Ofgem's liquidity in the GB wholesale energy markets discussion paper

E.ON's response

Summary

E.ON believes that the current level of liquidity in the GB electricity market is less than ideal, although it has been improving since 2006. As an active trader, E.ON continues to seek and support industry initiatives that could encourage greater trading and thus improve market liquidity. However, when considering policy measures, it must be recognised that liquidity is only one indicator of a healthy competitive traded market. The GB electricity market is one of the most competitive electricity markets in the EU and G7 countries. That was the finding of research carried out by an independent firm of economists and presented by the Secretary of State at the end of January 2008[1].

The proposed power exchange by Nasdaq OMX and Nordpool Spot (N2Ex) is an important development that is specifically aimed at enhancing market liquidity and has the potential to provide solutions to a number of the questions posed by Ofgem. In particular, once fully implemented, N2Ex offers the prospect for day ahead auctions, centralised clearing and (once a more robust reference price has been established) a liquid futures market. It also provides future opportunities to link with other electricity markets and, most notably, will provide enhanced support for smaller firms. Centralised clearing should reduce the number of counterparties firms have to sign-up with and hence make more efficient use of scarcer credit resources. N2Ex provides for smaller standard trade sizes, which will widen access to the wholesale market. However, the full effect of N2Ex will not be felt immediately, Ofgem needs to allow time for N2Ex to become established and prove its value. Ofgem also needs to be mindful that, whilst liquidity is influenced by a range of factors, it is essentially driven by confidence in the market. Developing alternative market mechanisms or arrangements will, despite best intentions, inevitability undermine confidence in the market initiatives underway.

E.ON believes that there are specific features of the GB electricity market that may limit its liquidity. The UK benefits from a strong linkage between gas and electricity markets that other European power markets do not experience. However, this strength results in lower levels of liquidity in the GB electricity market, which needs to be recognised. Also, the limited physical interconnection

[1] Department for Business, Enterprise and Regulatory Reform, Press Release 2008/22, 30 January 2008. Energy market competition in the EU and G7: Preliminary 2006 rankings: http://www.berr.gov.uk/energy/markets/competitiveness/page28432.html

of the GB electricity market with the main European power markets limits arbitrage opportunities, which also constrains liquidity.

The GB electricity market is characterised by range of participants including vertically integrated participants, energy traders, banks and independent generators. It is disappointing that Ofgem has not sought to analyse *sources* of liquidity as this should inform its policy decisions on liquidity. In our view, one of the main causes for the fall in liquidity has been the reduced activity by non-physical energy traders, following the exit of a number of high profile participants in 2002-4. Also, it is clearly evident that, unlike banks, energy traders and vertically integrated participants, who are active trading market participants, independent generators are conspicuous by their relative inactivity. A large proportion of non-vertically integrated generators enter into longer term contracts with suppliers and so do not actively use the traded market.

Concerns have been expressed in the past about whether vertical integration by companies had caused liquidity in the market to fall but, when the EC Commission looked at this issue as part of its Sector Inquiry into the Energy Industry between 2005 and 2007, it did not find vertical integration to be the cause[2]. Similarly, when Global Insight investigated GB forward gas markets for the DTI in March 2005, it concluded it was more appropriate for policy makers to focus on attracting liquidity providers 'rather than expecting to change existing players legitimate business policies'[3]. Any action targeted against vertically integrated players would be discriminatory, focused on the wrong parties and be distortive.

[2] DG Competition report on Energy Sector Inquiry SEC (2006) 1724 10 January 2007 page 154, paragraph 460.

[3] Effective and Efficient Forwqard Gas Markets – A Report for the DTI March 2005 (Page 6, Para 9, Bullet 5)

Ofgem's Specific Questions

Chapter 2

Question 1: Do you agree that there is sufficient liquidity in the GB gas market, or are there some segments of the market where liquidity is insufficient? If so, what is the evidence for insufficient liquidity and what is its impact?

We believe that, overall, there is sufficient liquidity in the GB gas market and that it is the most liquid gas market in Europe.

Question 2: Do you agree that there is insufficient liquidity in the GB electricity market. If not, can you provide evidence to show that GB electricity liquidity is sufficient?

In E.ON's view the overall level of liquidity in the GB electricity market is lower than is ideal for a healthy traded commodity market, although it has been improving since 2006 (despite the credit crisis).

We believe that there is adequate liquidity in the prompt market but do have concerns that the liquidity levels in the forward market may be insufficient to support efficient trading. Whilst a strong supporter of measures to enhance liquidity, we recognise that some physical characteristics of the GB electricity market may lead it to sustain relatively low levels of liquidity (or lower levels than exhibited by certain other power markets analysed by Ofgem).

Further, it is worth noting that:

1. the levels of liquidity experienced after NETA Go Live were likely to have been boosted by participants "finding their feet" in the new market and may well not have been indicative of sustainable volumes Indeed, it could be argued that the high levels of liquidity were as a result of some participants taking very large price and volume risks, which were too great for them to carry and resulted in them exiting the market; and

2. in the GB electricity market, proportionately more power (27%) is traded beyond a year as against around 10% for all the other commodities used as comparators by Ofgem[4].

[4] See Ofgem's Liquidity in the GB wholesale energy markets discussion paper Appendix 1 Figure 1.4.

Question 3: Do you consider that the data and evidence presented here portrays a true and fair picture of GB wholesale liquidity for gas and electricity? If not, why not?

The data and evidence presented by Ofgem does not in our view capture the full picture of the GB electricity wholesale market. There are a number of fundamental factors that Ofgem has not fully considered.

