Ofgem's Liquidity Proposals for the GB wholesale electricity market
E.ON's response
April 2010

For E.ON we see Ofgem's liquidity proposals as trying to address the two separate issues of wholesale electricity market liquidity and support for "small/independent suppliers".

We believe that consideration of the proposals must be against the background that liquidity in the GB wholesale electricity market has been steadily rising since 2006 and that, as stated by DECC in its Energy Market Assessment March 2010,

> *"In principle, competitive markets should provide the best outcome for consumers. The liberalisation of Great Britain's market has delivered increased choice in tariffs and services and the ability to switch supplier. The UK's electricity switching rate of 18 per cent per annum is the highest in Europe and the highest of any sizeable competitive energy market in the world. Over the last five years, more energy and gas customers switched supplier than in any other UK consumer services sector of a comparable size, apart from car insurance.*
>
> *Retail prices have generally followed wholesale prices, which has protected customers from wholesale market volatility by smoothing their bills over time. Suppliers' net margins on customer bills have generally been low – close to zero in recent years. Evidence to date does not suggest that energy companies have been making excess profits."*

Further, there are a large number of independent participants in the electricity generation and wholesale trading markets.

While in the domestic electricity supply market segment most new entrants have ceased to continue as independent suppliers, the non domestic electricity supply market segment has seen, in addition to the six main players, other active players emerge. Also, the individual domestic supply market segment shares of the six main players are very different to their individual shares in the non domestic market segment. Nevertheless, there are clearly a number of barriers to entry to the electricity supply market that could deter new independent suppliers, namely:

1. *"Suppliers' net margins on customer bills have generally been low – close to zero in recent years"*[1], which does not make the market attractive;
2. *"obtaining finance in a framework where investment returns are extremely uncertain"*[2], we believe the importance of this is often overlooked, but having appropriate capital value is a fundamental prerequisite to being able to operate a viable electricity supply business;

[1] DECC Energy Market Assessment March 2010 paragraph 2.20

[2] DECC Energy Market Assessment March 2010 paragraph 2.24

3. *"regulatory and compliance requirements"*[3], we believe that this is an ever increasing factor, particularly in supply to the domestic market and why many new entrants do not apply for a supply licence covering domestic supply;
4. *"the level of technical skills needed to participate in the market"*[4], particularly in the supply to domestic customers where the skills required are virtually unique to utilities' services (mains electricity, gas, sewage and water); and
5. the costs associated with achieving economies of scale as a new entrant, particularly in the supply to small customers, which includes the domestic market.

A perceived lack of liquidity in the electricity wholesale market is probably not one of the most important barriers to entry in the GB electricity supply market. Indeed, any perceived lack of liquidity in the electricity wholesale market does not seem to have prevented independent players entering that market or the generation market. Any actions to support "small/independent suppliers" based on improving liquidity in the electricity wholesale market, is unlikely to increase participation by such players in the supply market, particularly the domestic supply market.

There are thus two separate issues to be addressed, **liquidity** in the GB electricity wholesale market and **market access** for "small/independent suppliers".

Liquidity in the GB wholesale electricity market

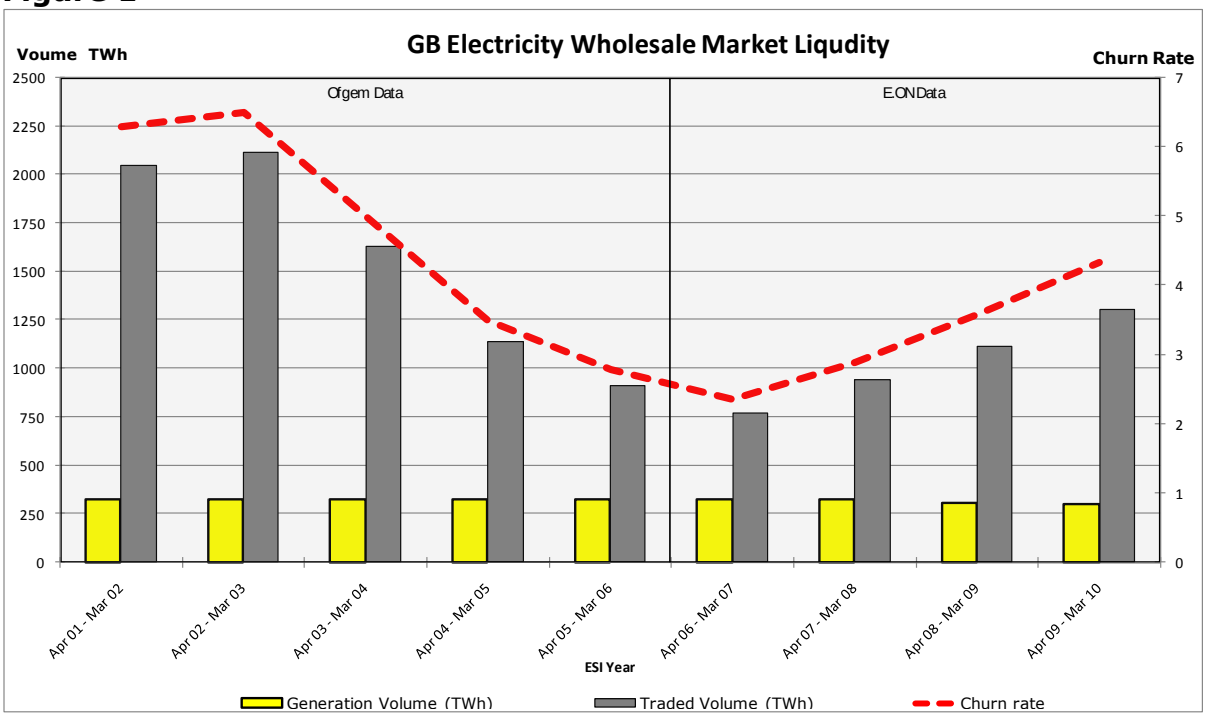
E.ON questions Ofgem's expressed view that "liquidity in the GB wholesale electricity market has declined since 2002" and that "the low level of liquidity makes it difficult to enter the market and operate as a non-vertically integrated market participant."

Liquidity in GB wholesale electricity market has been steadily increasing since 2006 (as shown in Figure 1 below), despite its fall in 2002. It is not necessarily the case that the level of liquidity in a market controls the ease to which potential participants can enter that market. In this context it must be recognised that liquidity is only one indicator of a healthy competitive traded market. Despite the lower level of liquidity in the GB electricity market, compared to say Germany, it is one of the most competitive electricity wholesale and retail markets in the EU and the most competitive in the G8.

