summer DC and GC	A proposal to remove the restriction within K3.4.9 to permit market participants to submit DC/GC for the Summer Season.	23/05/01	01/06/01
P17 ECVNAs To Receive 7 Day Report	A proposal to permit all Energy Contract Volume Notification Agents to receive an appropriate version of the 7-Day Report confirming notified volumes received by the ECVAA daily for periods up to 7 days before gate closure.	23/05/01	TBC
P18 Removing/Mitigating Effect Of System Balancing Actions	A proposal to remove or mitigate the effect of system balancing actions on the imbalance price calculations under the current Trade Tagging methodology. Two options for addressing this issue are proposed: Option A: enhanced definition of system balancing actions. Option B: the BRL parameter is set as a minimum volume of balancing actions from which the imbalance prices can be set.	23/05/01	15/06/01
P19 To Provide for the Remedy of Errors in ECVNs and MVRNs	A modification which would amend Section P of the Code to enable errors in Energy Contract Volume Notifications and Metered Volume Reallocation Notifications to be remedied on an ex-post basis.	12/06/01	TBC
P20 Revision of Obligations of Parties in Relation to BM Unit Re	London Electricity ('London') proposes to clarify the position in relation to the registration of BM Units in the name of a BSC Party that is an affiliate of the company responsible for the exports or imports connected with that BM Unit.	13/06/01	TBC
P21 Review of Modification Group and Panel Procedures	Review of Modification Procedures and the operation of the Modification Panel and associated Sub Groups to ensure maximum transparency to the Industry and Efficient operation of the processes.	20/06/01	See P28
P22 Provision Of Generator Planned Outage Information to All	This modification proposes that generator's planned Outage information be released to all market participants via the BMRS.	22/06/01	TBC
P23 Review Of The Imbalance Settlement Group (ISG).	Review of the ISG to ensure maximum transparency to the industry and efficient operation of the processes it undertakes.	22/06/01	See P28
P24 Review Of The Modification Procedures	Review of the modification procedures to improve the efficiency of the BSC governance process.	22/06/01	See P28
P25 Commissioning Status In NETA	A Modification Proposal to introduce a new participation capacity for commissioning power stations.	25/06/01	TBC
P26 Market-Driven Trading Neutrality Band	All participants in the market should be allowed a Trading Neutrality Band decided annually by the Panel. The initial band should be 20MWh per half hour.	26/06/01	TBC
P27 Amendment To The Derivation Of Imbalance Prices	Imbalance cash-out prices to be amended to more closely reflect the costs that out-of-balance parties impose on the system. This should be based around a correct valuation both of net imbalance energy and of energy for reverse-flow imbalances.	11/07/01	TBC
P28 Review of Governance and Modification Procedures	A proposal to increase the efficiency and transparency of the BSC governance arrangements and BSC Modification Procedures.	29/06/01	TBC

	This proposal is the amalgamation of proposals P21, P23 and P24.		
P29 Improve Efficiency Of Parms Reporting Requirements	Request that the Performance Assurance Board amends the PARMS reporting requirement so that Suppliers only need to report each of their Supplier serials as a whole rather than split down into GSP groups. In addition, that PAB also conduct an historical review of PARMs data, and remove any serials which it feels does not provide any significant value to the performance assurance process.	11/07/01	TBC
P30 Availability Of Market Information To BSC & Non BSC Parties	It is proposed that Market Domain Data (MDD) and information on Genset metered generation be fully available, subject to reasonable commercial safeguards, to BSC parties and non-BSC parties in accordance with their requirements.	18/07/01	TBC
P31 Waiving Of Charges For Parties Setting Up Operations	That with effect from 27 March 2001 (i.e. retrospectively) the charges under Annex D-3 (section 3.1) be suspended for new entrants to the electricity market who are commissioning their infrastructure with a view to supply (or otherwise trade) in electricity in the England and Wales market during such commissioning stages until such time as they commence trading.	17/07/01	TBC
P32 Limited Redefinition Of B M Units	Where a Power Station comprises several generating units of similar type then the Lead Party should be entitled to aggregate the meters into a single BM Unit for purposes of Physical Notification unless the Transmission Company notifies that the proposed aggregation prejudices system operation.	18/07/01	TBC
P33 Inconsistencies in Terminology Between BSC and Grid Code OC2	National Grid has recently identified that it has been inadvertently providing an incorrectly labelled data item to the BMRS forecast pages, due to inconsistencies in terminology between Grid Code OC2 data and the requirements of the BSC. This is compounded by nomenclature differences between the BSC and the BMRS Forecast and Help pages. This proposal seeks to resolve all these issues, and remove any potential misunderstanding by the provision of an additional data item on the BMRS.	10/08/01	TBC
P34 Transfer of Imbalances Caused by Balancing Services to NGC	A proposal to modify the calculation of Credited Energy Volume (QCEiaj) such that the imbalance caused by the delivery of Balancing (Ancillary) Services is transferred from the provider's energy account to the Transmission Company's energy account.	15/08/01	TBC