Ofgem's assumption seems to be that market interconnection can only take place in physical terms. However, the GB electricity market is strongly linked to several markets, in particular the GB gas market. The two markets are strongly linked in price terms with the gas market having a much greater effect on the GB electricity market than do continental gas markets have on the continental power markets considered by Ofgem. With gas likely to remain the dominant flexible fuel source for electricity generation in GB into the foreseeable future, through coal generation being restricted by sulphur and LCPD, this price linkage is likely to continue.

The sensitivity of the GB electricity market to gas prices is one of the prime reasons why liquidity has not recovered to levels that might be expected. With gas prices linked to oil prices, large rises in oil prices affect the electricity market. From a trading perspective, the GB electricity market is exposed to external drivers that are best addressed in their own traded markets (oil, gas, coal, carbon). Further, the gas market with its now established higher liquidity levels and inherently lower overall risk profile would seem to be an inherently more attractive market to trade than the electricity market (i.e. liquidity attracts liquidity).

Neither the Nordic nor the German electricity market is subject to the oil and gas price-linkage to the extent the GB market is. Neither market carries the same proportion of gas generation as the GB market and thus is not subject to the effects of gas prices to the same degree.

We are also concerned that Ofgem has not sought to investigate or analyse sources or potential sources of liquidity, as this should inform judgements on policy. Specifically, there is no analysis of traded activity by participant type (e.g. banks, energy traders, vertical integrated players and independent generators), which would help to inform the measures that would be appropriate and proportionate. There is little analysis of the trading activity of non physical players (banks and energy traders) who are "natural liquidity providers" and this is despite the significant impact on the level of liquidity when a number of traders exited the market between 2002 and 2004. Specifically, Ofgem has not recognised the impact on liquidity of many non-vertically integrated generators contracting in ways that avoids using the traded market.

Ofgem has not fully considered the implications of the differing physical make-up of the other electricity systems it has used as comparators to the GB market. In particular, Ofgem has not considered the implications of interconnected systems with a higher proportion of inflexible plant and less predictable generation than is the case in GB. Inflexible generation has a greater need for trading to help achieve balance. This generator need provides a greater feedstock upon which trading can take place and thus a larger fundamental requirement for trading to deliver an efficient market. Similarly, hydrology plays an important part in stimulating trading in the Nordic market because of its plant mix, which again is absent from the GB marketplace. Likewise, using interconnectors to achieve balance provides a feedstock for trading between countries. An example of this is Germany which, being situated in the middle of Europe, has many interconnections offering traders a large number of trading/arbitrage possibilities with neighbouring markets. It is possible that the differing physical nature of the markets, presents differing attractions to non-physical traders (who provide an important source of liquidity). It would seem that the UK gas market attracts speculative traders wishing to focus on gas while the German and Nordic power markets attract speculative power traders. We believe Ofgem needs to focus its attention on why the GB electricity market is not attracting non-physical traders and concentrate on measures that will address these issues (such as the development of a liquid futures market such as N2Ex).

Question 4: Do you think that it is right that Ofgem should be concerned by low levels of liquidity in the GB electricity market? If yes, please explain which particular aspects/market segments Ofgem should be concerned with and why? If no, please explain why, in light of the evidence in this Chapter.

As liquidity is an important indicator of a healthy traded market Ofgem should be concerned by lower levels of liquidity in the GB electricity market, but Ofgem should also be mindful of the market context and the developments underway. It may well be the case that, for the reasons outlined above, in particular the limited interconnection to the main European markets and the linkage to the gas market, that the "natural" level of liquidity for the GB market is lower than exists for some other power markets.

It is worth highlighting that many of the concerns raised in relation to market liquidity will be addressed by the Futures and Options Association initiative, N2Ex, which is expected to go-live on 27 September 2009. This will introduce a robust index to facilitate futures trading and hence reduce the complexities of operating in a physical market. It will centralise clearing and hence provide more efficient use of credit and introduce smaller standard lot sizes to facilitate participation by smaller firms. Going forward, it will provide for spark-spread

trading (which will significantly enhance the efficient use of credit) and facilitate integration of the GB electricity market with other European markets.

It would be unfortunate and a real concern if the possibility of alternative regulatory solutions distracted industry attention from the initiative at this critical time and/or motivated certain participants to delay implementation in order to bring about "preferred" alternative regulatory solutions. We would urge Ofgem to provide its full support to this market initiative and allow sufficient time for it to bear fruit. Market liquidity, after all, is the culmination of a series of individual transactions which are freely entered into by "willing buyers" and "willing sellers"; it cannot be mandated. It is clearly better that a market led solution to promote liquidity is given the opportunity to work.

Chapter 3

Question 1: What impact has vertical integration had on liquidity in the GB wholesale energy markets? Please provide evidence in support of your view.

It is first worth highlighting that operating as a vertical integrated business is a legitimate business structure to adopt and one that is employed across many markets. The presence of vertically integrated companies in a market is not a demonstration of a market malfunction.

Competition in the GB electricity market is very well developed, which is widely recognised and accepted. In terms of market structure, the wholesale market is quite disaggregated, with low levels of concentration[5]. Since privatisation in 1991, when there were only three major generating companies in England and Wales[6], there has been a very high degree of new entry, with nineteen generators with capacity above 200MW. Prior to the recent EdF/BE acquisition (and the contemplated Centrica 20% acquisition), the level of concentration had been broadly unchanged over the previous three years, yet in the same period market liquidity increased by over 35%[7].

Concerns have been expressed in the past about whether vertical integration by companies had caused liquidity in the market to fall but, when the EC Commission looked at this issue as part of its Sector Inquiry into the Energy

[5] The HHIs in the generation market in 2008, on both an output and a capacity basis, were below 1000, tending to denote a competitive market.

[6] These were National Power (now RWEnpower and International Power), Powergen (now E.ON UK) and British Energy. Other generators included imports across the interconnectors, pumped storage and some very small generating stations owned by supply companies.

