ofgem Making a positive difference for energy consumers

Wholesale power market liquidity: final proposals for a 'Secure and Promote' licence condition - Draft Impact Assessment

Draft Impact Assessment

Publication date: 12 June 2013

Response deadline: 9 August 2013

Contact: Martin Bell, Economist

Team: Wholesale Markets

Tel: 020 7901 7000

Email: gb.markets@ofgem.gov.uk

Overview:

Consumers can benefit from energy market competition through downward pressure on bills, better service and greater choice. Ofgem is concerned that poor liquidity in the electricity wholesale market is presenting a barrier to entry and competition in the generation and supply markets. In December 2012 we consulted on a 'Secure and Promote' licence condition to address this barrier. We are now consulting on our final Secure and Promote proposals.

This document is intended to be read alongside our consultation document ('Wholesale power market liquidity: final proposals for a 'Secure and Promote' licence condition'), which sets out our revised design for Secure and Promote. This draft impact assessment evaluates the potential impacts of our proposals on consumers, competition and sustainable development. It also provides our initial estimate of the potential costs associated with this intervention. Given the stage of our policy development, this impact assessment focuses on our lead option (although appendix two briefly evaluates alternative intervention options).

This is a draft impact assessment, which is intended to form a basis for discussions with stakeholders on the effects of our proposals. We welcome views on all aspects of this impact assessment. If a decision is made to proceed to a statutory consultation on licence changes in the autumn, we would also publish a statutory impact assessment at that stage. Feedback from stakeholders would be incorporated in that final impact assessment.

Context

Ofgem's principal objective is to protect the interests of present and future consumers.[1] In accordance with this objective, we are concerned with making sure that liquidity in the GB power market is sufficient to underpin competitive generation and supply markets. Under the Third Package[2], Ofgem also has a duty to promote the integrated European energy market. Ofgem considers that improvements to power market liquidity are consistent with this objective, and is mindful of the need to promote integration when considering any interventions.

This draft Impact Assessment should be read alongside our consultation document setting out our final proposals for intervention to improve liquidity.[3] The purpose of this document is to describe and evaluate the potential impacts of our proposed intervention. This is a draft Impact Assessment, and does not constitute the statutory Impact Assessment required under section 5A of the Utilities Act 2000.

Associated documents

- Wholesale power market liquidity: final proposals for a 'Secure and Promote' licence condition, 12 June 2013 http://www.ofgem.gov.uk/Markets/RetMkts/rmr/Documents1/Liquidity%20draft%20IA%20120613.pdf

- Wholesale power market liquidity: consultation on a 'Secure and Promote' licence condition, 5 December 2012 www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=324&refer=Markets/RetMkts/rmr

- Retail Market Review: Intervention to enhance liquidity in the GB power market, 22 February 2012, Reference: 21/12 www.ofgem.gov.uk/Markets/RetMkts/rmr/Documents1/Liquidity%20Feb%20Condoc.pdf

[1] This includes the interests of consumers in the fulfilment by Ofgem, when carrying out its functions as designated regulatory authority for Great Britain, of the objectives set out in Article 40(a) to (h) of the Gas Directive and Article 36(a) to (h) of the Electricity Directive.
[2] The term "Third Package" refers to Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 (Gas Directive) and Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 (Electricity Directive), concerning common rules for the internal market in natural gas and electricity respectively.
[3] Ofgem (2013), Wholesale power market liquidity: final proposals for a 'Secure and Promote' licence condition, 12 June 2013

Contents

Executive Summary

Why liquidity is important

Liquidity is a key part of well-functioning wholesale energy markets. It produces robust prices and allows firms to obtain the products that they need in order to compete. Wholesale markets also need to be accessible to a range of market participants, including smaller firms and entrants.

Our analysis suggests that liquidity in the electricity wholesale market remains insufficient. The volumes traded along the forward curve are lower than in other markets and bid-offer spreads remain wider. Qualitative feedback also suggests that firms find the current levels of liquidity unsatisfactory. In addition, small suppliers face particular barriers to accessing wholesale electricity products.

Poor liquidity acts as a barrier to entry and competition. It limits the ability of generators and suppliers to trade and manage their risks. As a result, poor liquidity prevents consumers accessing the benefits of competition: downward pressure on bills, better service and greater choice.

The rationale for intervention

The market is locked in a 'low-liquidity equilibrium' and is therefore unlikely to resolve these problems by itself. This is because trading is both the cause and the consequence of liquidity. A lack of price signals or opportunities to trade may deter firms from trading, thereby further reducing liquidity. A regulatory intervention is therefore needed to break out of this negative cycle and kick-start liquidity.

For this reason, we are now issuing our final proposals on intervening in the market through a Secure and Promote (S&P) licence condition. The first part of S&P is the Supplier Market Access rules to improve access to the wholesale market for small suppliers. The second part is market making in forward electricity products to ensure that opportunities to trade are present and to improve the robustness of price signals along the curve.

This draft impact assessment (IA) evaluates our S&P final proposals, setting out our initial assessment of the costs and benefits of the intervention. Alongside the consultation document, it forms a key part of the information that we hope to discuss with stakeholders.

Our initial assessment of the benefits of S&P

The primary impact of our proposals would be to deliver benefits to consumers by removing poor liquidity as a barrier to entry and competition. This applies to both the generation and supply markets, as higher liquidity should be helpful for all firms, including S&P licensees. Greater competition should encourage firms to price more keenly, leading to downward pressure on consumers' bills. This may materialise through a reduction in firms' costs or profits. It could also encourage improved customer service and innovation by suppliers. Furthermore, improved liquidity as a

result of S&P should be helpful for firms investing in generation. S&P may therefore contribute to ensuring that consumers have secure energy supplies.

Our initial assessment of the costs of S&P

Informed by a Request for Information (RFI) during the previous consultation phase, we have developed initial assessments of the costs of S&P. Under our best estimate, S&P would have a total set-up cost of around £4m, and an annual ongoing cost of £14m. These estimates assume strong usage of the S&P arrangements, implying that the costs would be accompanied by substantial benefits. We have not quantified the expected benefits of S&P. However, we note that a 0.3% reduction in operational costs or a 0.4% reduction in profits (across generation, domestic and non-domestic electricity supply) would be sufficient to equal the ongoing costs of S&P.[4]

Our conclusion

We consider that S&P will deliver benefits for consumers, in particular by removing an important barrier to entry. Based on our 'break-even' analysis, we believe it is very likely that the benefits of S&P will outweigh the costs. Moreover, we believe that S&P will provide a better balance of costs and benefits than the other intervention options that we have considered (such as the Mandatory Auction and the Self-Supply Restriction).

Next steps

This is a draft impact assessment, which is intended to provide a basis for further discussion of these impacts with stakeholders. We welcome comments on all aspects of this IA, particularly where stakeholders are able to provide further evidence to help us improve our assessment.

Following this consultation, the Authority will decide whether to proceed to a statutory consultation on modifying licence conditions. A final IA would be published alongside the statutory consultation.

[4] Under our high case, a 0.5% reduction in indirect costs or a 0.8% reduction in profits would be sufficient to equal the ongoing costs of S&P.
Under our low case, the figures would be a 0.2% reduction for indirect costs or a 0.2% reduction for profits.

1. Key issues and objectives

Chapter Summary

We describe why liquid wholesale energy markets are important for consumers, and set out our liquidity objectives. We then explain why regulatory intervention may be necessary to improve liquidity.

Introduction to liquidity

1.1. Liquidity is the ability to quickly buy or sell a commodity without causing a significant change in its price and without incurring significant transaction costs. It is a key feature of a well-functioning market. A liquid market can also be thought of as a 'deep' market where there are a number of prices quoted at which firms are prepared to trade a product. This gives firms confidence that they can trade when needed and will not move the price substantially when they do so.

Why liquidity is important

1.2. A liquid wholesale electricity market ensures that electricity products are available to trade, and that their prices are robust. These products and price signals are important for electricity generators and suppliers, who need to trade to manage their risks. Liquidity in the wholesale electricity market therefore supports competition in generation and supply, which has benefits for consumers in terms of downward pressure on bills, better service and greater choice.

Product availability

1.3. In a liquid market, firms can buy and sell electricity products when they want. Access to the wholesale market is a prerequisite for being able to operate as an electricity generator or supplier: suppliers need to be able to buy electricity to supply their customers, and generators need to be able to sell the output from their power stations. If firms are not certain that they can trade electricity, they may not enter the market.[5] This would pose a barrier to competition, and may also limit investment.

1.4. Beyond this, a liquid market allows generators and suppliers to obtain a range of products to manage their risks. For example, using different types of

[5] While alternative ways of buying and selling power do exist, such as long-term contracts or vertical integration, these may be complex to set up (particularly for an entrant), and may not offer the flexibility of trading in the market.

products[6], a firm can match its contracted position to its physical shape. Longer-dated products are also important as they allow a firm to manage its price risks by trading forward (hedging). This helps the generator or supplier by providing increased certainty over revenues. Hedging by suppliers also enables them to provide a better price offer to consumers and protects consumers from energy price volatility.

Price discovery

1.5. A liquid market also provides robust prices. As firms trade, they reveal information about their valuation of a product. This information is then incorporated into the market price,[7] building a robust consensus view.[8] Liquidity might also contribute to making prices more robust to manipulation[9], although other factors are also important, such as monitoring and enforcement action taken under the Regulation on Energy Market Integrity and Transparency (REMIT).[10]

1.6. A liquid market therefore delivers price signals. In the short-term, these prices provide information which allows firms to make trading decisions. Suppliers can use prices to inform hedging strategies and tariff offers to consumers. For generators, price signals contribute to decisions about when to sell output. Price information also allows generators to make operational decisions, which should ensure that the most economically efficient plants are dispatched. In the longer-term, price signals can also form part of the case for investment in generation.[11] Liquid markets can therefore contribute to security of supply.

Ofgem's focus on liquidity

Ofgem's statutory role

1.7. Ofgem's work on liquidity should be seen in the context of Ofgem's statutory duties. The principal objective of the Gas and Electricity Markets Authority ('the Authority') is to protect the interests of existing and future energy consumers. The impact on consumers is therefore at the heart of the evaluation of any liquidity intervention. The Authority must also act 'wherever

[6] Eg baseload, peak and blocks.
[7] A key argument in favour of competitive markets is that they are an efficient way of revealing information held by market participants and incorporating this into the price. The price therefore provides the true signal of the value of a product.
[8] Greater consensus on prices in a market may be indicated by tighter bid-offer spreads.
[9] For example, it may require a larger volume of trades to move the price in a liquid market, making manipulation more difficult or expensive.
[10] Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency.
[11] Chapter four discusses the impact of a liquid market on investment decisions.

appropriate by promoting effective competition'. Consideration of the impact on competition is therefore also highly important.

Ofgem's liquidity objectives

1.8. In order to provide a framework for our work on liquidity, we have set out three liquidity objectives for the GB wholesale electricity market. These reflect the features that would be expected from a well-functioning, liquid market that delivers for consumers. These objectives are:

- **Objective 1: Availability of products to support hedging -** Our first liquidity objective is the availability of wholesale electricity products that firms require to allow them to enter the market and compete effectively. During the project we have been particularly concerned about longer-dated and peak products, as these have particularly limited liquidity at present. We are also interested in whether products can be accessed by a range of market participants, including entrants and smaller players.

- **Objective 2: Robust reference prices along the curve -** Our second liquidity objective looks at forward prices. It reflects the need for liquidity to support prices along the forward curve that are trusted to provide a fair reflection of the value of products. As noted above, these prices provide valuable signals for market participants that inform their commercial decision making and enable them to compete.

- **Objective 3: An effective near-term market -** Our third liquidity objective relates to the period closer to delivery (for example, within the week before delivery). Liquidity in this period is important as it allows firms to match their contracted positions to their physical volumes and avoid imbalance charges. A robust near-term price may also underpin the development of greater liquidity along the curve by acting as a reference price for the settlement of financial futures. Near-term liquidity may be affected by a range of additional factors, such as plant outages and weather forecasts.

1.9. These objectives provide the basis for our regular monitoring of market liquidity. We have provided regular updates on progress against these liquidity objectives. Each review has helped us to identify the priorities for the development of intervention options.