[3] DECC Energy Market Assessment March 2010 paragraph 2.24

[4] DECC Energy Market Assessment March 2010 paragraph 2.24

Figure 1



In 2009 the Great Britain electricity wholesale market saw:

- A continuation of the growth in market liquidity to a churn rate of 4;
- Traded volumes increase by 17% to nearly 1,300 TWh;
- The number of trades increase by 18% to around 155,000;
- The forward market's (trades with delivery periods greater than 24 hours) traded volume increase by 17% to around 1,200 TWh;
- the number of trades in the forward market increase by 10% to around 64,000;
- The spot market's (trades with delivery periods less than 24 hours) traded volume increase by 20% to around 60TWh; and
- The number of trades in the spot market increase by 25% to around 91,000.

These increases were against a background of:

- a 3.4% fall, from 323TWh to 312TWh, in GB generation recorded in the central settlement systems;
- the Nord Pool suffering a significant fall in liquidity; and
- the German market seeing very little growth in liquidity.

Looking ahead, growth in liquidity in the GB electricity wholesale market should continue. The N2EX power exchange went live with Prompt and Day Ahead Auction products in January 2010. This is an important development that is specifically aimed at enhancing market liquidity and has been developed as a result of co-operation by current and potential market participants. While its levels of activity over the first few months have been positive, the full effect of N2EX will not be felt immediately. We expect it to facilitate further increases in market liquidity, especially as forward and future products are introduced.

The limited physical interconnection of the GB electricity market with the main European power markets does not help liquidity. The commissioning of BritNed interconnector between the Netherlands and the UK will greatly enhance trading opportunities and market integration, which should also support further increases in liquidity.

With the GB electricity wholesale market liquidity continuing to improve, we urge Ofgem not jeopardise this improvement by intervention or the threat of intervention. Time must be given for N2EX and BritNed to make their mark. Only then should there be a review of liquidity. If then problems are found, solutions can be explored with the hindsight of an exchange specifically aimed at enhancing market liquidity coming into operation and the establishment of greater levels of interconnection.

Market access for "small/independent suppliers"

Most "small/independent suppliers" fall into one, or both, of the following two categories:

- Companies seeking to procure small volumes, often with bespoke shape; and
- Companies with small capital value.

The issues for these two groups are not necessarily the same and may, therefore, require different solutions.

The nature of wholesale markets is that they trade in large standard products. Such trading is usually impracticable for players who want to procure small volumes and or bespoke products. Having large standard products supports efficient trading and thus market liquidity. This is demonstrated in other electricity wholesale markets (Nord Pool and Germany) where minimum clip sizes of greater than 1MW clearly have not adversely affected liquidity.

We would generally view an electricity wholesale market trade as being a standard product OTC or exchange trade of at least 1MW, or a bespoke contract of around 400 GWh per annum. Wholesale trades that are below this level start to become very difficult to manage and generally do not generate sufficient economic margin to cover their operating costs, although future market or technological innovations may well make smaller transactions viable. For this reason, the major trading platforms (N2EX and APX) do not support trading amounts below 1 MW in size. This means that for trades of less than 1MW it is better to treat the counterparty as if they were a large supply customer, rather than as a wholesale market counterparty.

Introducing distortion to the GB wholesale electricity market, in support of players who would not normally be expected to trade in such a market, because of their small procurement requirements, reduces market efficiency and is likely to fragment or reduce liquidity. There is no place in a competitive wholesale market for artificial distortions to competition through compulsory auctions, market making and self supply restrictions.

While we believe that direct wholesale market participation by certain players, who want to procure small volumes and or bespoke products, is often not practicable, we recognise the desire for mechanisms that support such players being able to access the benefits of a liquid wholesale market and thus better compete in the supply market.

In both the German and Nordic markets procurement of small volumes has been addressed through the development of voluntary volume aggregating arrangements. We believe that such arrangements warrant further consideration for the GB electricity market.

The actual detailed arrangements for volume aggregation vary between the German and Nordic markets, and between the various arrangements within each market. However, the common model is that groups of players working with small volumes (small volume suppliers, small volume generators, small volume vertically integrated players and large consumers) come together to aggregate their demand requirements into volume sizes that allow their aggregated needs to be met through trading in the wholesale market using standard products of standard sizes.

In Germany and Nordic these volume aggregation activities are self managed. However, it may be appropriate that in Great Britain, to keep administration costs low for the players who want to procure small volumes, all BSC members are compelled to fund a centrally managed volume aggregating service. Active participation would be voluntary with clip sizes of a maximum size equal to the main wholesale market (1MW). The small clip sizes would be attractive to players who want to procure small volumes, but equally unattractive to large players. This would keep the volume aggregation service focused on supporting players who want to procure small volumes and so prevent it becoming an alternative to the wholesale traded market for players who should trade in that market. Such an arrangement would provide the support being sought for suppliers who want to procure small volumes, while not distorting the wholesale traded market.

While, access to small volumes may be an issue for those suppliers who do not wish, or are unable, to trade, being a supplier who wants to procure small volumes and or bespoke products, is in itself not a barrier to becoming a supplier. Equally, it is not necessary to be a large supplier to become an active trader. In the GB electricity wholesale market many new entrants have become significant players in the trading market. After vertically integrated players, we believe that financial players, (energy traders and banks) all of which have the appropriate capital values, are the most active traders, with each group accounting for between 15% and 20% of all GB electricity wholesale market trades. Both these groups consist of parties who are not active suppliers, or are suppliers of very small volumes. Despite having very small or no supply activity they are able to trade effectively in GB electricity wholesale traded market. This suggests that having the appropriate capital value is more important for trading than the presence of small clip sizes. Consequently, providing a route to small clip sizes may not provide the appropriate access for those potential suppliers that have small capital value.

If Ofgem, as a matter of policy, wishes to support small new suppliers enter the supply market, then a mechanism is required that allows small suppliers to procure product at levels greater than their capital value would normally allow, whilst not disproportionally discriminating against existing players, or placing them, or the market itself, at significant financial risk. A centrally managed volume aggregating service would help this. It would allow small players to more efficiently use their limited financial resources as they would be able to concentrate their credit capital risk with just one counterparty; the centrally managed volume aggregating service administrator.