[7] From 770TWh in 2006-7 to 1062TWh in 2008-09

Industry between 2005 and 2007, it did not find vertical integration to be the cause[8]. The Commission recognised in its Report on the Energy Sector Inquiry that, within the electricity sector, even vertically integrated companies continue to have incentives to trade on the wholesale markets, in particular to optimise their generation portfolios. The Commission commented that a vertically integrated company that owns sufficient generation capacity to produce enough electricity to cover all of its customers' requirements will benefit from buying instead of producing electricity if the wholesale market electricity price is lower than the short run marginal cost of the last generation unit in the merit order of its own generation capacity[9]. This is commonly known as the "make/buy" decision.

Naturally, any own generation used by a vertically integrated company's supply business that has not passed through the traded market is volume lost that could have supported greater liquidity. However, this is no different to the generation sold by independent generators directly to suppliers on long-term contracts outside of the traded market. E.ON understands that a significant proportion of independent generation in the GB market is sold on such long-term contracts. Indeed, the evidence seems to be that the presence of vertically integrated companies is supporting higher levels of liquidity in the GB electricity market. Ofgem itself observed "there is a high degree of vertical integration in the German market" and that liquidity in the German market is higher than in the GB electricity market. This suggests that other factors, such as the level of interconnection to other markets and the presence of an exchange-based futures market, are more important than the degree of vertical integration.

It is certainly not the case that the vertically integrated players in the market do not trade in the market. They all do so, to greater or lesser extents. This may be for a variety of reasons, including because they run their supply and generation trading businesses entirely independently of each other; because they need to add "shape" to their trading profile to meet their retail demand, which their own generation portfolio cannot provide; because they may be "short" or "long" in generation and therefore need either to make up volume or to sell it on; or because they wish to optimise their trading position, the "make/buy" decision. Indeed, it is our experience that vertically integrated players are predominately active market participants whose trading activities have tended to contribute to (rather than detract from) market liquidity. Our own observations[10] from trading in the GB electricity traded market in 2007 and

[8] DG Competition report on Energy Sector Inquiry SEC (2006) 1724 10 January 2007 page 154, paragraph 460.

[9] *Ibid* page 151 footnote 261

[10] The counterparties E.ON trades with may not be a full reflection of the overall market since our trading activities are limited to the counterparties that we have contracts with and subject to the credit and other risk limits we place on those counterparties.

2008 (see Table 1 below) are that vertically integrated players are the largest group of traders with trading activities that are significantly larger in proportion to independent generators.

Table 1 UK Wholesale Power Market traded volumes[11]

	Apr 06 - Mar 07		Apr 07 - Mar 08		Apr 08 - Mar 09	
	TWh	%	TWh	%	TWh	%
Vertically Integrated Players [12]	424	55	447	48	573	54
Banks	154	20	261	28	223	21
Energy Traders	116	15	158	17	191	18
Other Generators	77	10	65	7	74	7
Total	**770**	**100**	**932**	**100**	**1,062**	**100**

As shown in the Table 2 below, in 2008 GB vertically integrated players accounted for 70% of production recorded in the BETTA settlement data and 50% of the traded market. Other generators, while accounting for 30% of production, only accounted for less than 10% of the traded market.

[11] Total market volume based upon screen trading on GFI Brokers Ltd, ICAP Energy Ltd, Spectron Gas and Electricity (UK) Ltd and Tullet Prebon Ltd broker platforms. Allocations between, Vertically Integrated Players, Banks, Energy Traders and Other Generators are based on the ratios of parties trading with E.ON.

[12] Vertically Integrated Players, British Energy, Centrica, EdF, E.ON, RWE, Scottish Power, Scottish and Southern Energy.

Table 2 Production and Trading in 2008-09

	Production TWh	Trades TWh	Churn
Vertically Integrated Players	230	573	2.5
Other Generators	95	74	0.8
Others	0	414	N/A
Total	325	1,062	3.3

Source BETTA Settlement Data and E.ON's view of the UK power market's traded volumes

Trading activity is likely to be influenced by scale. Owning a large portfolio (generation and supply) lends itself to developing a trading infrastructure, a cost that may not be justified by standalone generators or suppliers.

Question 2: Is the GB market too small to support higher levels of wholesale liquidity?

We believe that there is not necessarily a strong linkage between market liquidity and market size. The GB market, which is comparable in size to the Nordpool, is not, in principle, too small to support higher levels of liquidity. Speculative trading, however, is dependent upon the availability of price differences. The greater the number of price differences available the greater the arbitrage. The German power market is strongly meshed into European systems providing arbitrage opportunities with nine different markets[13]. In contrast, the GB electricity market has limited interconnection to the main European power markets via the illiquid French market. All other factors being equal, the lack of GB interconnection is likely to constrain GB market liquidity.

Question 3: To what extent has increased interconnection and closer integration in European markets been responsible for higher levels of liquidity observed in those markets? How much of a role has lack of interconnection and integration played in low levels of liquidity observed in the GB electricity market?

We agree with Ofgem that, through providing access to additional generation and allowing a wider pool of parties to trade in the GB market, interconnection and integration with other European markets would be helpful. Liquidity in the

[13] Austria, Czech Republic, Denmark, France, Italy, Netherlands, Poland, Sweden and Switzerland.

GB electricity market is probably being restricted by the limited interconnection to the European power markets.

Further physical interconnection is a possibility and, broadly speaking, the current regulatory environment that allows merchant investment (such as Brit-Ned) to be made under the TPA exemption regime is helpful in this regard. However, it must be stressed that the goal for higher liquidity also requires proper access to merchant lines across all timeframes.