Ofgem's concerns about liquidity in the GB power market

Identifying the issue

1.10. Poor liquidity in the GB power market has been a long-standing concern for Ofgem. As part of the Energy Supply Probe in 2008, liquidity was identified by stakeholders as "the most significant issue facing potential new entrants and small scale suppliers."[12] The Probe indicated that liquidity in the GB wholesale power market was lower than in other commodity markets.[13] There were particular concerns over whether small suppliers could obtain the products they need, which may have contributed to the lack of successful entry into the supply market. Subsequent work has reinforced this view of the market, for example indicating that "a lack of wholesale products and wholesale market transparency combine to frustrate the trading activities of non-vertically integrated suppliers and may protect any advantaged position of the Big 6".[14]

1.11. Chapter one of the consultation document sets out our current evaluation of progress against our liquidity objectives. This is the result both of our quantitative monitoring of liquidity metrics,[15] and of the qualitative feedback received from stakeholders during the last consultation. We note that churn remains low, and that bid-offer spreads remain notably wider than in the gas market. Traded volumes suggest that liquidity is especially low beyond the first couple of seasons. In brief, this indicates that there is still a lack of liquidity along the curve, and that our first and second liquidity objectives remain unmet. We are concerned that this may be forming a barrier to entry and competition in the generation and supply markets.[16]

Why does poor liquidity require regulatory intervention?

1.12. There are reasons to believe that the issue of low liquidity will not be addressed without regulatory intervention. One of these is the track record of forward liquidity over the past few years. Despite Ofgem's focus on the problem, there have been few signs of improvement. We have consistently stated our preference for industry-led action to improve liquidity,[17] and have given time for such action to take place.

---

[12] Ofgem (2008), 'Energy Supply Probe – Initial Findings Report', 6 October 2008, Reference: 140/08, paragraph 6.19.
[13] Ofgem (2008), 'Energy Supply Probe – Initial Findings Report', 6 October 2008, Reference: 140/08, paragraph 6.24.
[14] Ofgem (2011), 'The Retail Market Review – Findings and Initial Proposals', 21 March 2011, Reference: 34/11, paragraph 1.3.
[15] See appendix two of the consultation document for our latest liquidity graphs.
[16] Chapter three provides more detail on this concern.
[17] Eg Ofgem (2012), 'Retail Market Review: Intervention to enhance liquidity in the GB power market', 22 February 2012, Reference: 21/12, p3.

1.13. There may be economic reasons for liquidity not to improve on its own. A liquid market is inherently more attractive to those seeking to trade, and it may therefore attract further liquidity. In contrast, a market with a low initial level of liquidity may continue to be unattractive. This may be explained by the fact that firms do not factor in the positive externalities[18] from trading.[19] Trading delivers direct benefits for a firm, in terms of being able to buy or sell electricity. However, there are also benefits for others in the market, which the firm may not consider in its decision of whether or not to trade. In terms of product availability, a firm being active in the market increases the chances for other firms of finding a counterparty who wants to trade with them.[20] In terms of price discovery, by trading, a firm contributes its own information to refine or validate the market price. This helps to build confidence in the market price and encourages further increases in trading. Conversely, in an illiquid market, firms have less confidence in the price, and so are less likely to want to trade. The positive externalities from trading may therefore be particularly large in an illiquid market, where incremental increases in trading may have more impact.

1.14. The above is an example of a 'reciprocal externality', where the level of activity of one party depends on the level of activity of another.[21] In broad terms, this can be applied to suggest that there may be multiple liquidity equilibriums, and that it may be difficult for a market to move between these without a substantial external shock.

1.15. Low liquidity may not only fail to correct itself; it may actually lead to a downward spiral of liquidity. In a market with low liquidity, firms may feel that they cannot rely on the traded market. They may therefore seek alternative means of securing power, such as vertical integration or long-term contracts.[22] In addition, some firms may exit the market, and others may decide not to enter. This may reduce the number of firms seeking to trade, and contribute to a further decrease in liquidity. A vicious circle may develop.

1.16. These arguments suggest that the problem of low liquidity may be self-sustaining, and that individual market participants may have little incentive to

[18] An externality is a spillover effect from an individual's economic activity. A positive externality is one that is beneficial for others.
[19] Positive externalities from trading are discussed by Benos and Wetherilt (2012), 'The role of designated market makers in the new trading landscape', *Bank of England Quarterly Bulletin*, vol 52, no 4, p344.
[20] This may be seen as a form of network effect – the value of the marketplace increases with the number of other participants.
[21] For further information, see appendix three of Ofgem (2010), 'Liquidity Proposals for the GB wholesale electricity market', 22 February 2010, Reference: 22/10.
[22] Long-term contracts may exist for reasons other than purely selling energy – for example, a Power Purchase Agreement will include the offtaker managing imbalance risk on behalf of the generator.

address this issue. A regulatory intervention may therefore be required to 'kick-start' improvements in liquidity that become self-sustaining over time.[23]

1.17. There is a different problem in relation to access to the wholesale market for small suppliers. Firms make commercial decisions about where to focus their efforts in selecting counterparties to trade with. This may mean that they do not prioritise signing trading agreements with small suppliers, as they may see little potential for commercial benefit. Likewise, they may not seek to provide products in sizes that are suitable for small suppliers. While this may be individually rational, it may act as a barrier to small suppliers entering and competing in the market. This may be problematic from the wider perspective of encouraging competition, meaning that regulatory intervention is needed in the interests of consumers.

Are there factors beyond the scope of regulatory intervention that affect liquidity?

1.18. Before evaluating a regulatory intervention, it is worth considering whether regulatory intervention can address the problem of low liquidity. Some factors that have been suggested as inherent barriers to liquidity are discussed below.

- **Size of the market** – We do not believe that GB is too small to sustain a liquid market. The GB electricity market is of a similar size to the Nordic market,[24] which is much more liquid. The GB market has also previously been more liquid.

- **Relationship with the gas market** – It has been argued that the strong correlation between gas and power prices in GB means that firms will choose to trade gas instead to manage their risks. We accept that speculative firms, who could otherwise provide liquidity to the GB power market, may be attracted to the more liquid GB gas market. However, for physical players, this so-called 'dirty hedging' may not be sufficient. The future correlation between these commodities may change, especially given higher intermittency.[25] The gas market also does not provide access to peak products. Smaller players may find this approach to managing their risks particularly unappealing, especially as a firm using gas to hedge a physical power position would still have to purchase power at some point.

[23] This rationale has been used by other regulators. See for example, Energy Market Authority (2012), 'Development of an electricity futures market in Singapore', 22 October 2012, pp3-4. (It must be accepted that in this case, the regulator was seeking to build a market from scratch, rather than to improve the liquidity of an existing market).
[24] GB generation in 2011 was 365TWh. (DECC (2012) 'Digest of United Kingdom Energy Statistics 2012', paragraph 5.4). Generation in the Nordic countries (Denmark, Finland, Norway, Sweden) in 2011 was 370TWh. (Nordreg (2012), 'Nordic Market report 2012,' p7).
[25] See for example, Cambridge Economic Policy Associates (2010), 'Market Power and Liquidity in SEM – A report for the CER and the Utility Regulator', 15 December 2010, p35.

- **Impact of the financial crisis** – The financial crisis may have led to a decline in the risk appetite of financial firms and an increase in the cost of credit. The latter impact may be important for firms' ability to trade, but should not prevent GB power from being as liquid as other markets.

1.19. We recognise that there are a wide variety of factors that influence liquidity in the market. However, we are not persuaded that these factors present an insurmountable barrier to improvements in liquidity. We consider that there is room for intervention to improve liquidity and have a positive impact for consumers.

Options considered

1.20. While our work on liquidity considered a range of options, this consultation is focused on our final proposals for a Secure and Promote (S&P) licence condition. In this context, our priority is to conduct a full evaluation of the impact of this option. The baseline for evaluation will be a case without liquidity intervention.[26]

1.21. However, appendix 2 provides summary evaluations of the key alternative options. For reasons of clarity, each of these options is considered separately. The options considered there are:[27]

- Mandatory Auction
- Self-Supply Restriction
- Obligation to Trade
- Locking in volumes traded on day-ahead auctions
- Delay

[26] Note that this ignores consideration of any potential government use of the liquidity powers sought in the Energy Bill. Such government intervention would be possible if we decided not to intervene, but for simplicity we have not factored this into our baseline scenario.
[27] This is not intended to be an exhaustive list of all the options that have been considered over the course of the liquidity project. Rather, it is intended to cover the main options.

2. Impact on consumers

Chapter Summary

We examine how the potential impacts of our S&P proposals will ultimately affect consumers. Improved liquidity may deliver benefits for consumers through increased competition and improved security of supply. We also discuss other potential impacts on consumers, including costs.

Question 1: Do you agree with our evaluation of the impact of our Secure and Promote proposals on consumers? Are there other factors we should be considering?

2.1. As indicated by Ofgem's principal objective, the ultimate focus of our work is to ensure the market works in the interests of consumers. This chapter therefore seeks to evaluate S&P through consideration of whether it has a positive impact on consumers. While specific areas (competition, security of supply, costs) are discussed in later chapters, this chapter summarises how these areas affect consumers.

Potential benefits for consumers from increased competition

Competitive pressure on consumers' bills

2.2. The potential impact of any intervention on bills is likely to be a key consideration for consumers. It is difficult to provide a quantitative estimate of the potential impact on consumers' bills from greater liquidity. This is due to the inherent difficulty of forecasting the benefits from competition, which will depend on a wide range of factors. In the absence of a quantitative estimate, we provide a qualitative description of the potential impacts on bills, by examining each component of retail prices in turn:

- **Wholesale energy costs** – Wholesale costs are influenced by a variety of factors, including those outside of Ofgem's control, such as global commodity prices. However, increased liquidity should help to exert competitive pressure on wholesale prices. If increased liquidity allows generators to compete more effectively, then this could lead to downward pressure on profits earned from generation, as firms have a reduced ability to earn excess returns. Competitive pressure on generators could also encourage them to reduce their operational costs. There may be a further effect on the wholesale costs of retailers: if S&P allows them to manage their risks better by trading a range of longer-dated products, then this may help suppliers to compete more actively on the price they offer to consumers. At the very least, improved

availability of longer-dated products should enable suppliers to protect their customers from short-term increases in wholesale prices.

- **Suppliers' operational costs –** The impact of increased liquidity on bills may be easier to identify for the elements under the direct control of suppliers. One of these is the supplier's own operational costs. Competition between suppliers should incentivise them to become more efficient, leading to reductions in operational costs.

- **Suppliers' profit margins –** Increased competition facilitated by improved liquidity should encourage suppliers to price more keenly, creating downward pressure on consumers' bills. If suppliers do not reduce their costs, this change in bills would result in a reduction in the supplier's margin.

2.3. The other main components of a typical bill are network charges, Value Added Tax, and the charges for environmental and other schemes. These make up around 41% of a typical domestic electricity bill.[28] Our proposals would not be expected to have an impact on these components of a bill.[29]

Customer service

2.4. Firms operating in a competitive market face increased incentives to be responsive to their customers and to provide a good quality of service. It is worth noting that significant numbers of complaints have been made about the service that energy firms provide at present.[30] Overall, only 50% of domestic consumers are satisfied with their supplier.[31] It may be that more active competition will incentivise firms to improve their service. Improved liquidity may especially reduce barriers to entry for smaller suppliers, who may have a particular role to play in improving consumer satisfaction; some of them have obtained the highest satisfaction levels across suppliers.[32]

[28] The components as a percentage of a typical domestic electricity bill are: network charges 20%, VAT 5%, environmental costs 11%, and other costs 5%. (Ofgem (2013), 'Updated: household energy bills explained', 16 January 2013, Factsheet 98, p2).
[29] Except that reducing other elements of the bill would also mean a reduction in the VAT paid.
[30] Links to complaint information from some suppliers is available on the Ofgem website: http://www.ofgem.gov.uk/Sustainability/Cp/Cr/Pages/Supplierdataoncustomercomplaints.aspx
[31] GfK NOP Energy Satisfaction Monitor, data from Q4 2012 survey. GfK uses government statistics (ONS) to produce a panel of 12,000 households, demographically representative of the 26m households in Britain.
[32] Which? (2013), '2013 Energy Satisfaction Survey'. http://www.which.co.uk/switch/energy-suppliers/energy-companies-rated

Choice and innovation

2.5. If liquidity permits entry into the supply market from a wider range of firms, or allows existing firms to compete more vigorously, this will increase the choice available to consumers.[33] Improved liquidity may have a particular impact on the ability of a range of suppliers to offer fixed price deals. It may also help suppliers to follow a greater variety of hedging strategies, reducing the likelihood of retail prices changing together.[34]

2.6. Our Supplier Market Access proposals and our wider attempts to improve liquidity through market making may particularly help new players to enter the market. These firms may have new ideas or business models which may be at the forefront of innovation. Improved liquidity should reduce the extent to which wholesale product availability is a constraint on the offers that suppliers can make to consumers, and ensure that firms who have new ideas are better able to implement them.