Further support could be achieved by the centrally managed volume aggregating service administrator's own credit risk being underwritten by the market as a whole. This would allow the centrally managed volume aggregating service administrator to set credit capital risk requirements of its customers that were less onerous than would be required by a traditional counterparty.

To introduce softer credit capital risk requirements would, obviously, be counter to the general trend of strengthen financial markets through minimising credit risks. Thus, particularly robust controls would be needed to manage the inevitable risks from introducing softer credit capital risk requirements. As a minimum, individual's participation would have to be limited to a cumulative volume of, say, 20GWh based on the standard domestic load shape. However, it must be recognised that facilitating softer credit capital risk requirements would be a subsidy that has to be financed. The subsidy would need to be financed from a levy on all licensed suppliers or all off-taking BSC parties. Only by having the levy apply to all licensed suppliers, or all off-taking BSC parties, with the support restricted to very small volumes, could such an arrangement be introduced without disproportionate discrimination against existing players, or placing them, or the market itself, at significant financial risk.

Answers to Ofgem's Specific Questions

CHAPTER: One

Question 1: Do you agree that the harm caused by low levels of liquidity is sufficient to merit policy intervention, if such low levels persist?

Past low levels of liquidity may have been less than ideal and it was right to ask if such levels were to persist would the harm caused be sufficient to merit policy intervention. However, with the significant growth in liquidity now taking place and the very strong prospect of this growth continuing, policy intervention, or its consideration, is clearly not merited. Clearly the low levels of liquidity previously seen are not persisting and we are quickly approaching the point where it is increasingly debatable if the GB wholesale electricity market does actually suffer from low levels of liquidity.

Confidence is returning to the GB electricity wholesale market with a fairly wide range of players, some of whom have entered the market in the last couple of years. Despite the credit crisis, a fall in Nord Pool liquidity of 16% (2535 TWh in 2008 to 2138 TWh in 2009) and the German market seeing little change (remaining at circa 5000 TWh), the twelve months to March 2010 saw liquidity in the GB electricity wholesale market increase by around 17% (1100 TWh in 2008/09 to 1300 TWh in 2009/10). If this rate of recovery continues, a liquidity churn rate of greater than 5 can be foreseen as early as the beginning of 2011. A liquidity churn rate of 5 or greater is generally taken to indicate functional market liquidity. Furthermore, with the current rate of recovery, by mid 2012, the wholesale market should reach the churn rates seen before the 2002 market fall.

The current significant improvements in liquidity levels seem likely to continue as new support for liquidity takes effect. N2EX, an industry initiative which will support market liquidity, only went live at the beginning of 2010 and its membership is still growing. We expect its effect to become more apparent through 2010 and beyond. 2011 will see the commissioning of the BritNed interconnector, which will also have a positive effect on support for liquidity.

Question 2: Do you agree that the focus should be on electricity markets?

There is clearly no liquidity problem in the UK Gas market, with NGG data showing liquidity churn rates of 10 and above. The electricity markets do have lower liquidity levels and to that extent the focus should be on electricity markets, but not on liquidity as if it is the root of all problems in that market.

Ofgem seems to be focusing on two objectives, increasing electricity wholesale market liquidity and providing support for "small/independent suppliers" in the electricity retail market, but through the one solution of increasing electricity wholesale market liquidity. These are objectives that E.ON believes are largely independent of each other and sit in two separate and distinct markets.

Wholesale commodity markets are characterised by the trading of standard products, in large standard volumes, under standardised contract terms. Each market will find the minimum clip size for efficient trading, which may change over time through such factors as changes in technology. However, this does mean that market participants need to be capable of trading the large standard volumes prevailing at the particular time, which in the case of electricity wholesale markets seems to be at least 1MW. Actions to raise liquidity in a wholesale market need to build on what the market has found to be efficient, the trading of large standard products; they should not try to distort those efficiencies.

Retail is characterised by parties breaking bulk, i.e. taking large standard products and breaking it down into bespoke products. Actions to support players who want to procure small volumes and or bespoke products need to focus on how the supplier can secure bulk product that they can break into bespoke products for their customers.

Ofgem should not focus on electricity markets as if there is a single issue. It needs to look at the two issues in isolation of each other and then focus on supporting the current industry led actions that are improving electricity wholesale market liquidity and providing appropriate market access and trading solutions for players who want to procure small volumes and or bespoke products.

CHAPTER: Two

Question 1: Do you think our high level success criteria are appropriate?

The appropriateness of Ofgem's high level success criteria depends upon which issue (wholesale market liquidity, or support for players who want to procure small volumes and or bespoke products) is being considered.

High volumes traded in standard products

This is only applicable to supporting liquidity in the wholesale market. We agree that it will be important that there is evidence of volumes increasing in a sustained fashion or, as we believe will be the case, that high levels have already been achieved.

The Availability of key longer dated products and/or financial derivatives

This is only applicable to supporting liquidity in the wholesale market. Ofgem should be looking at whether suitable standard products are available for supporting market liquidity in the wholesale market along the forward curve. It should not be looking at the suitability of the products for particular groups. However, recognition needs to be made that, as an input fuel for a significant portion of GB electricity generation capability; gas may be traded in lieu of electricity further down the curve, so reducing liquidity in the electricity forwards/futures market.

We do see financial derivatives becoming more available as a wide range of players are now active in the electricity trading market. Many of the participants that have only recently entered the market are financial institutions, banks and pure traders. Their backgrounds make them ideally placed to develop the trading of financial derivatives going forward, when compared to the primarily asset backed players such as generators.

We agree that Ofgem should be looking to see whether there is a consensus that there is a trusted reference price and for indications that financial products are being developed.

Use of trading platforms by small/independent suppliers

Being a supplier does not necessarily require a party to be a trader. Suppliers, who are focused on small volumes and choose not to actively trade, may find the wholesale market clip sizes inappropriate for their hedging activities. Also, suppliers with small capital value may present too greater counterparty risk for many of the other players to facilitate efficient trading between them. Adopting the higher levels of risk, to permit such trades, would mean taking on additional risk and costs that would probably not be acceptable to the companies' investors.

Ofgem should not be seeking evidence that the products available on wholesale trading platforms are beneficial to "small/independent suppliers", but rather asking;

1. Are the suppliers that have the scale for trading wholesale market products using the trading platforms? and

2. For the players without the scale to use the trading platforms directly; can they access wholesale market products?

Positive feedback from small/independent suppliers and potential entrants

This success criterion is only applicable to the very specific issue of supporting players who want to procure small volumes and or bespoke products. This is a useful criterion for determining if steps to support such suppliers outside of the wholesale traded market have been helpful to these players. However, caution is needed in gauging "positive feedback"; all competitors are naturally seeking changes to market rules and are thus dissatisfied with some aspects of the trading rules. Feedback must on the specific initiatives to support these players.