E.ON is an active supporter of the ERGEG regional markets initiative and believes that the step by step approach to ensuring compatibility and alignment of rules between adjacent markets will facilitate increased levels of liquidity. E.ON strongly supports the N2Ex project, not just because of the direct benefits that this exchange will bring to the GB electricity market, e.g. through the day ahead auction and the prospect of a more reliable reference price etc, but also because this platform offers future opportunities to link with other continental markets via market coupling.

On market integration we trust that the work of the ERGEG regional market initiative, together with the Association for Cooperation of European Regulators' (ACER) new remit covering cross-border issues, will remove impediments to and foster the right environment for increased power trading activity. However, it must be recognised that, while the GB regulatory regime for interconnector investment between GB and other markets is fit for purpose and does not need reform, physical interconnectors cannot fully support increased liquidity unless there are effective trading arrangements at both ends of the interconnector and the arrangements for using the interconnector do not carry undue risk.

The GB electricity market has two interconnectors linking it with other markets, the French interconnector and the Moyle interconnector. Both interconnectors link to markets that, for different reasons, have limited trading and thus their contribution to the GB market's liquidity may be lower than their physical capacities might suggest. Measures to address the shortcomings identified in the current infringement proceedings may well assist operation of trading across the interconnectors.

The current levels of risk associated with trading over interconnectors may be limiting their use. In providing the interconnector facility, owners do not currently carry the true risk of the interconnector not being available. Users are reimbursed for loss of capacity but not compensated for being placed in an imbalanced position at times of a tightening market. That risk is carried by the user. This may limit the level of exposure users are prepared to carry in relation to interconnector availability and thus the full potential of the interconnectors is not being realised. A solution to this may be to financially compensate users by a full market spread if capacities are curtailed.

The need for effective trading arrangements and focused congestion solving investments are demonstrated by experience of the interconnectors between Portugal and Spain. The table below shows the recent growth in interconnector capacity between the two markets.

From	To	Summer/Winter	Interconnection Capacity (MW)		
			2002	2004/2005	2007/2008
Portugal	Spain	Winter	600 - 850	1390 - 1545	2100 - 2330
		Summer	550 - 750	1200 - 1375	1680 - 1920
Spain	Portugal	Winter	750 - 1050	1000 - 1225	1700 - 2080
		Summer	600 - 850	1250 - 1250	1610 - 1980

Source: MIBEL - Progress report about the state of the interconnections (December 2004) REN-REE

Between 2002 and 2007 interconnection capacity virtually doubled, yet the amount of energy traded day-ahead in the Spanish and Portuguese system only increased by around 6%. With the introduction of a market splitting methodology from July 2007 onwards between the two countries, the 2008 traded volumes experienced a further increase compared to 2007 (Spain + 16 %, Portugal + 8 %). Whilst this can be theoretically explained by the further interconnection capacities enabling additional export and import trades, securing effective trading arrangements has had a significant effect on both countries' trading.

While experience in other countries, as described above, does show that interconnection helps liquidity, the drive for liquidity must not result in compromising security of supply. Interconnection can be very efficient in supporting balancing generation against demand, but regulators need to be mindful that inappropriate regulatory obligations that interfere with normal market dynamics, or result in local standby generation not being maintained, may mean that if there are problems in areas that are predominantly exporters, security of supply in net importing areas can be put at risk.

Question 4: To what extent has Government/regulatory intervention and policy uncertainty contributed to the low levels of liquidity observed in the GB electricity market?

As indicated throughout our response, we believe that the GB power market liquidity is influenced by a combination of factors. How much can be attributed to government / regulatory policy uncertainty is difficult to isolate. However, we do believe that government/regulatory intervention and policy uncertainty is one of the main sources for the lack of new generation build, particularly in relation to the uncertainty of longer term environmental policy. Likewise, we believe that Ofgem's potential proposed broadly based market power licence condition

can only increase uncertainty and make the GB generation market less attractive for investment.

It may be that development of regulatory policy and market has been too nationally focussed (as have other countries). Whilst it is difficult to isolate what detriment this may have had on market liquidity, going forward we believe it will become much more important to set regulatory policy and trading rules in a European context (and resist developing bespoke country-specific arrangements).

We are concerned at the number of rule changes, the extent and frequency of interventions and the overall uncertainty over achieving the right balance between security of supply, environmental goals and sustainable price levels. Such uncertainty will have inevitably made some investors wait in order to gain more knowledge and experience for their final business risk evaluation. Such delays will be having a negative effect on liquidity.

The perennial re-opening of the cash-out debate has not been helpful, especially given that Ofgem's policy appears to have changed significantly over a short space of time, from near marginal 'sharper' cash-out prices in 2007 to a more benign regime today.

Question 5: To what extent are current cash-out arrangements reducing GB liquidity and how?

The continuous changing of the cash-out arrangements adds to regulatory uncertainty. Changes mean that potential new entrants cannot assess the risk, or conclude that the ever changing arrangement would put additional risk to their business, and so refrain from entering the market.

Once the new more benign P217A cash-out regime is introduced, in November 2009, incentives to balance are likely to be reduced during periods of system tightness as some relatively high price energy related actions will be excluded from the calculation of System Buy Price. This could adversely impact on system security if parties choose to rely on the cash-out price rather than trading-out their position before gate-closure.

Question 6: Are robust, reliable and widely accepted references prices currently available in the GB electricity market? If not, do you consider the creation of such prices will aid the development of liquidity in the GB wholesale markets?

E.ON is of the opinion that there are reference prices currently available, but given the current market set up, liquidity is dispersed across the various

different product pools and there is no common robust reference price that can be used as a basis for a simple cash-settled futures contract. This contrasts with many European markets that have a centrally organised spot market with a single, published, reference price that encourages the use of financial swap and futures contracts, reducing credit risk and the need to take power to physical delivery. Clearly, a robust reference price that is recognised by the majority of the market participants is needed if liquidity is to be supported. We therefore are supporting the establishment of the proposed N2Ex exchange with a D-1 power auction that will set a more robust reference price to support the development of an active liquid futures market. We see this as an important development that will address many of the concerns identified by Ofgem. Nordpool, which is one of the parties developing N2Ex, has an excellent track record of running one of the most liquid power markets in the world, which is widely respected and is held up as a benchmark for other markets.