2.7. The potential gains in choice for consumers do not only apply to the electricity market. Most domestic electricity is sold to consumers via 'dual fuel' tariffs.[35] If greater liquidity improves the ability of suppliers to compete in the electricity market, then there may also be benefits across gas and electricity.

Other consequences for consumers

Transparency and consumer confidence in the power market

2.8. There is significant public interest in energy markets. Consumers want to be sure that the energy markets are delivering the best possible deal for them. If S&P helps to facilitate entry and competition, this may help to build trust by giving consumers options and a range of different suppliers. The market making element of S&P will also help to provide greater transparency of market prices to those within the industry.

[33] This will of course be within the framework set out under the Retail Market Review to ensure that consumers are not presented with an unnecessarily complex range of tariffs.
[34] For a discussion of similarities in hedging and pricing between suppliers, see Ofgem (2011), 'The Retail Market Review – Findings and initial proposals', 21 March 2011, Reference: 34/11, paragraphs 2.79 to 2.83.
[35] Dual fuel represented 16.9m domestic customer accounts in August 2010, compared to 9.2m electricity-only accounts and 4.6m gas-only accounts. (Ofgem (2011), 'The Retail Market Review – Findings and initial proposals. Supplementary appendices', 21 March 2011, Reference: 34/11, p49).

Security of supply

2.9. The Authority's principal objective refers to security of supply as one of the interests of consumers. By contributing to investment and operational decisions, these proposals may help to encourage the availability of generation capacity, with consequent benefits for security of supply. Chapter four examines the impact of these proposals on security of supply.

Costs

2.10. The introduction of S&P will create some costs for S&P licensees. Chapter five sets out the detail of our initial cost estimates. To summarise, in our best estimate case we estimate that Secure and Promote could have a set-up cost to the industry of just under £4m, and an ongoing cost across all S&P licensees of around £14m per year. This ongoing cost would approximate to 4p/MWh, or around 15p per year for a typical domestic consumer bill. It is reasonable to assume that some or all of these costs will be passed through to consumers. However, it is also reasonable to conclude that these that these would be offset – and probably exceeded - by benefits for consumers.

2.11. Only small benefits would be needed to outweigh our estimate of the costs of S&P. As noted above, greater competition as a result of improved liquidity should place downward pressure on consumers' bills. This could be achieved through a reduction in operational costs or profit margins. Across both generation and supply, a 0.3% reduction in operational costs or a 0.4% reduction in profit margins could deliver a reduction in prices for consumers equal to the ongoing costs of S&P.[36] This would ensure that consumers' bills were not higher as a result. Furthermore, it is important to note that some of the key costs of the intervention are proportionate to its level of impact. The level of costs mentioned above is based on an assumption of significant volumes of trading under S&P (primarily through the market maker). This means it would be having a large impact in terms of liquidity and potentially delivering significant benefits to consumers along the lines set out above.

[36] Information on the baseline current level of operational costs and profits is taken from the 2011 Segmental Statements. (See chapter five for more information).

3. Impact on competition

Chapter Summary

We examine how poor liquidity imposes barriers to entry and competition. We then discuss how S&P could remove these barriers. We also consider whether S&P could have wider impacts on competition.

Question 2: Do you agree with our evaluation of the impact of our Secure and Promote proposals on competition? Are there other factors we should be considering?

How liquidity affects competition

3.1. As discussed in chapter one, a liquid wholesale market is important for competition in both generation and supply markets and we consider that forward liquidity in the GB wholesale power market is poor. Consequently, poor liquidity may be forming a barrier to entry and competition in the GB power market. This view is widely shared – for example, it was put forward in a report for Energy UK from January 2011.[37] The potential impact of low liquidity on European energy markets has also been noted by the European Commission, whose 2007 Sector Inquiry concluded that "low levels of liquidity are an entry barrier to both gas and electricity markets".[38]

3.2. We are not evaluating the GB power market against an ideal world of perfect competition. The comparison is rather with a "well-functioning market".[39] Poor liquidity is not the only factor which may limit competition in the GB electricity market. There are other significant factors, for example the credit terms available to players in the market.[40] Some of these barriers are inherent and can benefit consumers – for example, there may be economies of scale in spreading fixed IT costs over a larger number of customers. However, we believe that improved liquidity will remove an important barrier to entry which is not an inevitable feature of the market.

[37] Frontier Economics (2011), 'Competition and Entry in the GB electricity retail market – a report prepared for Energy UK', January 2011, p17.
[38] European Commission (2007), 'DG Competition Report on Energy Sector Inquiry', 10 January 2007, SEC (2006) 1724, p8.
[39] Competition Commission (2013), 'Guidelines for market investigations: Their role, procedures, assessment and remedies,' April 2013, CC3 (Revised), paragraph 320.
[40] We have recognised this throughout the liquidity project – eg Ofgem (2010), 'Liquidity proposals for the GB wholesale electricity market', 22 February 2010, Reference: 22/10, paragraph 1.15.

Poor liquidity poses a barrier to entry and competition in both the generation and supply markets

Suppliers

3.3. For suppliers, poor liquidity in the forward markets may limit the types of tariffs that firms can offer, and their attributes. Offering fixed term tariffs may be very risky if it is not possible to hedge them in the market. The ability of firms to offer attractive stable prices may also be limited if it is hard to hedge.[41] This may prevent these suppliers from being able to compete effectively on price. Discussions with potential entrants have indicated that difficulties with accessing the wholesale market and poor electricity market liquidity were among the key reasons not to enter the supply market.

3.4. As well as the wider issue of poor forward market liquidity, smaller suppliers face specific issues when trying to access wholesale market products. There is a lack of availability of products in small clip sizes that reflect the quantities of electricity that small suppliers need. Smaller suppliers have also stressed that they need access to a wider range of wholesale energy market products than is often available, including peak and longer-dated products. Another issue is the time taken to set up trading and credit agreements. Small suppliers have indicated that this process can be very slow.

Generators

3.5. For generators, limited liquidity along the curve has been identified as a barrier to the effective hedging of their plants.[42] Peak liquidity is particularly poor along the curve, which may limit their ability to hedge non-baseload generation. The importance of hedging may be shown by the prominence that it is given by generators in their messages to investors. An effective hedging strategy attracts investment by suggesting that the generator can provide a predictable return.

3.6. Generators also suffer from the limited availability of robust prices in the market, which provide important signals for investment in new plants. In the absence of these signals, their ability to compete effectively may be limited. Price signals may also help scheduling maintenance of existing plants.

[41] Ofgem's Supply Market Indicator uses an 18 month indicative hedging strategy, based on information collected during the Energy Supply Probe. The fact that suppliers start hedging over a year ahead also fits with what we have been told by some large suppliers about their hedging behaviour. Figure 2.1 of Ofgem (2012), 'Methodology for Supply Market Report', shows how a hedging strategy over 12 months is more volatile than a longer one. Suppliers unable to follow a longer hedging strategy due to poor liquidity may therefore be disadvantaged in the offers they can make to consumers.

[42] Intermittent generators may not look to sell in forward markets, as output forecasts improve nearer to delivery. Chapter four discusses of the impact of S&P on such plants.

Effect of these barriers to entry

3.7. By impeding the access of market participants to wholesale electricity products and price signals, poor liquidity may be creating a barrier to entry and competition. This barrier may isolate incumbent firms from potential sources of competitive challenge, including entry. This limit to competitive pressure on incumbent firms in generation and supply markets may make it easier for them to increase bills or deliver poor service to their customers, safe in the knowledge that their market share will remain stable. Ofgem's analysis of the domestic supply market suggests that there has not been "any material change in suppliers' market share" over the past few years.[43]

How Secure and Promote addresses the issues

3.8. The two elements of our proposed intervention address different aspects of the barriers posed by poor liquidity.

The Supplier Market Access (SMA) rules

3.9. The SMA rules are targeted at facilitating entry and competition by smaller suppliers, by addressing the specific issues faced by these firms. They build on the initial voluntary commitments made by some larger firms, which some small suppliers have found helpful. The SMA rules are intended to provide a level playing field that prevents competition from being impeded by unnecessary barriers to entry. Some barriers may remain, for example, small suppliers may still face credit barriers. However, the SMA rules ensure that each small supplier's individual circumstances are taken into account and that they have greater transparency over the credit terms offered to them.

3.10. The SMA rules should make it easier for small suppliers to trade. This should mitigate the barriers to competition highlighted above. Initially, the SMA rules allow small suppliers to conclude trading and credit agreements with a number of larger firms. The SMA rules then allow small suppliers to buy or sell a range of forward electricity products, in small clip sizes, and at fair prices. The SMA rules also provide small suppliers with greater transparency over the terms they are offered. These rules can provide a small supplier with the ability to enter the market and grow into a substantial challenger to incumbent players.

Market making obligation

3.11. While the SMA rules are a targeted intervention for a particular group of firms, our proposals on market making are designed to improve liquidity in the

[43] Ofgem (2013), 'The Retail Market Review – Final domestic proposals", 27 March 2013, Reference: 40/13, paragraph 1.29.

market more generally. They should ensure that it provides the products and price signals that all market participants need, including S&P licensees.

3.12. The aim of market making is to provide firms with continuous opportunities to trade forward products. Market making helps to improve both price discovery and product availability. Market making is therefore a direct way to deliver the features of a liquid market set out in chapter one. The volume of trading under the market maker could vary, but it should remove poor liquidity from being a barrier to entry and competition. Market making is one of the more common approaches taken to improving liquidity in a commercial context and is a feature of the most liquid power markets in Europe.[44] Market makers should help to build durable confidence in liquidity, which should encourage firms to participate in the market. The market maker may therefore have a self-reinforcing impact on liquidity.

3.13. Our two proposals have different objectives, but are complementary – for example, if the market maker provides greater confidence in the market price, this should help suppliers who access prices through the SMA process. In addition, while the SMA rules give an entrant a foothold in the market, the market maker obligation will ensure that it is able to meet its wholesale needs in the long-run, as it continues to grow.

3.14. S&P is also complementary to Ofgem's Retail Market Review (RMR), which seeks to make the energy retail markets simpler, clearer and fairer for consumers. By doing this, RMR aims to improve consumer engagement with the energy market. S&P supports this by ensuring that suppliers can access the products they need in order to compete for consumers who will be more engaged with the market. Fluctuations in market shares as a result of more engaged consumers may also lead to additional trading and therefore support improvements in liquidity.

Other impacts on competition

Impact on competition between platforms

3.15. Generally speaking, we have designed S&P to have a limited impact on competition in other parts of the market. For example, S&P does not mandate the use of a particular platform. We believe that it is more appropriate for market participants to select the platforms that best meet their needs. We also recognise that there are benefits from competition between trading platforms; competition should help to provide downward pressure on platform fees, incentivise improved service to market participants, and encourage platforms to develop new products.

[44] Nordpool and Germany.

3.16. Our proposals for market making include a rule to ensure that market making occurs on a platform that is accessible to at least ten licensees. We believe that this rule is needed to ensure that S&P cannot be undermined by firms market making on platforms where there will be little engagement with the rest of the market. This rule could act as a restraint on competition in the platform market, as an entrant platform might not initially be eligible as a venue for market making under S&P. The entrant platform could therefore remain less attractive than existing platforms. However, we do not believe that this is significant, as it should not be difficult for an entrant to the platform market to attract ten licensees as members.