Question 2: Do you have views on how these can be quantified and the appropriate target level of performance?

Market liquidity looks set to continue improving over the next few years and rise above 5 in the next 12 months. A liquidity level of 5 is generally taken to indicate functional market liquidity.

Markets will find the appropriate clip size for efficient trading. That size may be too big for some potential players. It must be recognised that, unless the market is changed from the position it has found to be the most efficient, if an established market's clip size is too large for a particular player, direct participation by that player in the market is probably not practicable. Imposing inefficient clip sizes to a market will threaten liquidity. For electricity wholesale markets the minimum clip size is currently 1MW, to artificially impose a value of less than 1MW would risk market liquidity and entail costly system changes to exchange trading platforms, central clearing systems and individual party trading and settlement systems.

Question 3: When should market success be judged?

The GB electricity market is a success. The GB electricity market is one of the most competitive electricity markets in the EU. There is significant competition in generation and supply and customers have, and do exercise, choice.

While liquidity is an important indicator of a healthy traded market it must be recognised that, for reasons such as limited interconnection to the main European markets and the price linkage to the gas market; the "natural" level of

liquidity for the GB electricity wholesale market maybe lower than exists for some other electricity wholesale markets.

Levels of liquidity in the wholesale market must not be taken as the single criteria for measuring the success of the GB electricity market. Nevertheless, the effects of N2EX and the BritNed interconnector will be working through until at least the end of 2011. N2EX spot trading is subject to IT development work, but should go live Q3 2010, with the futures/forwards going live shortly after that. Making judgments on liquidity before then would be largely speculation. Having the threat of market changes based on speculation will adversely affect long-term market confidence and thus liquidity.

CHAPTER: Three

Question 1: Are there any other policy options, beyond those set out in chapters 4-8, which merit attention?

Supporting Electricity Wholesale Market Liquidity

With the current trends and prospects for electricity wholesale market liquidity, any imposed policy options would be inappropriate. The only policy Ofgem should entertain is one of protecting the wholesale market so that it can continue to gain confidence and develop naturally, free of artificial distortions. Protecting the wholesale market could involve looking at:

- ways of increasing market involvement from large generators currently not trading;
- supporting greater interconnection with continental Europe and the market coupling project with the CWE Region. This would encourage greater alignment of the GB electricity market with its adjoining markets, which should in turn support greater liquidity;
- encouraging further new entry to the wholesale traded market from the banking and energy trading sectors, through increased post trade transparency; and
- ways to increase transparency of post trading data.

Supporting players who want to procure small volumes and or bespoke products only

Experience from the German and Nordic electricity wholesale markets is that the nature of wholesale markets makes them impracticable for those who wish to procure small volumes or bespoke products. Both countries have arrangements that allow the voluntary consolidation of small volumes into tradable clip sizes and thereby provide a means by which small volumes can be hedged within the wholesale market without artificially distorting that market. An explicit policy option for supporting the development of small volume consolidation for players who want to procure small volumes (small volume suppliers, small volume generators and larger industrial customers), would have significant merit.

Supporting players who have limited financial resources

Our experience in the GB electricity market suggests that many small suppliers do not use the current trading facilities. Their small capital value means that they are not able to provide the necessary security to use these facilities. If it is Ofgem's policy to facilitate entry to the electricity supply market by small players with small capital value, then a mechanism is required that would allow small suppliers to procure product at levels greater than their capital value would normally permit, whilst not disproportionally discriminating against existing players, or placing them, or the market itself, at significant financial risk.

Introducing a centrally managed volume aggregating service would help. It would allow small players to more efficiently use their limited financial resources as they would be able to concentrate their credit capital risk with just one counterparty; the centrally managed volume aggregating service administrator.

Further support could be achieved by the centrally managed volume aggregating service administrator's own credit risk being underwritten by the market as a whole. This would allow the centrally managed volume aggregating service administrator to set credit capital risk requirements of its customers that were less onerous than would be required by a usual counterparty.

To manage the risks from introducing softer credit capital risk requirements, robust rules and rigorous testing would be required to make sure unacceptable levels of risk were not imposed on the market as a whole. As a minimum, individual's participation would have to be limited to a cumulative volume of, say, 20GWh based on the standard domestic load shape. However, it must be recognised that facilitating softer credit capital risk requirements would be a subsidy that had to be financed. The subsidy would need to be financed from a levy on all licensed suppliers, or all off-taking BSC parties. Only by having the levy apply to all licensed suppliers, or all off-taking BSC parties, with the support restricted to very small volumes, could such an arrangement be introduced without disproportionate discrimination against existing players, or placing them, or the market itself, at significant financial risk.

CHAPTER: Four

A direct trading obligation does not address the primary problems faced by "small/independent suppliers" seeking product for their customer demand and growing their customer base organically. Nor will it help support wholesale market liquidity,

Question 1: Is a direct trading obligation an appropriate solution to the problems related to wholesale market liquidity?

All licensed generators and their affiliates and related undertakings are already required to trade with all suppliers on terms that are materially consistent; they cannot discriminate between suppliers.

Under Generation Licence Condition 17 Prohibition of Discrimination in Selling Electricity, licensed generators and their affiliates and related undertakings are already required to ensure that they do not sell or offer to sell electricity to any one purchaser or person seeking to become a purchaser on terms as to price which are materially more or less favourable than those on which it sells or offers to sell electricity to comparable wholesale purchasers. For these purposes regard has to be given to the circumstances of the sale to such purchasers including (without limitation) volumes, load factors, conditions of interruptibility and the dates and duration of the relevant agreements.

The licence condition means that generators and their affiliates and related undertakings already have to ensure that trade with all suppliers (including their own supply arms in the case of vertically integrated entities) is on equivalent or comparable terms. Clearly they must not be on unduly onerously terms. However, this does not mean the same price for all, economics of scale, such as credit ratings and fixed costs associated with each transaction, must be reflected appropriately. Consequently, higher prices are inevitable for small bespoke products compared to large standard products. Further, some requests for products will be in a form that a generator is not prepared to offer against, or that the financial strength of the counterparty makes the credit risk too great to allow a transaction to complete.