Question 7: Why do you think there is a lack of exchange based trading and clearing in the GB wholesale market? To what extent has this been responsible for driving liquidity in European markets?

Historically, firms preferred brokers as a cheaper trading channel but over time there has been an increased awareness of the cost of credit, which has increasingly impacted trading activity (particularly given the credit crunch). Also, the perceived size and robustness of the exchanges and clearing houses in the UK may have limited the extent to which firms were prepared to trade on them.

In E.ON's view, the lack of exchange based trading supported by a robust clearing house has become an increasingly important factor. Liquidity is driven by the ability to trade and having confidence to trade. Exchange based trading is important as it relaxes many constraints associated with a physical bilateral market (credit & other technical issues), but also boosts market confidence with transparent robust market prices and well regulated market rules. In E.ON's view the lack of robust futures exchange is an important factor that has constrained GB market liquidity. We believe it is no co-incidence that the Nordic and German markets both have strong power exchanges, which trade multiples of physical demand; a component which is clearly missing from the UK market. It is also clear that in these two markets exchange (as well as OTC) volumes have grown significantly over the past decade. We can only conclude that the presence of robust power exchanges has contributed to the development of liquidity in these markets.

Question 8: We would welcome any evidence market participants can provide us on the difficulties that they are experiencing in obtaining the required products, shapes and volumes.

Liquidity may be fragmented because of the large number of products available. The GB electricity market has around 85 different OTC products on offer. This compares with around 30 OTC products in the German electricity market and only around 15 OTC products in the GB gas market. This large number of products can result in low levels of trading for each product, whereas a smaller number of products results in trading activity being more concentrated and thus higher apparent levels of liquidity. However, this should be viewed as a strength of the GB electricity market. Products only survive if there is a customer need for them, which suggests that a broader set of customer needs are being met by the GB electricity market than in some other markets. Reducing the number of products could increase liquidity in the remaining products, but this would be a case of sacrificing overall customer choice in the GB electricity market just to improve a health measure for the traded market section of that market.

The calendar that the GB electricity market is based on is the ESI calendar. This calendar does not fully align with the ones used for other markets. This may limit the amount of trading that can take place that is based on links with other markets, in particular interconnector trading.

Question 9: We welcome views from market participants on whether there is a lack of information that is preventing trading on GB wholesale markets and thus reducing liquidity. We would appreciate views as to what type of information provision would be beneficial to improve liquidity.

E.ON is of the opinion that the required information is generally available, but we recognise that others do take a different view. There is the need for further standardized information requirements, as set out by Regulation 1228/2003 and the affiliated Congestion Management Guidelines. Therefore, there would be benefit if the regulators for the GB, France and the All Ireland markets produced a regional transparency report, aligned to the regional market of Central Western Europe.

It is important that all market participants recognise the importance of providing accurate data and their obligations to do so under the Grid Code. Ofgem should continue to ensure that all market participants are using best endeavours to provide accurate data under OC2 of the Grid Code.

Question 10: Do you believe that price volatility in the GB wholesale electricity market has had a detrimental impact on liquidity?

Price volatility has the potential to support liquidity. Liquidity in the GB traded electricity market is lower than would be expected because of the special situations, such as the price links to the gas market driving trading to the gas market and the lack of physical interconnection with the continent.

Question 11: To what extent is the current GTMA process acting as a barrier to entry and hence reducing liquidity?

E.ON is of the opinion that the current GTMA process can act as a barrier to entry to the GB electricity market for financial and smaller energy firms, particularly given the lack of alternative financial contracts. GTMA contracts by their nature are complex bilateral physical contracts, which present hurdles for non-physical players or smaller market participants. Aside from complexity, at the very least it takes considerable time to conclude a series of bilateral agreements before trading can commence. The proposed power exchange, N2Ex, will directly address these issues.

Question 12: Do market participants believe that credit/collateral requirements have increased over time? What impact has this had on liquidity in terms of the ability of market participants to trade?

Participants in the market have inevitably become more credit sensitive over time and more sophisticated in recognising risk. As a result, some players will have seen the credit/collateral requirements placed on them increase over time. This will have been made worse by the increases in commodity prices in recent years (driven by oil). The proposed power exchange, N2Ex, should help to address this as firms will be able to rationalise their credit arrangements with a single central counterparty rather than have a series of bilateral credit arrangements. This should be of particular help to smaller firms, which may be more credit-constrained.

Chapter 4

Question 1: Do you believe that the current market initiatives to improve liquidity are likely to be successful? If no, then please indicate why.

E.ON strongly believes that the proposed power exchange, N2Ex, is the best way forward to enhance GB power market liquidity. It must be given the opportunity

to work. N2Ex will address many of the short-comings identified with the present predominately OTC-based trading arrangements. It will provide for:

- A transparent robust index which will promote confidence in futures trading (which in turn reduces the complexities associated with physical power);
- Robust well-capitalised central clearing (which will ease credit constraints and any barriers caused by bilaterally negotiated contracts);
- Well respected market operators with an excellent track record in operating one of the most liquid energy markets in the world;
- Well regulated market rules, acknowledged as a benchmark for other energy markets, which will promote market confidence; and
- Smaller lot sizes to facilitate participation by smaller firms.

In addition the exchange will have the potential to:

- incorporate spread trading in the future and in doing so further rationalise credit and margining arrangements significantly; and
- facilitate further alignment with continental markets and in doing so facilitate the development of the EU single energy market.