Impact on S&P licensees

3.17. We are only proposing to place the S&P licence condition on certain firms.[45] S&P licensees will incur costs which their competitors will avoid. This could affect the relative competitiveness of firms with and without the S&P licence condition. We would note that the cost of S&P (see chapter five) is small given the overall scale of the S&P licensees' businesses, and therefore is likely to have an insignificant impact on their competitiveness. In relation to market making, S&P licensees will not only incur costs, as they should also benefit from increased liquidity allowing them to compete more effectively.

Impact on other firms in the market

3.18. S&P could in theory limit the willingness of firms outside the obligation to grow and compete, due to the risk of becoming subject to the S&P licence condition. We do not consider that it is likely to be a major consideration, as our initial analysis of the costs of S&P indicates that these are not very large. In particular, the cost to a generator of becoming subject to the SMA rules is quite low. Introducing a S&P obligation for further licensees would also depend on a full analysis of the costs and benefits of doing so.

3.19. The threshold for access to the SMA rules could also in theory affect the willingness of small suppliers to grow beyond 5TWh, or to expand their own generation. While these effects are possible, by the time a firm exceeds the threshold it will already need to buy some power outside the SMA framework. Parts of SMA, such as small clip sizes, may also be less relevant for a supplier that has grown above the threshold. Overall, we do not believe that firms will avoid growing above the eligibility threshold, bearing in mind the normal commercial incentives to expand their businesses.[46]

[45] We explain the rationale for this decision in chapter two of the consultation document.
[46] Chapter three of the consultation document sets out the rationale for including a threshold.

4. Impact on sustainable development

Chapter Summary

We evaluate the impact on sustainable development of our Secure and Promote proposals, by reference to Ofgem's sustainable development themes.

Question 3: Do you agree with our evaluation of the impact of our Secure and Promote proposals on sustainable development? Are there other factors we should be considering?

4.1. Ofgem has five sustainable development themes.[47] These are:

1) Managing the transition to a low carbon economy
2) Eradicating fuel poverty and protecting vulnerable customers
3) Promoting energy saving
4) Ensuring a secure and reliable gas and electricity supply
5) Supporting improvement in all aspects of the environment

4.2. This chapter considers the impact of S&P on three of these themes. We do not believe there are any impacts on energy saving or wider environmental improvements, so these particular themes are not discussed further. We also note that we do not expect S&P to have any impact on health and safety.

Managing the transition to a low carbon economy

Electricity Market Reform

4.3. The government has set out a programme for Electricity Market Reform in the Energy Bill. One element of this package is the introduction of Feed-in Tariffs with Contracts for Difference (CfD) to support investment in low-carbon generation. A CfD provides a generator with revenue certainty by paying the difference between the market price for electricity (the reference price) and a fixed strike price. A source for the reference price must therefore be selected.

4.4. For baseload generation, the Department of Energy and Climate Change (DECC) have indicated that the reference price should be taken from a forward market. DECC have also stated that the market used should be transparent, reliable and liquid.[48] The S&P market maker, which aims to

[47] Ofgem (2012), 'Sustainable Development Focus 2011-12', Reference: 86/2012, p5.
[48] DECC (2012), 'Annex A. Feed-in Tariff with Contracts for Difference: Operational

improve the robustness of forward prices, may help the market to provide the CfD reference price.[49] A liquid reference price for the baseload CfD should increase investor confidence in the returns available and therefore encourage investment in baseload low carbon generation.

4.5. For intermittent generation, DECC have indicated that the reference price should be taken from the day-ahead 'GB hub'.[50] At this stage S&P does not include intervention in the near-term market, so there is no direct impact of our proposals on this reference market. However, by improving wider liquidity, our proposals may make the GB power market more attractive to a range of market participants, including aggregators and other intermediaries.[51] These firms may be able to provide trading services to intermittent renewable generation. Increased competition in the supply market may also increase the range of potential offtakers. There may therefore be an indirect benefit from our proposals on investment in intermittent low carbon generation.

Eradicating fuel poverty and protecting vulnerable customers

4.6. When considering the impact on vulnerable customers, the same considerations apply as when considering the impact on consumers in general (see chapter two). The impact of any benefits of S&P may be more significant for lower income customers, as energy bills are a higher proportion of their incomes. However, the same is also true in relation to any costs of S&P. While there are a wide variety of factors affecting energy prices and consumer bills, ensuring that there is effective competition is one way to ensure these consumers get the best possible deal.

4.7. Benefits from increased competition in the energy supply market may differ between types of consumers, depending on their level of engagement in the market. Earlier work by Ofgem has shown that vulnerable customers may be less likely to switch suppliers.[52] However, reforms under Ofgem's RMR will look to make it easier for all consumers to make better choices about their energy supplies. In addition, the benefits from increased competition may flow to disengaged consumers as well as to active consumers, as suppliers may also have to improve their offers in order to retain customers. Any benefits

---

Framework', November 2012, paragraphs 180 and 184.
[49] The added value of market making for the CfD reference price will vary depending on the current level of liquidity in the product(s) used.
[50] DECC (2012), 'Annex A. Feed-in Tariff with Contracts for Difference: Operational Framework', November 2012, paragraphs 176-177.
[51] One aggregator has suggested to us that it is important to have a full range of liquid products, in order to make trading the power market sufficiently attractive to encourage entry.
[52] Ofgem (2011), 'The Retail Market Review – Findings and initial proposals', 21 March 2011, Reference: 34/11, paragraph 2.67.

from increased competition in the generation market may also apply to consumers that do not switch supplier.

Ensuring a secure and reliable gas and electricity supply

4.8. To deliver a secure electricity supply to consumers, it is important to ensure that there is sufficient generation capacity. The need for up to £200bn of new investment in the GB energy sector was first identified by Ofgem in Project Discovery.[53] The importance of investment in generation has since been further highlighted through Ofgem's Capacity Assessment in 2012.[54] In this context, policies which facilitate investment in generation may assume more importance. It is notable that liquidity has been a strong concern from many independent generators, who are one source of new generation projects.

4.9. Improved liquidity may help to improve the climate for investment in generation in two ways. The market maker under S&P will provide confidence of a certain level of liquidity into the future, covering longer-dated and peak products. This will help to reassure generators that they will have a route to market to sell their output. This may help projects to obtain finance.

4.10. Improved forward liquidity will also deliver price signals. These price signals will form part of the case for investment in new generation. This has been noted by the International Energy Agency, who stated that higher liquidity would "support timely and efficient investment in power generating capacity."[55] It is important not to overstate this effect: S&P will only include products two years ahead, whereas major investment decisions are made after considering expectations of prices for the next fifteen years or longer. However, it has been suggested to us that even forward market prices for a limited period may be a useful part of explaining the case for investment.[56]

4.11. These factors may also apply to some extent to existing plants. Improved liquidity could therefore support security of supply by supporting existing generation which might otherwise mothball or close. Price signals could also be useful for scheduling maintenance. This will support security of supply by enabling generators to plan their maintenance for when prices are lowest.

Impact on health and safety

4.12. We do not anticipate any impact on health and safety from our proposals.

---

[53] Ofgem (2010), 'Project Discovery – Options for delivering secure and sustainable energy supplies', 3 February 2010, Reference: 16/10.
[54] Ofgem (2012), 'Electricity Capacity Assessment', 5 October 2012, Reference: 126/12.
[55] IEA (2012), 'Energy Policies of IEA Countries – The United Kingdom. 2012 Review', p147.
[56] Forward prices may be particularly useful when explaining an investment project to investors who have less experience of the GB power market.

5. Costs

Chapter Summary

We set out an initial view of the set-up and ongoing costs of our Secure and Promote intervention, based on responses to a Request for Information and our own internal analysis. We then give an indication of the benefits which would be required to outweigh these costs.

Question 4: Do you agree with our evaluation of the cost impacts of our Secure and Promote proposals? Are there other factors we should be considering?

Costs to S&P licensees: introduction

5.1. This section considers the costs to S&P licensees of implementing our proposals. Following the publication of our last consultation document in December 2012, we issued a Request for Information (RFI) to potential S&P licensees to improve our understanding of the cost impacts of our proposals. This information was obtained in confidence, meaning that it is not attributed in the cost estimates below.

5.2. The RFI responses played an important role in developing our cost estimates. However, the cost estimates are not simple averages of the figures provided. Given the initial stage of the proposals we published in December 2012, respondents understandably used a range of assumptions and interpretations in compiling their responses. We have therefore tried to standardise these assumptions to create a coherent picture. Now we have published our final proposals for S&P, we welcome any further information that stakeholders are able to provide to help us refine our cost estimates.

5.3. This chapter considers each of our proposals in turn. For both the SMA rules and market making, we look at the set-up costs, then at the ongoing annual costs of meeting the obligations. We also discuss the ongoing costs to S&P licensees of reporting on compliance with S&P. For all these areas, the costs are presented on a per licensee basis. Further information on the details of the assumptions used can be found in appendix three.

5.4. For all the costs we estimate, we have set out three cases: a low case, a high case and our best estimate of the likely costs at this stage. This partly reflects the different cost information provided in responses to the RFI. It also reflects the inherent uncertainty of the costs of the intervention.

Costs to S&P licensees: Supplier Market Access

Supplier Market Access: set-up costs

5.5. It is reasonable to assume that there will be a number of applications for trading agreements as soon as the SMA rules are introduced. A S&P licensee will incur some costs in negotiating and signing trading agreements with independent suppliers, in the form of staff time, legal costs, credit checks and systems costs.

5.6. The table below presents our estimates of these set-up costs. The licensee may not only incur costs from trading agreements that are eventually signed, but also from the initial stages of negotiations which do not result in a trading agreement being signed. These costs are separated below. The cost differences between the cases are primarily driven by different assumptions over the levels of take-up by eligible small suppliers. Costs therefore increase in proportion to the benefits.

Figure 1: Estimated set-up costs of Supplier Market Access

	Low case	Best estimate	High case
New trading agreements	*£100,000*	£210,000	*£400,000*
Initial negotiations where agreement is not reached	*£20,000*	£42,000	*£80,000*
Total set-up cost per S&P licensee	*£120,000*	**£252,000**	*£480,000*

Supplier Market Access: ongoing costs

5.7. On an ongoing basis, costs will arise from continued demand for trading agreements from small suppliers. Once trading agreements are in place, staff time will be needed to trade with small suppliers and to manage trading agreements. By trading with small suppliers, firms may expose themselves to some additional credit costs. The table below shows our cost evaluation. As with the set-up costs, each case includes an assumption about the associated benefits. Higher costs indicate higher take-up, and therefore higher benefits.

Figure 2: Estimated ongoing costs of Supplier Market Access

	Low case	Best estimate	High case
New trading agreements	*£25,000*	£60,000	*£160,000*
Initial negotiations where agreement is not reached	*£5,000*	£12,000	*£32,000*
Staff costs	*£100,000*	£200,000	*£200,000*
Credit costs	*£60,000*	£200,000	*£500,000*
Cost of unhedged positions	*Unquantified*	Unquantified	*Unquantified*
Total annual cost per S&P licensee	*£190,000*	**£472,000**	*£892,000*

5.8. Detailed information about the assumptions used can be found in appendix three, but we highlight a couple of key points below:

- **Credit costs** – The credit cost is not based on Ofgem forcing S&P licensees to offer particular credit terms. S&P licensees are expected to exercise judgement about the risks of extending credit to any particular firm in the normal way. The credit figure in the table above is merely to acknowledge the potential credit costs from trading with smaller counterparties.

- **Unhedged positions** – A firm that trades a small clip may have to hold this position until it has made a number of similar trades, at which point it can trade in the market.[57] While the position is open, the firm will be exposed to the risk of price changes. We have been unable to quantify this cost, but we do not think that it is likely to be large. The fact that firms will be able to access clip sizes of 5MW through the market maker may reduce this risk.

Costs to S&P licensees: market making

Market making: set-up costs

5.9. The S&P licensee is likely to incur some set-up costs to prepare for market making. These should be manageable, given that market making is not a novel concept. There may be some systems costs to ensure that IT systems are able to provide up to date information on the firm's position and credit

[57] This may not be a problem if the firm is able to match this sale against its own generation.

exposures. The S&P licensee may also incur some legal costs, for example to agree reduced trading fees with a platform. With the data available to us, it was not possible to itemise the cost figures below; we would welcome any information to help us refine these estimates.