With the current prohibition on discrimination already in place, a direct trading obligation is unlikely to be effective in supporting further increases in wholesale market liquidity, but it could present a significant negative pressure.

Any requirement to discriminate between purchasers, by removing product from the normal wholesale trading market to meet the requirements of players who want to procure small volumes and or bespoke products, would inevitably remove product upon which normal trading could take place and so have a negative impact on market liquidity. Such action might help these suppliers secure volume, but it should not mean securing the low prices traded in the wholesale market that reflect the economies of large standard products. Any requirement for prices to be the same as for large standard products on small bespoke products would be discriminatory with the effect of significant downward pressure on liquidity.

Requiring direct trading, regardless of a counterparty's capital value, would impose additional risks on those parties obliged to trade. Without appropriate protection, such a requirement would be totally unacceptable to many affected players, reducing their own creditworthiness because of their additional exposure. This would result in them having lower levels of credit with pre-existing counterparties, which in turn would result in an overall reduction in liquidity in current wholesale markets. Delivering appropriate protection would be a cost that would have to be borne by the end consumer.

Question 2: Which licensees should be subject to the obligation?

To prevent distortion of the wholesale market, through generators having some of their products artificially forced out of the traded market, there should be no direct trading obligation on any generator.

A wholesale market is a traded market, all trading parties (rather than parties who just procure for their supply activities, or sell from their generation activities) should be seeking to trade with all parties who have the appropriate capital value and are prepared to buy or sell standard products. To impose an obligation on licensees or some group of licensees that other traders are not prepared to carry out, would be discriminatory. Such action would put the affected licensees at a real competitive disadvantage against other large traders.

Question 3: What requirements should be put in place relating to products, pricing, collateral and other conditions of trade?

If the current wholesale market growth in liquidity is to be supported, it must be allowed to establish the appropriate requirements relating to products, pricing, collateral, credit and other conditions of trade. Other than the requirements established by the market and the existing Generation Licence Condition 17's requirements placed on every licensed generator, there should be no requirements placed on participants in a free wholesale market.

We do believe that there is strong evidence from the German and Nordic wholesale markets that voluntary consolidation arrangements outside of the main wholesale traded market can provide effective access for small volume players. We strongly urge Ofgem to look at the arrangements in these two markets.

Question 4: Is it appropriate to extend the obligation to cover generation purchases?

It is wholly inappropriate to place a mandatory trading obligation on any player, let alone extending it to cover generation purchases. However, extending any consolidation arrangements for players who want to trade small volumes outside

of the main wholesale traded market to include small generators would seem appropriate.

Most small generators operate embedded generation and are therefore unlikely to directly use the GB electricity wholesale traded market. The current market arrangements allow small generators to avoid the wholesale traded market by entering into direct arrangements with suppliers within the distribution network that they generate within. Thus, it is only the large licensed generators, typically with over 100MW of capacity, that are in a position to trade in the GB electricity wholesale traded market as a producer.

Again if the current wholesale traded market's growth in liquidity is to be supported, that market must be allowed to establish the appropriate requirements relating to products, pricing, collateral and other conditions of trade. Artificial restrictions on any party, generator, supplier or trader will distort that market's efficiency and place adverse pressures on liquidity.

Question 5: What costs would this option impose?

The cost of introducing artificial distortion to the wholesale market will be restrictions on players' ability to trade freely and thus a negative pressure on market liquidity. Imposed distortions are likely to be inefficient and so deliver more costly outcomes for the end consumer.

For those who the requirement was imposed, there would be the additional costs of managing the special processes and for operating outside of their normal risk controls.

Even introducing targeted support for small/independent suppliers outside of the main wholesale market will introduce costs that have to be ultimately borne by the end consumer.

CHAPTER: Five

Market making arrangement of the kind set out by Ofgem will not help support wholesale market liquidity, nor will it help support suppliers wishing to procuring small volumes or suppliers with small capital value.

Question 1: Is a market making arrangement of the kind set out in this chapter an appropriate solution to the problems related to wholesale market liquidity?

We do agree that market makers and intermediaries could help drive further liquidity. Ideally 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. We can also see situations where introducing compulsory market making arrangements on vertically integrated players might even be appropriate if there was evidence that vertically integrated players did not take part in the wholesale traded market or were abusing markets. However, this is not the case in the GB electricity wholesale market where the vertically integrated players are active traders and, we believe, form the largest group of active traders.

We understand that N2EX supports having market making on its exchange and this will be particularly helpful along the forward curve as the forward and futures markets develop. It continues to be in N2EX's 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.

With vertically integrated players being active players and N2EX still developing, the idea of an imposed requirement to support market making activity is not particularly helpful. E.ON, as referred to by Ofgem in its paper, is a market maker in the Nordic market. However, UK FSA regulations mean that the GB electricity wholesale traded market has not been a market for E.ON to carry out the role of market maker. Given the risks and costs involved with market making decisions, as to who should provide market making must be left to commercially driven decisions between the relevant exchange operator and potential market makers.

Question 2: What products should be made available through a market maker?

E.ON is a market maker in the Swedish section of the Nordic wholesale market. This is in a voluntary role, although we have committed to a specified amount of energy of around 1% of installed available capacity; there is no obligation on E.ON to take this role and there is no Market Maker Agent. E.ON's market making activity is only in the physical intraday market (continuous trading) in the Swedish area using the standard product of 10MW and multiples, clearly a clip size that is too large for suppliers wishing to procure very small volumes. E.ON is not a market maker for financial products.

Our experience in Sweden reinforces our belief that market maker decisions must be left to commercially driven decisions between the relevant exchange operator and potential market makers. Imposing requirements as to what products should be made available through a market maker, or the form and size of those products, restricts who can consider being a market maker and inevitably reduces the likelihood of effective market making becoming established in the GB electricity wholesale traded market. Also, anyone considering setting up as a market maker needs to fully understand how the various financial regulations associated with market making could affect their business.

Question 3: What volume obligation would be appropriate?

Again market maker decisions must be left to commercially driven decisions between the relevant exchange operator and potential market makers. It is for each market maker, given their particular situations, to determine as to what is the appropriate volume level they are prepared to manage. Equally, market makers need to be free to decide what clip sizes they will trade in.

As a voluntary market maker in the Swedish section of the Nordic wholesale market we have committed to a specified amount of energy of around 1% of installed available capacity. The volume is only in the physical intraday market (continuous trading) using the standard product of 10MW multiples.