It is important to also recognise the indirect benefits arising due to the N2Ex initiative. Bringing in N2Ex has already brought a competitive response from other service providers, who are reviewing their offerings, which will add choice and benefit for all GB electricity market users. In addition, N2Ex will bring a structure to a fragmented marketplace for the first time. The N2Ex Market Council provides a mechanism by which market participants can develop proposals and address market-wide issues, which is difficult in a disaggregated bilateral marketplace.

We are concerned that alternative regulatory proposals could derail the N2Ex initiative and without full market support it will not be a success. Confidence is critical and the implication that Ofgem is considering alternative proposals can only serve to fragment the support that is necessary to make a success of the initiative. Half-hearted support by proposing "contingency measures" is in our view likely to be as equally damaging. We believe it is essential that Ofgem actively supports this important market initiative and does not undermine it with alternative regulatory proposals (regardless of whether these are contingent or not).

Question 2: Is it appropriate to reintroduce some type of self supply licence condition and how useful would such a condition be in addressing the lack of liquidity in the GB electricity market?

It would be wholly inappropriate to reintroduce some type of self supply licence condition on all suppliers or just a group of suppliers. The markets have developed significantly since the times of self supply licence conditions. As concluded by Global Insight when it investigated the GB forward gas markets in March 2005,

> *"Rather than expect to change existing players legitimate business policies, the most promising solution to relative illiquidity is to attract into the market more of the large number of companies trading commodities worldwide, which would inject more risk-capital and bring different outlooks and approaches to the market. Some of the existing market participants could also be expected to trade to a greater degree if the market were to deepen."*[14]

The same principles equally apply to power market liquidity. Rather than to seek to changes existing participants' legitimate business models (through artificial regulatory restrictions), Ofgem needs to consider why the market has not attracted or replaced the natural liquidity providers that exited the market post NETA.

We agree that reducing the levels of self supply would direct more products through the traded market, although not necessarily through the traded commodity market. There is no guarantee that such a move would help to increase market liquidity.

Own generation used by a vertically integrated company's supply business is no different to the generation sold by independent generators directly to suppliers on long-term contracts outside of the traded market. To introduce a licence condition on selected suppliers that they are restricted on procuring power from selected generators would place the companies selected at a competitive disadvantage. It should also be recognised that in 2008-09 while the main vertically integrated companies generated 230TWh their supply businesses provided 301TWh, meaning that with no trading of their production with other companies they would still have had to purchase 25%[15] of their supply from other companies. As noted above, we estimate that the companies actually

[14] Effective and Efficient Forward Gas Markets – A Report for the DTI March 2005 (Page 6, Para 9, Bullet 5)

[15] Values base on the Production and Consumption accounts in Settlement

traded some 573TWh. In E.ON's own case, in 2008-09 we generated 42TWh and supplied 47TWh[16] but recorded trades of 190TWh.

Notwithstanding that it would be inappropriate to reintroduce some type of self supply licence condition; there are also practical problems if self supply restrictions become simply a ban on using all, or a proportion of, your own generation to service your supply activities. Many questions would arise as to where such a restriction would and would not apply, which would inevitably lead to arbitrary judgements being made, which would distort the market. For example, would it apply to all participants that owned licensed generation and supply activities or merely a subset of a certain size? Would long term bespoke contracts be captured by such a restriction, if so how long term and how bespoke? In a liquid market how would buyers demonstrate where the power purchased actually originated from? What would happen when unexpected events prevented the requirement being delivered? Such complications could be addressed, but probably not without increased complexity and further distortions of the market.

Question 3: Are there current market/governance arrangements which act as a barrier to entry and reduce liquidity? If so, what are these and what changes could made?

The GB electricity market is one of the most competitive electricity markets, with over 40 active producers and 40 active consumers under BETTA. With such a situation it does not appear to be the case that the current market/governance arrangements act as a barrier to market entry or contribute to the low liquidity rates. We do, however, support streamlining of code governance arrangements to make it easier for all parties, whether large or small, to put forward changes to code rules that they consider may help improve liquidity.

Ofgem is currently seeking new powers to put forward code modifications under a proposed "Major Policy Review (MPR)" process. Such a process could increase the chances of micro management or inappropriate intervention by the regulator. It could be the vehicle for Ofgem to introduce changes that may not be generally be favoured by industry participants. In general, any process that forces through changes (e.g. compulsory day ahead auctions) without the consent of affected market participants will add to regulatory risk and weaken market confidence, resulting in a detrimental impact on market liquidity.

[16] Values base on the Production and Consumption accounts in Settlement

Question 4: How could product offering for smaller participants be improved?

The proposed power exchange N2Ex will assist smaller participants by offering smaller standard traded volume sizes.

Question 5: To what extent do you feel compulsory auction would help to increase electricity wholesale market liquidity? Would this be a proportionate measure?

E.ON supports the principle of having auctions and has supported the Futures and Options Association process to investigate ways to improve the UK market and the implementation of an auction and exchange, N2Ex. However, such auctions need to be voluntary for all market participants and not set so as to replace other market mechanisms.

The introduction of an hourly power auction at a day ahead stage is an important part of the market structure. However, this needs to be in a form that allows the necessary interaction with the continuously traded gas and power markets in the prompt (and forward) timescale, with market participants free to use it or not dependent upon their individual company requirements.

Auctions for the forward timescales (1-4 years) also have a role. Again, participation needs to be voluntary. Placing obligations on either the supply side or demand side of the market for any meaningful volumes would place risk on the day to day demand / supply balance of the wholesale market. This could cause either price distortion or gaming of the market leading up to the auction or, at worst, detract directly from volumes currently traded in the OTC market so losing the continuous nature of the current market.