Figure 3: Estimated set-up costs from market-making

	Low case	Best estimate	High case
Total set-up cost per S&P licensee	*£100,000*	**£300,000**	*£500,000*

Market making: ongoing costs

5.10. Market making is a more significant intervention than the SMA rules in terms of ongoing cost. S&P licensees will need staff to carry out market making, both in direct trading roles and support functions. As firms will be trading on external platforms, they will incur transaction fees on trades they would not otherwise have carried out. Firms will also face costs related to the positions that develop as a result of their market making activities. The table below provides our initial cost estimates.

Figure 4: Estimated ongoing costs of market making

	Low case	Best estimate	High case
Staff costs	*£100,000*	£300,000	*£300,000*
Transaction fees	*£50,000*	£550,000	*£1,100,000*
Cost of open positions	*£750,000*	£750,000	*£1,500,000*
Costs from mispricing	*Unquantified*	Unquantified	*Unquantified*
Costs from managing credit exposures	*Unquantified*	Unquantified	*Unquantified*
Total annual cost per S&P licensee	*£900,000*	**£1,600,000**	*£2,900,000*

5.11. Higher volumes of trading through the market maker will increase the cost to the licensee, but will also increase the benefits to the industry and to consumers. The assumptions for our best estimate would imply a total volume of 330TWh traded through market makers, roughly equal in volume to GB total generation. It can therefore be seen that these costs assume a

significant increase in liquidity, with benefits for consumers potentially increasing in proportion to this.

5.12. Detailed information about the assumptions used can be found in appendix three, but we highlight a few key points below:

- **Cost of open positions** - Some firms suggested they would manage open positions from market making by going immediately back into the market to exit the positions. For example, if a market maker sold a product, they would buy at the next best offer price. The cost of this approach would be the difference between the two prices at which the firm trades. This strategy seems potentially expensive; under the best estimate case, and assuming that the difference between the prices at which the firm trades at is 10p/MWh, the cost of managing the position would be £5.5m per year, rather than the £750,000 per year in the table.

  Due to the cost, we do not believe that this is the strategy that S&P licensees would use. Instead, we think that a S&P licensee with an open position will wait for firms to trade in the opposite direction (at the price posted by the licensee). In this way trades in opposite directions will net off, allowing the S&P licensee to capture the bid-offer spread. When a firm has open positions it will incur the risk that the price changes in the meantime – the cost associated with this will arise from holding an amount of risk capital.

- **Costs from mispricing -** The cost of mispricing recognises that the firm will not always make the correct decisions when setting its bid and offer prices. If it sets a price that is too attractive, this price is likely to be traded. The market maker might then need to adjust its prices, potentially leading to a loss on the difference between two trades. However, this must be weighed against the fact that market makers will receive some revenues from market making through the bid-offer spread. Even if the S&P licensee misprices, this may not result in an actual loss – it might just make a smaller spread on a particular pair of trades. Although we are unable to quantify the costs from mispricing, we consider that these are likely to be small after including the profit on the spread that the market maker will receive at other times.

- **Managing credit exposures -** We would not expect the market maker to hold open positions for a long period, which may limit the credit exposure. On an exchange, trades in opposite directions will net completely, leaving no credit exposure. However, bearing in mind current practice in the wholesale market, it is quite likely that S&P licensees will market make on an OTC platform. In this case, credit exposures are bilateral, and do not cancel each other out.[58] Credit exposures may be higher in this case.

[58] Unless the buy and sell trades are with the same counterparty.

- **European financial regulation –**If market making brought an S&P licensee within the scope of European financial regulation[59] when they would otherwise have been outside, the S&P licensee could face the cost of having to clear derivatives trades across Europe. However, we would assume that the obligated firm would choose to contract out its obligation and would therefore not face this cost.

Costs to S&P licensees: reporting

5.13. Firms will need to produce reports to show they are compliant with S&P. Obtaining data and preparing reports will require staff time; initial estimates of the cost of this are given below. From information we received, we anticipate that most of this cost would be incurred in relation to market making, and so have not assumed any cost for firms only obligated to comply with the SMA rules.

Figure 5: Estimated ongoing costs of reporting

	Low case	Best estimate	High case
Total annual cost per obligated firm	*£100,000*	**£100,000**	*£200,000*

Costs to S&P licensees: conclusion

5.14. For the purpose of clarity, the table below summarises the cost of each element of our S&P proposals. This is presented for a S&P licensee that is required to comply with the SMA rules and to market make. (S&P licensees required solely to meet the SMA rules will only face those costs).

[59] Either as a result of exceeding the clearing threshold in EMIR, or as a result of becoming a MiFID investment firm.

Figure 6: Summary of estimated costs of meeting the S&P obligations

	Low case	Best estimate	High case
Set-up costs			
Supplier Market Access	*£120,000*	£252,000	*£480,000*
Market making	*£100,000*	£300,000	*£500,000*
Total set-up cost per obligated firm	*£220,000*	**£552,000**	*£980,000*
Ongoing cost			
Supplier Market Access	*£190,000*	£472,000	*£892,000*
Market making	*£900,000*	£1,600,000	*£2,900,000*
Reporting	*£100,000*	£100,000	*£200,000*
Total annual cost per obligated firm	*£1,190,000*	**£2,172,000**	*£3,992,000*

5.15. The table below turns these costs for individual firms into a total cost across all S&P licensees. (These numbers reflect that six firms would be obliged to comply with the entire S&P licence condition, with two additional firms only required to meet the SMA rules). These are initial cost estimates, and we welcome any further information that market participants are able to provide.

Figure 7: Estimated total costs of S&P across all S&P licensees

	Low case	Best estimate	High case
Total set-up cost – overall	*£1,560,000*	**£3,816,000**	*£6,840,000*
Total annual cost - overall	*£7,520,000*	**£13,976,000**	*£25,736,000*

5.16. To give an idea of the scale of these costs, we can present the ongoing costs on a per unit supplied basis. Using consumption in GB in 2011,[60] the cost of

[60] Final consumption was 318 TWh. (DECC (2012), 'Digest of United Kingdom Energy Statistics', p115).

S&P would be between 2p/MWh and 8p/MWh, with a best estimate of 4p/MWh. Therefore, according to our best estimate, the cost of S&P would be around 15 pence per year for an average domestic consumer bill[61].

Comparing costs to benefits

5.17. It is difficult to quantify the benefits of this intervention. The approach that we therefore adopt is 'break-even analysis'. This involves taking the costs, for which we have reasonable figures, and then looking at the size of benefits that would be needed to exceed these costs. This approach is mentioned in the Ofgem guidance on impact assessments.[62]

5.18. As noted in chapter three, increased liquidity should remove a barrier to entry and allow increased competition. As firms compete, they will look for ways to make their prices more competitive, exerting downward pressure on the prices paid by consumers. These may include reducing their profit margins, or reducing their operational costs.

5.19. Our data sources are the 2011 Segmental Statements published by each of the six large vertically integrated firms.[63] These are a useful source as they give information about the costs and profits for the licensed generation and supply segments of the businesses. (These six firms do not constitute the entire market,[64] so our subsequent figures will slightly overstate the size of the benefits required to outweigh the costs). Recalling from above that our best estimate of the annual ongoing costs of S&P was £14m, we now compare this figure to operational costs and profits from the 2011 Segmental Statements. The figures for comparison are the totals across generation, domestic electricity supply and non-domestic electricity supply.

[61] Consuming 3,300kWh per year.
[62] Ofgem (2009), 'Guidance on Impact Assessments', 15 December 2009, Reference: 151/09, paragraph 5.5.
[63] Available through the Ofgem website here: http://www.ofgem.gov.uk/Markets/RetMkts/rmr/Documents1/Reporting%202011%20Results%20Overview%20text.pdf
[64] The 2011 market share of the six firms covered by the Segmental Statements was 72% for generation, 99% for domestic electricity supply, and 94% for non-domestic electricity supply. (Ofgem and NIAUR (2012), '2012 Great Britain and Northern Ireland National Reports'. Information on market share in generation is available on p36, for domestic supply on p42, and for non-domestic supply on p43).

Figure 8: Break-even analysis based on 2011 Segmental Statements

	Operational costs[65]	Profits[66]
Generation	£2,257m	£2,618.5m
Domestic electricity supply	£1,819m	£191m
Non-domestic electricity supply	£688m	£456m
Total	**£4,764m**	**£3,265.5m**
Reduction needed to cover ongoing cost	**0.3%**	**0.4%**

5.20. These figures show that the break-even reduction in operational costs needed to deliver benefits equal to the ongoing costs of S&P would be 0.3%. For profits, the respective reduction is 0.4%. A combination of smaller reductions in both operational costs and profits could also deliver sufficient benefits to cover the ongoing costs. The break-even changes required are therefore very small in relation to the overall size of operational costs and profits.[67]

5.21. It therefore seems reasonable to consider that, if S&P results in increased competition, it could produce benefits (through reductions in margins, in operational costs, or in combinations of the two) which could clearly exceed the costs of S&P. Reductions in margins or operational costs will occur as firms seek to respond to competitive pressure by trying to find ways to make a better offer to consumers. This means that these benefits should flow through to consumers. Despite the difficulties of quantifying the benefits of this measure, we therefore conclude that the cost-benefit case for S&P is likely to be positive.

Costs to others

Costs to other market participants

5.22. S&P only places requirements on the S&P licensees. Other firms would be free to choose whether or not to make use of the opportunities to trade provided by the Supplier Market Access and market making interventions. Due to this, we have not identified any cost impacts for other firms.

[65] Called 'indirect costs' in the Segmental Statements.
[66] Earnings before Interest and Tax deducted (EBIT).
[67] We are not setting out a view on the appropriate size for profits and operational costs.

Costs to Ofgem

5.23. Implementing and monitoring Secure and Promote will require Ofgem resources, and could therefore have cost implications. We have not quantified these costs at this stage. This is because monitoring the functioning of the electricity wholesale market is a core part of Ofgem's role which would continue in any case. For example, Ofgem has a duty under the Third Package to monitor "the level and effectiveness of market opening and competition at wholesale and retail levels".[68]

5.24. There could also be costs from enforcing S&P. It is difficult to estimate the size of these costs, as this will depend on factors such as the level of compliance by obligated firms, and the scale of any breaches. Any enforcement costs could also vary between years. By aiming to design rules which are clear (and by providing guidance), we aim to reduce the likelihood of protracted and expensive enforcement processes.

[68] Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC. Article 37 (1)(j).

6. Risks and unintended consequences

Chapter Summary

We evaluate the key risks in relation to our Secure and Promote proposals, and consider the potential for unintended consequences. We also set out mitigations for the risks and unintended consequences identified.

Question 5: Do you agree with our evaluation of the risks and unintended consequences of our Secure and Promote proposals? Are there other factors we should be considering?

6.1. In this section, we consider the key risks in relation to our proposals, and explain how we are seeking to mitigate them. These are separated into:

- **Effectiveness risks** – risks that benefits will not be delivered
- **Unintended consequences** – risks that distortions will be created
- **Delivery risks** – risks related to the operation of S&P

Effectiveness risks

Accessibility for smaller firms may remain constrained

6.2. Despite the implementation of our S&P interventions, smaller firms might still face barriers when attempting to trade. For example, credit may continue to limit the extent to which smaller firms can access the market. This may be entirely appropriate, and we recognise that credit plays an important role in ensuring the stability of the energy market. The aim of the SMA rules is simply to remove unjustifiable barriers to market access for smaller players.

Supplier Market Access rules may remove volumes from the market

6.3. Our SMA rules could be met by firms trading with small suppliers through a market platform (such as a broker platform). However, they could also be fulfilled through bilateral deals conducted separately.[69] In this latter case, these volumes would not be contributing to price discovery or wider product availability. However, the scale of this impact may be limited, given that only small suppliers are eligible for the SMA rules, and these firms are responsible

[69] For example, a S&P licensee might only want to sell products in small clip sizes to small suppliers (as obliged to by the SMA rules) and not to other firms.

for a small subset of wholesale market trading.[70] Given the potential benefits of ensuring market access for small suppliers, any very small reduction in the volumes traded on market platforms may be worthwhile.