Question 4: Would the establishment of a "Market Making Agent" facilitate the introduction of market making?

Imposing a Market Making Agent where the "big six" are under obligation to provide Bids and Offers for all the defined products would be a direct and discriminatory attack on the business models of those who are captured by the requirement. It would remove a company's own choice on how to manage its risks and so restrict the scope for competition. The removal of company choice would be through;

- Having an obligation to provide Bids and Offers for all the defined products, even if the players had no product to back their offers or a need to support their bids. It would be forcing those affected to become speculative traders even if they did not have the skill sets or resources to engage in such activities;

- Failing to recognise that the "big six" are significant players in the wholesale traded market and the main drivers behind the increases in liquidity. The product they currently trade would have to be used for the Market Making Agent's obligations, resulting in no increase in trading; and

- Requiring the "big six" to "provide the underlying products and maintain liquidity" would impose costs and risk of unnecessary trading with the sole purpose of supporting liquidity levels to meet licence requirements.

Imposing a Market Making Agent that did not affect the "big six" is still likely to create more issues than benefits.

Question 5: What costs would this option impose?

The cost of introducing this artificial distortion to the wholesale electricity market, as with any other artificial distortion, will be the imposition of restrictions on players' ability to trade freely and thus create a negative pressure on market liquidity.

CHAPTER: Six

Mandatory auctions will not help support wholesale market liquidity, suppliers wishing to procure small volumes, or suppliers with small capital value.

Question 1: Are mandatory auctions an appropriate solution to the problems related to wholesale market liquidity?

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.

Mandatory auctions are typically introduced where the market is highly concentrated, there are sporadic trades and there is a scarce availability of products and/or quotations. The GB electricity generation market's concentration is quite low, with a large number of players outside the six vertically integrated players, e.g. Dong, Drax, ESB, GdF Suez, Intergen, International Power and Statkraft. A number of these players have increased their investment in GB generation over the last few years. In addition, a number of new plants are under construction (CCGTs and renewables), or being developed, by these players and other new entrants. Further, the traded wholesale market has a rising level of liquidity that is above 4 and generators are not allowed to discriminate between different suppliers. To introduce mandatory auctions in such an environment would disproportionate.

In 2009 E.ON Energy Trading's UK trading activities, for delivery in 2009 and trading periods beyond, bought a total of around 155TWh in the UK; of which 77% was from the market and 23% was from E.ON's UK generation businesses. It sold a total of around 155TWh in the UK; of which 70% was to the market and 30% to E.ON's UK supply business. It is hard to see how a mandatory auction would have the resulted of E.ON delivering anymore volume into the market place.

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 electricity 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) may 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 any 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 trading activity and time scales 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 2: How should the volume of generation subject to a mandatory auction be set?

We are opposed to mandatory participation in auctions. This includes any mandatory requirement for specific volumes of generation. Again, 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.

Question 3: Who should be obliged to offer into the auction?

Being opposed to mandatory participation in auctions we clearly believe that nobody should be obliged to offer into the auction.

Question 4: What design features should be incorporated into the auction process and rules?

N2EX has only recently gone live and its membership and thus activity levels are still growing. It is therefore too early for its full effect to be felt, but already it offers day ahead auctions. Associated centralised clearing is developing and (once a more robust reference price has been established) a liquid futures market is being planned. Ofgem needs to allow time for N2EX to become established and prove its value. That will take at least 12 months, so that the effects of seasonality, the effects of the gas year and a full winter can be experienced. Only then can any assessment take these significant factors into account. 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. Imposing alternative market mechanisms or arrangements will, despite best intentions, inevitability undermine confidence in this market initiative.

Question 5: Should the mandatory auction apply to day-ahead volumes and/or to longer dated forward products?

Mandatory auctions have no place in a well established and competitive market; this includes any requirement on day-ahead volumes and/or to longer dated forward products. Again, having such mandatory requirements 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 and exchange markets, so losing the continuous nature of the current market.

Question 6: What costs would this option impose?

The cost of placing obligations on either the supply side or demand side of the market for any meaningful volumes is that it risks 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 any auction or, at worst, detract directly from volumes currently traded in the OTC and exchange markets, so losing the continuous nature of the current market.

CHAPTER: Seven

A self-supply restriction of the kind set out by Ofgem will not help support wholesale market liquidity, nor will it help support suppliers wishing to procuring small volumes or suppliers with small capital value.

Question 1: Is a self-supply restriction an appropriate solution to the problems related to wholesale market liquidity?

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."*[5]

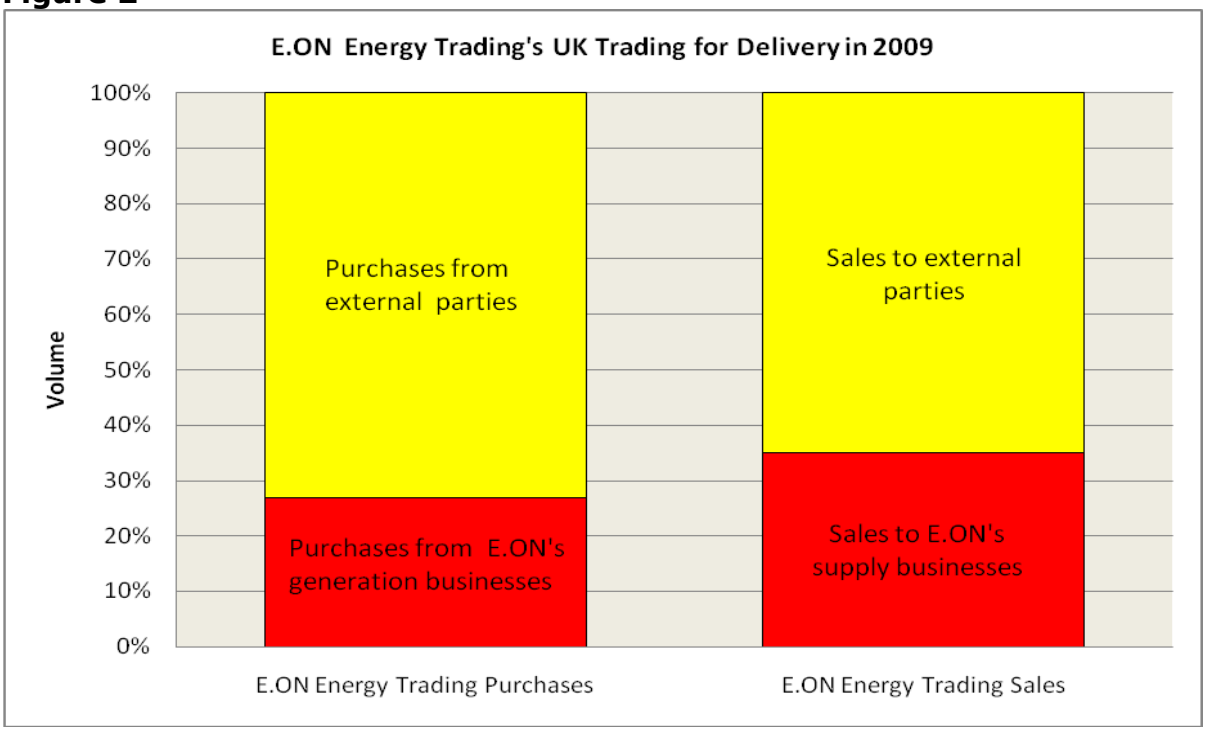
The same principles equally apply to electricity wholesale market liquidity. Rather than to seek changes to existing participants' legitimate business models (through artificial regulatory restrictions), Ofgem needs to consider why the market has not attracted or replaced the natural liquidity providers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