We are strongly opposed to compulsory participation by large/vertically integrated participants to auction a certain proportion of their generation output. When considering auctions, it must be recognised that different companies have different approaches to hedging risks, which means that their timing decisions are different. Obligations to act in certain ways would remove a company's own choice on how to manage its risks and so restrict the scope for competition. Further, introducing participation obligations only on parties on one side of the auction (generation or supply) introduces a market distortion, particularly if the auction's format does not naturally fit with the risk management or trading choices of the majority of the market participants on the other side.

Question 6: Is there any information on the GB energy markets that, which is not available, or available to just some participants that you believe would facilitate greater market participation and enhance liquidity?

As discussed above, the availability of a robust reference price that is recognised by the majority of the market participants seems to be an issue. The establishment of N2Ex should help to address this.

Question 7: To what extent could market makers improve the level of liquidity in the GB wholesale energy markets? Should such a function be funded by government/industry?

We agree that market makers and intermediaries could clearly help drive further liquidity. It must be remembered, however, that such arrangements either emerge as a result of a market need for intermediaries or are supported by, for example, exchange operators offering advantageous terms to those that are prepared to act as a market maker.

It is our expectation that N2Ex will support market making on its exchange and this would be particularly helpful along the forward curve. It is in their interest to drive such activity through offering market making terms. Typically, market makers pay reduced transactions costs on an exchange in return for guaranteeing to place bids and offers in the market.

The idea of Government subsidising market making activity is not particularly helpful as such subsidies will be inevitably end up being socialised across all market participants and this will in turn distort competitive activity. Ultimately it is more efficient to leave encouragement of market making activity to the commercially driven decisions of the relevant exchange operator and potential market makers.

In the past E.ON has put forward changes to help facilitate the role of consolidators in the GB market[17]. There however remains little consolidation activity in the GB market because the market does not appear to value this type of service, with many generators apparently content to sell most, if not all, of their metered output to individual suppliers, rather than actively trade in the traded market. By doing this the need for a consolidation service is obviated. These generators are choosing to focus on their plant operation passing on the imbalance risk to the suppliers and so avoiding having to develop trading skills. Any Government supported intermediaries (especially one that fails to cover its costs) would appear to be simply another mechanism to support particular

[17] BSC Modification P067, Facilitation of further consolidation options for Licence Exempt Generators (DTI Consolidation Working Group 'Option 4')

segments of the market, who may not wish to participate, at the expense of the rest of the market.

Question 8: What changes could be made to the current cash-out arrangements to reduce barriers to entry, where they exist, and improve the level of liquidity?

Further changes to the cash-out regime would not be helpful. The cash-out arrangements have only a significant impact on the up to D-2 trading. The biggest amount (around 80% in volume terms) of OTC trading is forward trading with time frames of seasons, quarters and months, which mean that the cash-out arrangements have very little impact on them.

We have yet to implement the latest proposal (P217A), which is likely to establish the most benign cash-out regime since the introduction of NETA. We expect the latest changes to dampen[18] peak System Buy Price through the 'if in doubt strike it out approach' to 'tagging-out' the cost of system actions from the energy price. NETA requires trading to take place outside a centralised price setting mechanism, which characterised the former Pool, and provides incentives to balance via the imbalance cash-out regime as central to the regime. Imbalance cash-out should not be an easy option; hence the need to incentivise contracting and trading ahead of gate closure.

Exempting parties below a certain threshold from exposure to imbalance prices would allow those parties to potentially avoid trading altogether. This reduction in the liquidity pool would be detrimental to overall liquidity. Shielding certain players from risks in this way is likely to have adverse impact on competition in the long term. If such parties do not actively trade they may well fail to actively manage risks appropriately and this could increase their risk of business failure. Anecdotal evidence from the gas market suggests that, during 2005/06, a number of small suppliers failed because they relied on the imbalance cash-out to source most, if not all, their gas and thus were exposed to full spot price volatility via the cash-out regime.

Incentivising trading ahead of gate closure remains an important feature of the current market design. Any move to a single cash-out price would also weaken

[18] By removing 'polluting' system actions from the price stack P217A aims to more properly reflect the short-term supply-demand fundamentals of the power market, but in some cases it will 'tag- out' legitimate energy related actions. Analysis of historical data by the P217 Modification Group suggested that this would 'dampen' peak System Buy Price compared to the current cash-out arrangements. At the margin this may reduce incentives to balance during periods of system tightness. It must be said however, that under the current cash-out arrangements the evidence does not point to participants regularly entering gate closure with a material known imbalance. Most of the imbalance comes from inaccurate forecasts of participants demand and incidents such as generator breakdowns.

incentives to balance and hence trade as it would become easier for parties to make a choice between accepting a likely cash-out price or transacting a spot trade because there would no longer be a spread between system buy price and system sell price.

Since the introduction of NETA in 2003 there have been some 24[19] modification proposals including alternatives relating to cash-out, with some 7 changes implemented, as well as issues group discussion and Ofgem reviews on the subject. This has included a number of proposals relating to single cash-out price and special arrangements for certain classes of users all of which were rejected by Ofgem.