Market makers may not always be present

6.4. Under our proposed design, each market maker would only be required to post prices for at least half of market opening hours. At some points it is therefore possible that no firm will be market making in a particular product. We are proposing that there would be six firms obligated to market make,[71] which should help to ensure that market makers are present for the majority of market opening hours.

Market making has limited effect on volumes

6.5. One perceived risk might be that market making does not lead to a large increase in traded volumes, as the intervention does not fix a particular target volume. However, as the market maker provides opportunities to trade at narrow spreads, it could be argued that liquidity would no longer be presenting a barrier to entry, and so the intervention would still have achieved its aim.

Unintended consequences

Risk of distortion to market prices

6.6. The effectiveness of the price discovery process resulting from the market maker depends on whether a licensee has an incentive to post prices that correctly reflect its view of the market price. It has been suggested that obligated firms may consider factors beyond their view of the market price when posting their bid and offer prices. For example, a market maker may aim to set its spread at a price which allows it to unwind a position that it has built up. A market maker could also consider the spreads set by other firms – it has been suggested that firms will try to reduce their exposure by setting the same prices as the other S&P licensees.

[70] To develop our cost estimates, we made an assumption of the annual volume traded through the SMA rules. (See appendix three). For our best estimate case, the assumption was 1TWh per S&P licensee, giving a total of 8TWh. Even assuming this entire volume was traded away from market platforms, this would be less than a 1% reduction in traded volumes. (See appendix two of the main document for a graph showing traded volumes over recent years).
[71] The number of market makers could be lower, if two firms contract out their obligation to the same third party. However, in this case the third party will be obliged to post prices for 80% of the time, rather than 50%.

6.7. We do not see a strong argument that market making will distort prices. The restriction on the bid-offer spread will help to ensure that the prices firms post are close to their views of the correct market price. The fact that there are multiple market makers will also provide competitive discipline on pricing, as it opens up the possibility of arbitrage between them. While market makers will pay attention to other prices in the market (including those set by other market makers), as well as the number of parties buying and selling, this is a natural part of any market, as firms respond to price signals. Commercial market making arrangements are also already used in several other markets. However, we recognise that firms may pursue a range of strategies when market making, which may have different benefits, costs and risks for the licensee as well as the market as a whole. We would particularly welcome any detailed information from stakeholders on this point.

Intervention may crowd out commercial activities

6.8. By making certain firms carry out tasks under S&P, regulatory intervention may reduce the chance for these services to be provided on a commercial basis. For example, the SMA rules may be seen as reducing the potential for intermediaries to provide market access services to smaller players. However, there would still be room for intermediaries to provide more bespoke services than those available through the SMA rules, such as a wider product range.

6.9. Market making might also reduce the potential for commercial market making agreements. However, as above, commercial market makers could seek to provide an improved service, through narrower spreads or greater availability. It is also worth noting that market making has not played much of a role in GB power to date, so the extent of crowding out may be limited. Our proposals also allow S&P licensees to contract out the delivery of this requirement to a third party, which may help to ensure that market making is delivered in the most efficient way possible.

Firms could obtain supply licences just to be eligible for the SMA rules

6.10. The SMA rules seek to speed up the process of obtaining trading agreements. This may seem attractive for a range of firms beyond smaller suppliers, such as financial participants. In theory, these firms could choose to obtain a supply licence for the purposes of obtaining terms under the SMA rules. This could increase the cost of this measure for S&P licensees, and reduce the quality of service that smaller suppliers receive.

6.11. We do not believe that this is likely. The measure is targeted at small suppliers (with features to suit these firms), so they are likely to see little value in obtaining a supply licence solely for the purpose of falling within the SMA rules. Our rules around eligibility are also designed to limit this possibility. For example, firms who generate over 1TWh per year would not be eligible, which would rule out many generators. The annual limit of 0.5TWh

per year on the volume that a S&P licensee would have to trade with a particular counterparty would also limit the costs to the licensee.

Delivery risks

Compliance risk for S&P licensees

6.12. The introduction of a new licence condition creates compliance risks for S&P licensees. Failure to meet the requirements will lead to them being in breach of their licence condition and potentially liable for financial penalties. By designing S&P so that the rules are clear, we aim to make it easier for S&P licensees to understand what is required, which should minimise the risk of accidental breaches of the licence condition. For example, in the last consultation phase, firms suggested that the qualitative rules around bid-offer spreads might cause compliance risks; we have now replaced these with specific percentage values. Another source of protection for the S&P licensees should be the assurance that we will follow our usual enforcement guidelines[72] when deciding whether to take action.

Uncertainty over European financial regulation

6.13. Changes to European financial regulation are ongoing, and will not be completed by the time of a decision on whether to introduce S&P. This means that it may be difficult to have a full understanding of the likely impacts of European financial regulation on market making. It is primarily for this reason that we are giving S&P licensees the option to contract out the delivery of their market making obligation to a third party. This should help to make our proposals robust to developments in European financial regulation, as the licensee could appoint a third party who is already within the scope of financial regulation.

[72] Ofgem (2012), 'Enforcement Guidelines on Complaints and Investigations', 28 June 2012, Reference: 82/12.

7. Post-implementation review

7.1. Following the introduction of Secure and Promote, we will monitor the progress of liquidity and assess the impact of our intervention. Our plan for post-implementation review can be split into two areas: ongoing monitoring and in-depth review.

Ongoing monitoring

7.2. We will continue to monitor the state of liquidity in the market through our usual range of liquidity metrics. We will also continue to seek qualitative feedback from market participants on liquidity. We anticipate summarising the results of our ongoing monitoring as an annual assessment of the market.

7.3. We will also continually review the functioning of S&P. This will enable us to monitor compliance with the S&P licence condition, and to ensure the rules are effective. Where changes are necessary, we will provide clarification by amending guidance, or make changes by modifying licence conditions following the usual statutory process.

In-depth review

7.4. In order to provide regulatory certainty, we believe that it would be valuable to set an expectation that there will be a defined period[73] before making fundamental changes to the S&P arrangements, if deemed necessary. This would allow the progress of the market to be monitored over a number of years, allowing an informed view to be developed on the impact of S&P.

7.5. After this defined period, we would intend to hold an in-depth review of liquidity. This would allow a broader consideration of the market. This review would look at the overall state of liquidity in the market, evaluate whether intervention is still required, and consider whether S&P remains the best option for intervention. We would expect this review to include a consultation in order to obtain the views of stakeholders.

[73] For example, three to five years.

8. Conclusion

Evaluation of impact

8.1. Our evaluation suggests that liquidity is acting as a barrier to entry and competition in the generation and supply markets. Market making would address this barrier by making sure that firms have opportunities to trade a range of forward products. The SMA rules would ensure that small suppliers do not face unjustifiable barriers to obtaining electricity. These measures could facilitate greater competition in the generation and supply markets, to the ultimate benefit of consumers.

8.2. Our work suggests that the benefits from increased competition (such as those obtained through reductions in margins or operational costs) should be able to outweigh the costs of S&P. As competition increases, these benefits should be passed on to consumers, as firms will have greater pressure to improve their offers.

8.3. We therefore consider that the overall impact of our policy is likely to be positive, delivering benefits for consumers. This assessment therefore provides evidence in support of proceeding with S&P.

Next steps

8.4. This is a draft IA, which is intended to provide a basis for further discussion of these impacts with stakeholders. We welcome comments on all aspects of this IA. We recognise that these comments may contain sensitive information, and we are happy to accept confidential submissions. We are particularly interested in ways in which we can improve our evaluation of the impacts of S&P.

8.5. Following this consultation, the Authority will decide whether to proceed to a statutory consultation on modifying licence conditions. Alongside the statutory consultation, a final IA would be published. This would constitute the statutory IA required under section 5A of the Utilities Act 2000. Any final IA will incorporate the feedback received from stakeholders on this draft IA.

Appendices

Index

Appendix 1 - Consultation Response and Questions

1.1. Ofgem would like to hear the views of interested parties in relation to any of the issues set out in this document.

1.2. We would especially welcome responses to the specific questions which we have set out at the beginning of each chapter heading and which are replicated below.

1.3. Responses should be received by 9 August 2013 and should be sent to:

Martin Bell
Wholesale Markets
Ofgem
9 Millbank
London
SW1P 3GE
020 7901 7000
gb.markets@ofgem.gov.uk

1.4. Unless marked confidential, all responses will be published by placing them in Ofgem's library and on its website www.ofgem.gov.uk. Respondents may request that their response is kept confidential. Ofgem shall respect this request, subject to any obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

1.5. Respondents who wish to have their responses remain confidential should clearly mark the document/s to that effect and include the reasons for confidentiality. It would be helpful if responses could be submitted both electronically and in writing. Respondents are asked to put any confidential material in the appendices to their responses.

1.6. Next steps: Having considered the responses to this consultation, Ofgem intends to move to a statutory consultation on licence changes in the autumn. Any questions on this document should, in the first instance, be directed to Martin Bell, Phil Slarks, or Leigh Rafferty at the contact details above.

CHAPTER: One

No questions

CHAPTER: Two

Question 1: Do you agree with our evaluation of the impact of our Secure and Promote proposals on consumers? Are there other factors we should be considering?

CHAPTER: Three

Question 2: Do you agree with our evaluation of the impact of our Secure and Promote proposals on competition? Are there other factors we should be considering?

CHAPTER: Four

Question 3: Do you agree with our evaluation of the impact of our Secure and Promote proposals on sustainable development? Are there other factors we should be considering?

CHAPTER: Five

Question 4: Do you agree with our evaluation of the risks and unintended consequences of our Secure and Promote proposals? Are there other factors we should be considering?

CHAPTER: Six

Question 5: Do you agree with our evaluation of the cost impacts of our Secure and Promote proposals? Are there other factors we should be considering?

CHAPTER: Seven

No questions

CHAPTER: Eight

No questions

Appendix 2 – Other options considered

Mandatory Auction

Design

- Under the Mandatory Auction (MA)[74], obligated firms would be required to sell 25% of their generation as a range of forward electricity products. This would occur through a series of monthly auctions, run using a simultaneous ascending clock mechanism[75].

- Obligated firms would also be allowed to buy power through the auction. However, they would be subject to 'buy-side rules' to ensure that they were unable to perfectly match their demand and supply volumes to avoid any exposure to the auction price.[76]

Benefits

- The MA would provide clear and reliable opportunities to trade forward products every month. Mandatory Auctions have been used to increase the availability of forward products in other European power markets, such as France.

- The clearing prices from the auction could help to provide increased transparency for forward products. These prices could be used as reference prices for contracts, potentially including the baseload CfD. However, these prices would be a backward-looking reflection of the conditions in a previous auction, and would not necessarily provide a price at which market participants can trade continuously.

- As the MA would be delivered through a central platform, it could enable a range of firms to access the market on a level playing field. For example,

[74] The MA proposal was set out in our February 2012 consultation document. Following stakeholder feedback and further design work, some revisions were proposed in December 2012. (See chapter five and appendix three of Ofgem (2012), 'Wholesale power market liquidity: consultation on a 'Secure and Promote' licence condition', 5 December 2012, Reference: 163/12).
[75] A simultaneous ascending clock auction involves all products being auctioned at the same time, with multiple rounds of increasing prices. Bidding continues until demand falls to equal the volume available for sale. All units of a product are sold at a single clearing price.
[76] For further information on the design of the buy-side rules, see appendix 3 of Ofgem (2012), 'Wholesale power market liquidity: consultation on a 'Secure and Promote' licence condition', 5 December 2012, Reference: 163/12.

firms would only need to sign up once to trade on the MA platform, rather than signing multiple GTMAs to trade bilaterally.

Costs and risks

- The MA would require a platform to be set up. While we received suggestions from potential platform providers that they would be able to deliver a MA platform, the tender process may take a long time, delaying the introduction of the MA. We do not have a precise idea of the costs of developing a MA platform, but these will be at least hundreds of thousands of pounds.

- The set-up costs for an obligated firm would consist of systems costs to operate on the new platform, and the costs of amending processes across its business to participate in the auction. These set-up costs might be a couple of hundred thousand pounds per licensee. Our information on these costs comes from a RFI issued to potential obligated firms in spring 2012.