Our assessment of the electricity wholesale traded market is that vertically integrated players are particularly active in trading, accounting for about 60% of all volumes traded. In a market where churn is now over 4, being the most active group of traders suggests that vertically integrated players' trading activities with other market players far outweighs any self supply that they may do.

As shown in Figure 2 below, E.ON Energy Trading is already making wholesale purchases that are significantly greater than the volume it provides to E.ON's supply businesses. It is unclear how a self supply restriction would result in E.ON delivering more volume into the market place.

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

Figure 2



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 the traded market. To introduce a licence condition on selected suppliers that restricted them from procuring power from selected generators would place them at a competitive disadvantage and introduce inefficiency to the overall competitive processes.

With most vertically integrated companies already trading vastly more power than they generate or supply, we doubt if a self supply restrictions would actually make any difference to the volumes these companies are trading. Nor would such a restriction help to encourage greater participation by other generators. However, because this would be taking place in a liquid market, where inevitably parties purchase product they have previously sold, it would introduce significant compliance effort. Those affected would have to track buys and sales to make sure restrictions on generation sales being bought back to meet the needs of the supply business were complied with.

Many questions would also arise as to where such a restriction would and would not apply, which would inevitably lead to arbitrary judgements being made, which in turn 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?

All these complications could be addressed, but probably not without increased complexity and cost. The complications could easily lead to restricting the level

of trading by the affected players, so that they could meet their compliance requirements, leading to a fall in market liquidity.

Question 2: Who would be covered by the self-supply restriction?

Not withstanding that there should not be a self-supply restriction; for the market distortion to have any theoretical chance of improving market liquidity, the restriction would have to apply to all groups whose supply activities' volumes were less than their generation volumes (companies with generation less than their supply volumes inherently have a restriction on the percentage they can supply their own supply business). This carries real risks that suppliers would limit their investment in generation, to avoid being discriminated against, and so place a further disincentive for investment in new generation capacity, with the consequential increased risk for security of supply.

Question 3: How should the extent of a self-supply restriction be set? Should it relate only to the supply to domestic customers?

Again there should not be a self-supply restriction. Applying the restriction to particular groups of customers is just a further distortion of the market. Given that the wholesale market does not distinguish between different types of end consumer, how could a retail market restriction be reconciled through the wholesale market?

Question 4: Should a self-supply restriction be accompanied by measures to ensure that small participants have access to the products they need? If so, which products?

Again not withstanding that there should not be a self-supply restriction; the issue of participants who want to procure small volumes gaining access to the products they require is real and occurs in electricity wholesale markets with liquidity levels higher than those currently seen in Great Britain.

In Germany there are many suppliers of small volumes, some of which are vertically integrated and some that are not. Their scale means that, as individuals, their volume requirements are often too small to trade the smallest sized standard products of the wholesale traded market. So that these players can benefit from the wholesale traded market, their procurement requirements are aggregated to the size of the wholesale traded market's large standard products. Thus, the players who want to procure small volumes are able to benefit from the liquidity of the wholesale traded market without imposing artificial distortions to the market.

In the past E.ON has put forward changes to help facilitate the role of consolidators in the GB market[6]. 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. However, the market continues to evolve and if Ofgem is seeking ways to support supply market entry by small/independent suppliers, now may be the appropriate time to launch such a scheme. There would thus be significant merit in Ofgem investigating ways that suppliers who wanted to procure small volumes could aggregate their requirements into the wholesale traded market's large standard products.

Question 5: How could the previous problems related to enforceability be overcome?

Enforceability of a self-supply restriction is another practicable illustration of trying to impose artificial restrictions to trading in a liquid wholesale market and why self-supply restrictions should not be imposed. As we said above, 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 6: What costs would this option impose?

As is the case for introducing any artificial distortion to the market, the cost will be restrictions in players' ability to trade freely and thus a negative pressure on market liquidity. However, it would also introduce the significant compliance cost associated with tracking buys and sales to make sure that the limits on generation sales being bought back to meet the needs of the supply business were complied with.

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

CHAPTER: Eight

An inability to meet credit and collateral requirements is probably the biggest barrier to entry for many potential suppliers. Resolving this issue would probably be the most effective measure that could be taken to support the market entry of suppliers with small capital value. Of course such action needs to avoid increasing risks on other market participants and the market as a whole.

Question 1: Do you think that any of the possible approaches outlined in this chapter have merit and should be pursued further?

Credit and collateral requirements are a concern for all parties in the current environment. Indeed, developing efficient risk management tools is one of the main responsibilities for a new entrant to a market.

E.ON would like to see an increase in exchange based trading as an option to concentrate liquidity, but not through socialising the cost of credit risks for players with low credit ratings.

The success of any proposal to increase the liquidity levels in the electricity wholesale market will be dependent upon securing policy options that enforce the resilience of derivatives markets. Existing credit cover arrangements at the, bilateral, 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 increase risks, which would threaten market liquidity, and ultimately raise costs to consumers.

Clearly any credit cover arrangements must as accurately as possible reflect the credit worthiness and indebtedness of a particular party. The credit cover arrangements available will typically, but not necessarily, be more onerous for players with small capital value than with large capital value. This is in no way discriminatory if it genuinely reflects a party's credit worthiness. Indeed, it would be discriminatory if a relevant difference (e.g. a company with a high capital value compared to a low capital value) were not taken into account. In this context establishing arrangements that go even further by socialising the cost of credit risk for typically small capital value companies across the market seems particularly imprudent, especially in an environment of generally tightening of credit assessments.