Reasons for rejecting the introduction of a single cash out price proposal[20]:

> *"Ofgem considers that the principle behind the current dual cashout mechanism continues to be appropriate. A Party whose metered position differs from their contracted position imposes additional costs on the System Operator who is seeking to balance the System in real time. Ofgem continues to consider that it is important for these costs to be targeted onto the Party concerned to act as an incentive to balance their position. While it is difficult to value the actual cost imposed by the Party being out of balance, to assume that the cost is zero by adopting a single cashout price would be even more arbitrary. Consequently, it is appropriate that participants who are spilling electricity should receive a lower price for their electricity than if they had been fully contracted since they may be imposing costs on the system. Conversely, participants on whose behalf the SO has to procure the flexible delivery of electricity at short notice should pay the full cost of power delivered over short timescales. The use of a dual cashout price regime incentivises participants to balance their own positions by Gate Closure and hence the actions that the SO has to take are minimised."*

> *"Ofgem considers that any weakening of the incentives for Parties to balance, such as might occur under both Modification Proposal P74 and Alternative Modification Proposal P74, could potentially move the System further out of balance leading to the SO having to take additional balancing actions and so incur higher costs on behalf of customers. Ofgem does not believe that this would facilitate the achievement of the applicable BSC Objectives of ensuring "the efficient, economic and co-ordinated operation by the licensee of the licensee's transmission system" and "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"."*

[19] Including alternative proposals under the same modification reference number.

[20] Ofgem decision to reject BSC Modification Proposal P74: "Single Cost-Reflective Cash-out Price"

Reasons given for not introducing a 'neutral price' within an imbalance tolerance band[21] – a proposal designed to assist smaller market participants:

> *"Ofgem believes that the costs of Electricity Balancing should be targeted to participants who are out of balance and should reflect the cost to NGC of keeping the System in Electricity Balance during that period. The introduction of a Trading Neutrality Band and an associated Neutral Price would result in imbalance charges that do not reflect the cost of all Energy Balancing actions taken by the SO. This could result in the introduction of cross-subsidies between Parties as Electricity Balancing costs would only be targeted on those Parties in excess of the Trading Neutrality Band. In particular small Parties whose total production /consumption is less than or close to the value of the Trading Neutrality Band would have no or minimal exposure to Energy Imbalance Prices. The incentives upon them to balance would be unreflective of the Electricity Balancing costs they impose which could be significant when combined across a number of small Parties.*
>
> *Ofgem considers that the introduction of a Neutral Price and a Trading Neutrality Band will decrease transparency in the operation of the BSC and create uncertainty and risk for market participants."*

Each approved BSC modification to the cash-out regime has added yet more complexity to the regime. We do not think it is appropriate to yet again to re-open the debate on the cash-out arrangements. We would prefer Ofgem to reach a settled view on this subject matter, if only to provide participants with a stable framework in which the market can devise its own solutions to enhance liquidity such as the N2Ex project.

Question 9: How could the demand side be encouraged to participate more actively in the GB wholesale energy market? To what extent could greater demand side participation improve liquidity?

Several demand side initiatives have been tried but the level of participation in the GB market remains disappointingly low. We are, however, encouraged by the selection of Nordpool-Nasdaq to provide the proposed power exchange, N2Ex, given their track record and success in encouraging demand side participation in the Nordic market. The new power exchange should facilitate demand side participation because of its:

- **Transparency** - confidence increases with a robust published index;
- **Simplicity** - use of financial hedges to manage exposure rather than complex physical transactions;

[21] Ofgem decision to reject Modification Proposal P26: "Market-Driven Trading Neutrality Band"

- **Flexibility** - customers not tied to one supplier for managing position, e.g. can have one for physical energy and another firm for financial hedging; and
- **Size** – the ability to trade 1 MW clip sizes, (so customers could participate directly in the market or via intermediaries).

In particular, the development of a voluntary auction, because of its relative simplicity, provides an important channel for demand side participation. It may encourage more of the large I&C customers to participate directly in the wholesale market, rather than "proxy-trading" through flexible physical supply contracts.

Question 10: Whilst Ofgem has a limited ability to directly influence the impact on liquidity of higher credit and collateral requirements, we would be interested to hear views from industry parties on possible measures to address this impact. Should costs of credit risk for small market participants be socialised across the market?

We would strongly caution against the suggestion of socialising the cost of credit risks for small players. This would distort efficient market entry or exit from the market.

Credit and collateral requirements for all parties are a concern for all parties in the current environment. E.ON would like to see a greater focus on exchange based, fully cleared trading, if only to concentrate liquidity and reduce the overall level of credit cover required by market participants, but not through socialising the cost of credit risks for small players.

Existing credit cover arrangements both at the exchange level and through the BSC imbalance arrangements provide robust arrangements that protect the market as a whole if individual parties get into financial difficulties. Weakening these arrangements would ultimately increase costs to consumers. It cannot be right to subsidise inappropriate market entry if this were to lead to more business failure with the debts picked up by other market participants. To date, Ofgem has taken an appropriately prudent line on trading related credit issues over which it has jurisdiction (namely energy balancing credit arrangements under the BSC).

Clearly any credit cover arrangements must as accurately as possible reflect the credit worthiness and indebtedness of a particular party and it is always appropriate to review the appropriateness of arrangements. We agree that the credit cover arrangements for players will typically, but not necessarily, be more onerous for small players but that is in no way discriminatory if this genuinely

reflects a party's credit worthiness. Indeed, it would be discriminatory if a relevant difference (e.g. a company with a high credit rating compared to a low credit rating) were not taken into account. In this context establishing arrangements that go even further by socialising the cost of credit risk for typically lower rated companies across the market seems particularly imprudent, especially in an environment of generally tightening of credit assessments.

Clearly the global financial crisis has changed risk appetites generally. Credit has reduced, both in terms of credit risk appetite participants are prepared to take onto their books (e.g. reducing credit limits) as well as minimising the amount of collateral parties have to post bilaterally to cover OTM positions.

Question 11: Are there any additional measures which could improve liquidity in electricity markets? Please outline these and explain why they would be appropriate and proportionate.

The proposed power exchange N2Ex is an important development that has the potential to provide solutions to a number of the questions posed by Ofgem. Time and effort needs to be put into N2Ex now for it to become established and so start to support liquidity. Because N2Ex helps in addressing many of the points raised by Ofgem, it is important that any additional measures are not used to derail the delivery of N2Ex.