- Ongoing costs for obligated firms will cover similar areas to the market maker under S&P, including staff costs and transaction fees. There are also likely to be costs resulting from open positions under the MA, both in relation to the risks of holding these positions open and the collateral costs. The overall ongoing cost across all obligated parties may be in the region of ten million pounds per year, which is roughly similar to market making.

- By its nature, an auction would not provide continuous opportunities to trade. It may therefore not align well with firms' preferences – for example, a supplier may wish to buy power immediately after signing a fixed-term contract in order to lock in a particular margin.

- As a central platform, trades through the MA would need to be cleared and fully margined. This could be expensive for smaller firms and entrants, and therefore could limit the extent to which our first objective (availability of products to support hedging) is met.

- Some suggestions were also made that the buy-side rules could risk distorting prices. We believe that the design set out in the December 2012 consultation document would provide firms with an incentive to bid in line with their view of market prices. We therefore do not believe that distortions to prices would be likely to occur as a result of the MA design.

Overall assessment

- We believe that the MA could help to meet our liquidity objectives. However, it may not meet the needs of market participants as fully as the S&P package, as it does not allow them to trade continuously and would require them to join a new platform.

Self-Supply Restriction

Design

- A Self-Supply Restriction (SSR) would restrict the volumes of power that could be traded inside a firm with both generation and supply businesses. There are at least two distinct versions of a SSR:
    - **Partial SSR**: A requirement to trade a volume equal to a percentage (eg 100%) of a firm's generation on the market.
    - **Total SSR**: A complete ban on internal volume transfers between the generation and supply arms of a vertically integrated firm.

Benefits

- A partial SSR might only have a negligible effect on liquidity, as we understand that most vertically integrated firms already trade a volume in excess of 100% of their generation in the market.
- A total SSR might lead to some additional trading in the market, as vertically integrated firms would trade certain volumes externally instead of internally. However, banning internal transfers does not necessarily imply that liquidity would improve; for example, firms could make greater use of long-term bilateral contracts, such as tolling agreements.

Costs and risks

- The cost of a partial SSR would probably be limited, arising mostly from monitoring and reporting requirements.
- In order to make a total SSR effective, there would need to be a means of ensuring that volumes are not transferred within a firm. This would probably require some form of structural separation, for two reasons. Firstly, in many vertically integrated firms both the generation and supply businesses interact with the wholesale market through a single 'route to market', which is often the trading arm. This might not be compatible with a ban on internal transfers between the generation and supply arms. Secondly, if parts of a firm are prohibited from trading with each other, it may be necessary to restrict the flow of information between them.[77]

[77] For example, this would prevent a firm from bypassing the SSR by the generation and supply arms agreeing to trade at a specific time on an exchange.

- Structural reorganisation or separation could be expensive. There would be initial costs of restructuring; there might also be ongoing costs resulting from duplication of staff in the separated businesses. It is not possible to develop an estimate of the costs of operational separation without in-depth study. However, in a submission to the regulators of the Single Electricity Market (SEM),[78] ESB (the incumbent firm) argued that its vertical ring-fence had an annual cost from the duplication of people, processes and systems of €10m-€15m.[79] Work undertaken in the SEM suggested that there may be better ways of increasing liquidity than a vertical ring-fence, given the likely costs.[80] Such a separation would also not be simple, as there would still be a need for oversight by group functions for reasons such as risk and credit management. A significant change like a total SSR would run the risk of unintended consequences, which could further increase the costs.

- A key risk from a SSR is that it may not significantly improve liquidity in longer-dated products, as it includes no obligation to trade such products. This means our objectives in relation to forward liquidity could remain unmet. The same consideration may also apply to peak products.

- A SSR also has no direct impact on the ability of smaller players to access the market. For example, it does nothing to ease the signing of trading agreements or ensure products are available in small clip sizes. Increasing volumes in the market would not necessarily address any of these issues.

- Firms may be incentivised to use complex arrangements to bypass a SSR. This was found to be a key problem with the previous form of SSR imposed on the former Public Electricity Suppliers, which could "effectively be avoided by means of a more complex corporate structure."[81]

Overall assessment

- We consider that the benefits of a SSR are unclear, and that the costs of a total SSR could be significant. We believe that our proposed S&P intervention is better targeted to address the problems of low liquidity and barriers to trading for small suppliers.

[78] Northern Ireland and the Republic of Ireland.
[79] ESB (2011), Response to 'Market Power & Liquidity – Consultation (SEM 10-084)', 14 March 2011.
[80] Cambridge Economic Policy Associates (2010), "Market Power and Liquidity in SEM – A report for the CER and the Utility Regulator", 15 December 2010.
[81] Ofgem (2003), 'Restriction on self-supply – final proposals', October 2003, paragraph 1.2.

Obligation to trade

Design

- An obligation to trade[82] would involve certain firms being required to trade[83] volumes of electricity in the market. These volumes would be targeted to improve liquidity in forward products. A firm's obligation would be defined relative to its size, and would need to be met on an annual basis. A minimum amount (eg 5% of the total obligation) would need to be traded every month.

- The biggest design question for this intervention is the volume involved. The smallest volume suggested by stakeholders has been 25% of the larger of a firm's generation or supply volumes. However, to ensure that the intervention would provide a net increase to liquidity, volumes have also been suggested in excess of the sum of a firm's generation and supply volumes.

Benefits

- Depending on the volume involved, a licensee might be able to meet its obligation in a way that aligns with the needs of its business. For example, a licensee that wanted to buy more electricity than it sold would be able to meet its obligation in this way.

- For some firms, an obligation to trade might be preferable to a Mandatory Auction, as it could support continuous trading. More generally, an obligation to trade would allow a reasonable degree of flexibility about which platforms to use to meet the obligation.

Costs and risks

- The key difficulty with an obligation to trade is the choice of obligated volume. It is worth noting that there was little agreement in consultation responses about what a correct volume would be. If the choice of volume is too small, then the obligation would have little or no effect on liquidity, as a firm might already be meeting it through its existing trading.

- Conversely, if the volume chosen is too large, then the obligation may create 'distressed trading', with obligated firms being forced to trade at uneconomic prices in order to meet their volume requirements. This would lead to the intervention failing to meet our second objective of robust reference prices along the curve. It can be suggested that firms would have some protection

[82] We discussed this idea at a high level in December 2012. (Ofgem (2012), 'Wholesale power market liquidity: consultation on a 'Secure and Promote' licence condition, 22 February 2012, Reference: 21/12, p34).
[83] Any combination of buying and selling.

against distressed trading from the design; firms could choose whether to buy or sell to meet their obligations, and would have some flexibility about how much volume to trade each month. However, given the volumes potentially involved, a risk of distressed trading could make the obligation very costly.

- The potential for distortion may result from the nature of an obligation to trade. An obligation to trade is based on 'pushing' a certain volume of trading, regardless of whether there is a particular demand for certain products. In contrast, our preferred option of a market maker simply provides opportunities to trade; the actual volume of trading is driven by the needs of market participants. The obligation to trade may therefore lead to the costs of the intervention being less proportionate to the benefits, as the costs will be certain to occur.[84]

- Defining the obligation by setting a certain volume is also not the most direct way of achieving our liquidity objectives. Ultimately we are concerned with ensuring opportunities exist to trade (and hence to compete); our preferred option of a market maker may better deliver this.

- The obligation to trade presented in the December 2012 consultation document was at an early design stage. This limited our ability to obtain information on its costs as part of the RFI. Many of the sources of costs would be similar to market making, such as staff costs, transaction costs and (potentially) credit costs. The key additional cost impact was the risk of distressed trading, which would increase with the volume selected, and which could be large.

Overall assessment

- The potential for distressed trading and associated costs means that we do not intend to proceed with this option.

[84] In contrast, under the market maker many of the costs will increase with take-up, which may indicate that they coincide with higher benefits.

Locking in volumes traded on day-ahead auctions

Design

- As set out in our December 2012 consultation document[85], we could intervene in the near-term market by locking in volumes traded on day-ahead auctions. This would require firms to continue to meet the volume commitments they have made on day-ahead auctions. These involve both buying and selling at least 30% of a firm's annual generation volumes through a day-ahead auction.

Benefits

- Ensuring that volumes are present on day-ahead auctions may help to provide confidence in the near-term market. This enhanced level of confidence would be the benefit of introducing an obligation (rather than simply relying on voluntary commitments); the size of this benefit depends on the risk that volumes may fall away.

- Placing significant volumes on a day-ahead auction has been used in Nordpool, which is generally considered to be a liquid market. Under this model, a liquid near-term market can also be used for the settlement of financially-settled futures products. These may have wider benefits. For example, they may be simpler for financial firms to trade, which may increase participation by such firms, who may contribute to forward liquidity.

- However, these benefits may be limited. The general view appears to be that liquidity in the near-term market is currently meeting the needs of market participants. Volumes traded in the near-term have increased significantly,[86] and upcoming developments[87] may also support liquidity on day-ahead auctions.

Costs and risks

- For the set of obligated firms that we proposed in our December 2012 consultation document, the incremental cost would be limited, as these firms are already meeting this requirement. If other firms were included, these firms would face new costs. Using information obtained from the RFI, our best estimate of the set-up cost would be around £120,000 per licensee, covering administrative changes, legal fees, the development of auction strategies, and

[85] Ofgem (2012), 'Wholesale power market liquidity: consultation on a 'Secure and Promote' licence condition', 22 February 2012, Reference: 21/12, pp25-28.
[86] See appendix two of the main consultation document for a graph.
[87] Such as the introduction of day-ahead market coupling scheduled for November 2013, and the use of a day-ahead reference price for the intermittent CfD.

staff training. There would also be an annual ongoing cost of around £80,000 per licensee, which would mostly consist of transaction fees and staff time. Although these costs are lower than the costs of the SMA rules or market making, this must be set against the potential for negligible benefits.

- There may also be some costs for Ofgem associated with developing and implementing a licence condition. If this intervention has limited benefits, then it may be better to focus on developing the detail of the other aspects of S&P in order to address the more pressing issues. This view was expressed in responses to the last consultation.

- As discussed in chapter five of the consultation document, there may be risks related to this intervention. In particular, by attempting to secure existing developments, we could inadvertently limit competition between trading platforms. This could reduce the benefits for market participants of competition between platforms.

- In addition, locking in the existing progress could be seen to constrain the potential for further progress, such as encouraging a wider range of firms to participate in day-ahead auctions. It would not be helpful for an intervention to limit the potential for further market-led progress.

- We are also aware of the potential for unintended consequences and distortions as a result of introducing this licence condition. Given that the benefits of intervention are not clear-cut, the potential for distortions must be considered carefully.

Overall assessment

- At this stage, we do not believe that the limited additional benefits from intervening would outweigh the risks of distortions and unintended consequences. However, we will continue to monitor liquidity in near-term markets closely, and we will be prepared to intervene should this picture of costs and benefits change.

Delay

Design

- Ofgem could refrain from proceeding towards a decision on liquidity intervention at this stage.

Benefits

- As noted in our December 2012 consultation document[88], there are a number of ongoing policy changes which may have an impact on liquidity. In particular, revisions to European financial legislation may affect both overall market liquidity and the costs of particular intervention options. Delaying a decision whether to intervene to enhance liquidity would allow us to incorporate the outcome of these changes.

Costs and risks

- While a delay might provide us with further information about these policy changes, even a substantial delay (over a year) would not necessarily be sufficient to provide us with clarity on their final shape.[89] Furthermore, the overall impact on liquidity may only be visible after a period following implementation.

- During Ofgem's work on liquidity we have consistently indicated that we would welcome industry-led action to improve liquidity. However, even after these opportunities, liquidity along the curve remains poor. It may therefore seem unlikely that a delay would lead to industry-led progress to meet our objectives, meaning that our objectives would probably remain unmet.

Overall assessment

- Delaying a decision on intervention would have few benefits, and would not address our outstanding liquidity objectives. This means that poor liquidity would continue to impose costs on consumers. We therefore do not consider this to be a viable option.

[88] Ofgem (2012), 'Wholesale power market liquidity: consultation on a 'Secure and Promote' licence condition', 22 February 2012, Reference: 22/10, p13.
[89] For example, parts of MiFID II will be defined further in technical standards drafted by the European Securities and Markets Authority (ESMA).