We are concerned that Ofgem believes that where contracts are negotiated bilaterally, collateral obligations will be set depending on the "perceived" credit worthiness of the contract counterparties. For companies such as E.ON the credit worthiness of contract counterparties is not a "perception" but a value based on a detailed assessment of financial data in accordance with very well developed and tested credit risk methodologies. The methodologies used to determine credit risk are subject to rigorous challenge and normally have to be approved by the companies' risk and audit committees and their external auditors. It should also be noted that the electricity wholesale market participants come from a variety of backgrounds, not only licensed generators

and suppliers, but also energy traders and banks. With such a variety of participants it is unlikely that the market's credit requirements are any more onerous than for comparable markets.

As explained above, we believe that if a central volume consolidation service for players trading in small volumes were introduced it could help small capital value players meet their credit requirements.

Non-standard collateral

Non-standard collateral does appear to offer another vehicle by which market participants could provide the necessary collateral to trade. The use of ROCs may be such a vehicle.

In developing non-standard collateral arrangements, it must be recognised that non-standard collateral is normally treated as being of higher risk and thus lower value. In the case of using ROCs we would expect that the value would be taken as the compliance value rather than the prevailing market value, the ROCs would only be used to cover trades that would be completed within the life of the ROC and that the ROCs would have to be physically deposited with the counterparty. Each of these potential requirements adds levels of complication and cost. It may be more efficient for the ROCs to be deposited with a bank and for the bank to provide a standard letter of credit.

Pooling

Pooling of credit requirements within the arrangements of volume aggregating outside of the wholesale traded market, such as a centrally managed volume service, is worth consideration. However, to impose it on the actual wholesale traded market would risk that market's confidence and thus market liquidity.

There are some practicable hurdles that would need addressing. Such arrangements might be very difficult to manage, at least in establishing governance rules between various participants. Also, we are concerned that such arrangements could easily introduce perverse incentives on some players.

Insurance

Credit insurance can be part of a wider set of credit risk management tools. A regulatory intervention that makes participation in credit insurance mandatory suggests an inefficient solution is being imposed, the cost of which would have to be borne by the end consumer. Moreover, the same principle is already widely applied in the market by using of Credit Default Swaps (CDS). CDS are the main instrument on which the financial debate all over the world is focussing on because they have been used to conceal risks, although current initiatives on financial reform are being introduced to reduce their improper use.

The use of insurance, instead of collateral, introduces non standard procedures to a traded wholesale market. It would mean participants investing in unique risk control systems. If made compulsory, this would create significant barriers to entry for market participants, such as banks and energy traders, who are in the market because it offers another opportunity where they can apply their

trading skills; they are not seeking to trade because they need to balance physical accounts. Introducing such a barrier to these players would be a significant threat to market liquidity.

While mandatory credit insurance is not appropriate for the wholesale traded market, it may have a role in any central volume aggregation service set up to support market entry by small/independent suppliers. Here it could provide a mechanism for supporting the risk management activities of the centrally managed volume aggregating service administrator.

Forced Clearing

Clearing should be one of the tools used to manage credit risk, as part of a wider credit practice. However, we believe that forced clearing would tend to reduce liquidity, because it would increase cash needs for market participants.

From a practicable perspective, we see little difference between the credit that currently must be lodged with Elexon to cover the participants' imbalance credit risk and Forced Central Clearing. Forced Central Clearing could reduce overall credit costs to participants trading in small volumes, as they will only have a single credit exposure. However, it could also increase their risk, if price volatility required increased margins to be posted with the Central Clearing Agent. For example, in January and February 2010 there were issues in the Nord Pool giving high market prices that resulted in a number of smaller participants suffering severe financial distress through having to meet the margin on their positions.

Predefined terms

We support moves towards predefined terms as they form part of the contract standardisation processes needed to help the market adapt to new market conditions. However, dictating management practices would probably increase wholesale market entry barriers as alignment would be towards the more prudent and thus restrictive practices.

While theoretically desirable, having "credit terms to be pre-defined for all electricity contracts" is probably not practicable given the level of development that has taken place around the GB electricity wholesale traded market. There are now several types of contract available, including the Grid Trade Master Agreement, the European Federation of Energy Traders Agreement, the International Securities and Derivatives Association Agreement and bespoke bilateral contracts. There are now many wholesale participants, a large number of which are traders (they are not licensed generators or suppliers, just BSC signatories). Not all the participating traders are EU based. With this level of diversity there are many different solutions to credit risk being used. To deliver pre-defined credit terms for all electricity contracts would need a significant level of intervention, which in turn would bring greater perceived risk to many participants and thus be a threat to market liquidity.

CHAPTER: Nine

Question 1: Do you agree with the proposed assessment criteria?

We agree with Ofgem's high-level measures against which the options should be assessed. However, the two issues presented by Ofgem, namely wholesale market liquidity and support for small/independent suppliers, are not directly linked and the assessment criteria must reflect the differences. This means being rigorous in ensuring that any measuring of improvement in:

1. support for small/independent suppliers, is done independently of any measures to support improvements in wholesale market liquidity; and

2. overall liquidity in the wholesale electricity market, including liquidity along the forward curve, is done independently of any measure to support small/independent suppliers.

Of Ofgem's four criteria, only the least cost and disruption to efficient market outcomes and minimising unintended consequences must be applied to both improving overall liquidity in the wholesale electricity market and support for small/independent suppliers.

Question 2: Which do you think is the best policy option or combination of options?

For improving overall liquidity in the GB wholesale electricity market, including liquidity along the forward curve, the best policy option is to protect the market from artificial distortions. This means allowing the improving market confidence and liquidity levels to continue developing through building on the effects of N2EX becoming established and the BritNed interconnector commissioning. Increased efforts to harmonise trading arrangements with other electricity markets, to facilitate cross border trading, will also support further growth in liquidity.

To deliver a policy of actively supporting small/independent suppliers, we believe that the development of a central volume aggregating service warrants further consideration for the GB electricity market. This could provide small/independent suppliers with a practicable link to the electricity wholesale traded market and thereby help to sustain and improve supply market competition, while ensuring limited adverse effect on the current efficiency of the electricity wholesale market.