Appendix 3 – Assumptions behind costs

General assumption

Staff costs are estimated using an all-in cost of £100,000 per year per full time equivalent (FTE) staff member. This is supposed to cover all costs associated with the staff member.

Supplier Market Access: set-up costs

(These assumptions relate to the cost estimates provided in figure 1).

Set-up costs per trading agreement	In response to our RFI, we received a number of estimates of the costs of signing a trading agreement. These were relatively similar, (which may be because firms already have experience of negotiating trading agreements), so we have a reasonable degree of confidence that these accurately reflect the cost. The cost of negotiating a trading agreement will cover: • Direct staff costs • Legal costs • Compliance and creditworthiness checks • Some small systems costs in order to permit trading with the small supplier A S&P licensee might also incur a small one-off cost of evaluating its current procedures and identifying changes necessary in order to be compliant with S&P. Our estimates for the costs of signing a trading agreement are: • Low case - £25,000 • Best estimate - £30,000 • High case - £40,000
Number of agreements signed	Our estimates for the number of trading agreements signed are: • Low case – four agreements • Best estimate – seven agreements

	• High case – ten agreements The figures for each case involve a degree of guesswork. We would anticipate that the SMA rules would be attractive to small suppliers, so it seems sensible to factor a strong initial response into our cost estimates. The number refers to the number of agreements signed with a particular S&P licensee – some small suppliers may choose to negotiate with a sample of S&P licensees, so the overall number of small suppliers benefitting will probably be higher. The number of number of trading agreements sought under the SMA rules may be lower for S&P licensees that have already made proactive efforts to sign trading agreements with small suppliers. This may reduce the set-up costs for such S&P licensees.
Costs per initial negotiation	As discussed in chapter five, S&P licensees may incur costs in relation to initial negotiations that do not result in a trading agreement being signed. As a very rough figure, the cost of initial negotiations has simply been taken as one fifth of the set-up costs for a completed trading agreement for each case. Negotiations may obviously end at different stages, so the cost figures should be taken as reflecting a rough average.
Number of initial negotiations	It is difficult to evaluate the number of initial negotiations that might occur. For simplicity, we have used the same numbers for each case as for agreements signed.

Supplier Market Access: ongoing costs

(These assumptions relate to the cost estimates provided in figure 2).

New trading agreements	There will be an ongoing flow of additional small suppliers seeking trading agreements. For each case, the same cost assumptions are used as for the SMA set-up costs. The rough assumptions for the number of additional trading agreements per year are: • Low case – one agreement • Best estimate – two agreements • High case – four agreements
Initial negotiations	The cost of initial negotiations is assumed to be the same as in the set-up phase. As for the set-up phase, the number of initial negotiations is assumed to be the same as the number of agreements signed.
Staff costs	Number of staff required: • Low case – one FTE • Best estimate and high case – two FTE Staff time would be used for trading, managing credit, and other work to maintain the trading relationship.
Credit costs	As noted in the text, our credit assumptions are purely to give an indicative figure for the potential credit cost from trading with small suppliers. They do not indicate a defined amount of credit that we believe firms should be allocating. For the purposes of estimation, we focus on the credit cost in relation to the variation margin[90] only. We recognise that S&P licensees will also face credit risk in relation to energy delivered but unpaid. The indicative figure for the credit cost may be taken as covering some combination of these sources of credit costs.

[90] Variation margin is paid to cover changes in the value of the power before it is delivered. For example, if the value of the power falls, the buyer might have an incentive to default on the trade (as it could now buy the power more cheaply with a new trade.) To guard against this, the buyer would have to pay variation margin to the seller.

	The formula used to approximate the credit cost is: • *Annual credit cost* = Volume traded under the SMA rules x Proportion of uncollateralised variation margin x Price x Negative exposure at default x Risk of default x (1- Proportion recovered from defaulting supplier) Assumptions shared between cases: • Half of the volume traded is uncollateralised • Forward power price of £50/MWh • Negative exposure at default of 20% of the value of the power (ie the value of the power is 20% lower than when the small supplier bought it) Particular assumptions for cases: • Volume traded by each S&P licensee: o Low case – 0.5 TWh o Best estimate – 1 TWh o High case – 2 TWh • Annual risk of default by small suppliers: o Low case – 3% o Best estimate – 4% o High case – 5% • Proportion of mark to market loss recovered from a defaulting small supplier: o Low case – 20% o Best estimate and high cases – zero The actual cost may be lower as S&P licensees should adjust the credit offered to reflect the creditworthiness of each supplier.
Other costs	We have not included costs identified by RFI respondents where our detailed proposals mean that these costs would not arise.

	For example, we assume that the small supplier would pay any transaction fees charged by external platforms, so we have not included this cost. Also, as the small supplier would be paying a market-reflective price, the S&P licensee does not face a cost from having to price more attractively than the market price.

Market making: set-up costs

The set-up costs primarily reflect all-in cost estimates provided by potential S&P licensees in responses to the RFI. It is therefore difficult to identify particular assumptions. The areas covered by this cost are discussed in the text.

Market making: ongoing costs

(These assumptions relate to the cost estimates provided in figure 4).

Staff costs	Number of staff: • Low case – one FTE • Best estimate and high case – three FTE These staff estimates cover trading staff to carry out market making, and those working in teams supporting the trading operation (such as analysis, settlement, risk and credit).
Transaction fees	The low case assumes limited transaction fees. A market maker could bring a significant volume of trades to a platform, and so might be able to negotiate lower transaction fees. However, the firm would be under an obligation, and therefore might not have a strong bargaining position. In addition, there would be six S&P licensees looking for reduced fees from platforms. We therefore ignore the possibility of negotiating lower fees in the best estimate and high cases. The best estimate and high case assume a platform transaction fee of £0.01/MWh. (This ignores any fixed platform fees – we assume that firms would market make on a platform where they would already have paid any fixed fees). To estimate the transaction costs we also need some idea of the volumes that might be traded. The volumes for this are intended to provide cautious estimates about the potential costs - they should not be treated as predictions or success criteria for the impact of the intervention.

	• For the best estimate, we assume that each S&P licensee carries out roughly one 10MW trade in every product on each trading day. However, we weight this slightly to reflect that there are likely to be more trades in months (which are smaller products in terms of number of hours), and slightly fewer trades per day in the longer-dated products. This gives a volume estimate of 55TWh per S&P licensee per year. • In the high case, we assume that this level of trading is simply doubled, to 110TWh per S&P licensee. (Taken across all S&P licensees, this would total 660TWh of forward trading).
Cost of open positions	The firm is assumed to manage its position by waiting for a trade in one direction to be matched by a trade in another direction. There may be a day or two between such trades. In the meantime, the S&P licensee will therefore be taking a risk that the price moves, leaving it with a loss. We estimate the cost of such activity using a very simple multiplication of the assumed amount of risk capital needed (to cover the risks of market making) and a cost of such risk capital. Amount of risk capital required to market make: • Low case and best estimate – £5m • High case – £10m In all cases, we assume a cost of risk capital of 15%. We would particularly welcome any help that can be provided to refine these figures, or to suggest alternative ways of calculating this cost.

Reporting: ongoing costs

(These assumptions relate to the cost estimates provided in figure 5).

In the low case and for our best estimate, we suggest that reporting would require one FTE. For the high case, we stretch this to two FTE staff, although we anticipate that this would be a maximum. The staff time would be used to obtain data, and to prepare and verify reports. Reporting may also require input from a firm's IT staff. While the data (in particular in relation to orders to trade) may already be collected for REMIT purposes, some work may be needed to get it into a suitable form.

Part of the task of reporting information may be carried out by the firm's platform for a fee – the cost of reporting also reflects this possibility.

Appendix 4 - Glossary

B

Barrier to entry

A factor that may restrict a firm's entry into a market.

Baseload product

A product which provides for the delivery of a flat rate of electricity in each hourly period over the period of the contract.

Bid-offer spread

The bid-offer spread shows the difference between the price quoted for an immediate sale (offer) and an immediate purchase (bid) of the same product; it is often used as a measure of liquidity.

Blocks

Days are divided into a number of blocks for the trading of electricity. (For example, days are commonly divided into six blocks of four hours each). Block products help firms to improve the degree to which their contracted positions match their intended physical positions.

Broker

A broker handles and intermediates between orders to buy and sell. For this service, a commission is charged which, depending upon the broker and the size of the transaction, may or may not be negotiated.

C

Churn rate

Churn is typically measured as the volume traded as a multiple of the underlying consumption or production level of a commodity.

Clearing

The process by which a central organisation acts as an intermediary and assumes the role of a buyer and seller for transactions in order to reconcile orders between transacting parties.

Clip size

The size (usually in MW) of the contract to be traded.

Collateral

A borrower will pledge collateral (securities, cash etc) in order to demonstrate their ability to meet their obligations to repay monies loaned. The collateral serves as protection for a lender against a borrower's risk of default.

Contract for Difference (CfD)

A contract where the payoff is defined as the difference between a pre-agreed 'strike' price and a reference price (determined in relation to an underlying commodity). The government has proposed the use of CfDs as part of Electricity Market Reform. CfDs under EMR are intended to encourage investment in low-carbon generation by providing greater long-term revenue certainty to investors.

Curve

A time-series of prices for near to longer-term products.

D

Day-ahead market

A form of spot market where products are traded for delivery in the following day.

Department of Energy and Climate Change (DECC)

The British Government department responsible for energy and climate change policy.

E

Electricity Market Reform (EMR)

EMR is the Government's approach to reforming the electricity system to ensure the UK's future electricity supply is secure, low-carbon and affordable.

Exchange

A type of platform on which power products are sold. Typically an exchange would allow qualifying members to trade anonymously with other parties and the risks between parties would be managed by a clearing service.

F

Financial contracts

Whenever a contract's value at maturity is settled with a monetary transaction.

Forward trading

The trading of commodities to be delivered at a future date. Forward products may be physically settled – by delivery – or financially settled.

G

Grid Trade Master Agreement

A Grid Trade Master Agreement (GTMA) is a legal agreement between the two parties in a trade that sets out terms in relation to financially settling the contract and physically delivering the power.

H

Hedging

Transactions which fix the future price of a good or service, and thereby remove exposure to the daily (or spot) price of a good or service. This enables those purchasing a good or service to reduce the risk of short term price movements.

I

Imbalance

The difference between a party’s contracted position and metered position measured on a half-hourly basis.

M

Market Coupling

Market coupling is a method for integrating electricity markets in different areas, applied across a number of European countries.

O

Over the Counter (OTC)

Trading of financial instruments, including commodities, that takes place directly between counterparties. This is in contrast to exchange-based trading where the exchange acts as a counterparty to all trades.

P

Peak product

A product which provides for the delivery of a flat rate of electricity for the period of the day when demand is typically highest for the duration of the contract.

Physical settlement

Whenever a contract at maturity results in an exchange of the contracted good for its contracted value.

Product

The type of contract available. Examples include day-ahead, weekly, weekend, block seasonal, year, etc. Standard products are those that are widely traded on well-established terms, so exchanges generally deal in standard products. By contrast, structured products are those where the terms are precisely tailored to match the contract buyer's requirements, and they usually involve variable contract volumes and/or non-standard volumes and durations.

R

Retail Market Review (RMR)

Ofgem's Retail Market Review aims to encourage and equip consumers to engage effectively so that they can get the best deal from the energy market. The latest consultation on RMR was published in March 2013.

S

Shaped product

A shaped product is a contract which specifies different amounts of electricity to be delivered at different times. A bespoke shaped product with half-hour granularity could specify a different volume for every half-hour period of the contract's duration.

T

Transaction costs

The costs that a firm incurs in carrying out a trade.

Appendix 5 - Feedback Questionnaire

1.1. Ofgem considers that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case we would be keen to get your answers to the following questions:

1. Do you have any comments about the overall process, which was adopted for this consultation?
2. Do you have any comments about the overall tone and content of the report?
3. Was the report easy to read and understand, could it have been better written?
4. To what extent did the report's conclusions provide a balanced view?
5. To what extent did the report make reasoned recommendations for improvement?
6. Please add any further comments?

1.2. Please send your comments to:

Andrew MacFaul
Consultation Co-ordinator
Ofgem
9 Millbank
London
SW1P 3GE
andrew.macfaul@ofgem.gov.uk