
Summary of Responses: Power Market Liquidity Call for Input

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In December 2023 we published a call for input into power market liquidity. The call for input sought to explore and assess current power market liquidity trends, issues and concerns following the suspension of the Market Making Obligation in 2019.

We asked for views and supporting evidence from industry on the trends and drivers of liquidity in the GB wholesale electricity market; whether there is sufficient liquidity to meet the needs of market participants; and whether there is a need and scope for a regulatory intervention to support liquidity in the short-medium term.

This publication summarises stakeholder responses to the call for input and provides an update on our next steps.

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1. Executive Summary

In December 2023, we published a Call for Input on GB Power Market Liquidity. We wanted to explore current power market liquidity trends, issues and concerns following the suspension of the Market Making Obligation (MMO) in 2019.¹ We asked stakeholders to comment on the power market liquidity trends, how liquidity is impacting trading, the future of liquidity and potential intervention options in the short-medium term.

This document is a summary of the responses we received to our Call for Input on GB Power Market Liquidity. Having carefully considered all responses, along with assessing our regular liquidity monitoring, we have found that:

- A variety of factors have led to a decline in liquidity, with respondents in agreement that it was not the suspension of the MMO alone which caused the decline.
- Certain policy levers were highlighted to be affecting trading incentives and therefore concentrating liquidity into certain products.
- Reduced liquidity has had a varying impact on the market. The extent of this impact on stakeholders was mixed, with no alignment of responses based on market participant type.
- There was no clear agreement on potential intervention. Suggested interventions were spread across market levers and policy changes.
- Liquidity is gradually improving, with 2022 having been the most volatile and illiquid year since the MMO suspension.

As a result, we do not consider that there is a clear and strong case for proceeding with market intervention at this time (for example in the form of a market maker).² We will therefore not introduce any specific liquidity interventions in the short-medium term. We will, however, discuss potential policy levers to improve liquidity with the relevant teams at both Ofgem and DESNZ and continue to monitor liquidity trends going forward.

¹ [Call for input: power market liquidity \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/call-for-input-power-market-liquidity)

² A Market Maker is a participant who posts bids and offers in the market for the purpose of providing liquidity.

We are not ruling out the introduction of a market maker in the future and may consider this as a potential option if market conditions show there may be a clear benefit to introducing this.

2. Introduction

- 2.1 Ofgem continuously monitors liquidity levels in Great Britain's (GB) wholesale energy markets to ensure they do not adversely affect market efficiency and competition to the detriment of consumers.³ In December 2023 we published a Call for Input⁴ (CfI) to understand current power market liquidity trends, issues, and concerns, following the suspension of the Market Making Obligation (MMO) in 2019.⁵ We set out some of our analysis of the trends, as well as our views on some potential drivers of liquidity levels today.
- 2.2 We asked for views and supporting evidence from industry on the trends and drivers of liquidity in the GB wholesale electricity market; whether there is sufficient liquidity to meet the needs of market participants; and whether there is a need and scope for a regulatory intervention to support liquidity in the short-medium term.

Case for review

- 2.3 In 2014, Ofgem introduced the Secure and Promote licence condition.⁶ Secure and Promote aimed to improve trading in GB and included three policy levers. These were Supplier Market Access rules, the MMO, and reporting requirements for the Secure and Promote licensees.⁷
- 2.4 The MMO was placed on the largest six vertically integrated companies. However, in 2019, Ofgem suspended the MMO due to changes in market share and vertical integration of these companies. This provided an opportunity to observe liquidity in the absence of intervention and assess whether further Ofgem involvement would result in more efficient market outcomes.
- 2.5 In 2019 a NERA Economic Consulting report was commissioned to assess whether interventions to support liquidity in GB's wholesale electricity market were needed. NERA concluded that, although the GB power market was less liquid than

³ [Wholesale market indicators \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/wholesale-market-indicators)

⁴ [Power Market Liquidity \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/power-market-liquidity)

⁵ [Decision to suspend the Secure and Promote Market Making Obligation with effect from 18 November 2019 \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/decision-to-suspend-the-secure-and-promote-market-making-obligation-with-effect-from-18-november-2019)

⁶ [Wholesale power market liquidity: decision letter \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/wholesale-power-market-liquidity-decision-letter)

⁷ Licensees included Centrica, Drax, EDF Energy, E.ON, GDF Suez, RWE, Scottish Power, and SSE.

others in continental Europe, there was no clear market failure leading to a lack of liquidity in the GB wholesale electricity market.⁸

2.6 Following a period of market monitoring, in December 2020 Ofgem concluded that liquidity had not fallen to a level whereby the liquidity objectives were not being met by market conditions.⁹ We stated that intervention was therefore not justified at that point in time.

2.7 Since then, we have continued to monitor liquidity in the wholesale electricity market, along with reviewing stakeholder feedback on liquidity levels, to assess if our liquidity objectives are being met.

2.8 Our latest analysis, detailed in the appendix, shows that:

- Total traded volumes reached a trough in Q3 2022 before recovering throughout 2023 and 2024. Following this trough, total traded volumes peaked at around 222TWh in Q1 2023, followed by a gradual and consistent increase from the lows of 2022. Churn has also been steadily increasing during this period.¹⁰¹¹ This can be seen in Appendix figure 1.
- Across front month, front quarter and front season contracts, bid-offer spreads have also decreased from the peak in 2022. Yearly average bid-offer spreads for the front quarter reached their lowest level since the suspension of the MMO. Bid-offer spreads on day-ahead contracts have stayed broadly consistent since 2016.¹²¹³ This can be seen in Appendix figure 5.
- Bid-offer spreads for the front quarter contract have also consistently been below 2021-2023 levels throughout Q1 2024. This is a significant improvement from the peak of 2022. This can be seen in Appendix figure 4.

⁸ [Update - Liquidity Policy Review: Publication of NERA Economic Consulting Options Assessment Report \(ofgem.gov.uk\)](#)

⁹ [Update on the future of liquidity policy \(ofgem.gov.uk\)](#)

¹⁰ The churn rate is the number of times a forward product is traded before delivery to the end-consumer. It is calculated as total volume traded on a product divided by total demand during the product's delivery period.

¹¹ A higher churn value indicates a more liquid market, as a product has been traded a more times prior to delivery to the end-consumer.

¹² The price difference between the highest bid to buy and the lowest offer to sell posted by market participants for a given forward contract.

¹³ The bid-offer spread is one indicator of market liquidity. It is the difference between the best bid to buy and the best offer to sell. It measures the potential premium a participant must pay if they want to buy and the discount that they must accept if they want to sell. The lower the value of bid-offer spreads indicates a more liquid market as there is greater price competition between market participants.

3. Summary of Responses

Data collection of our results

- 3.1 We received twenty-seven responses to our CfI from a variety of stakeholders, including generators, suppliers, government bodies, power exchanges, trading platforms, trade associations, and others.¹⁴
- 3.2 The diverse array of feedback that we received highlights the comprehensive interest and potential impact of liquidity in the wholesale market.
- 3.3 We asked thirteen questions about various aspects of liquidity and potential intervention. We have analysed these responses and summarised them below.
- 3.4 Respondents had the freedom to provide their views on multiple topics and therefore numbers may not always tally accordingly.
- 3.5 From the responses and our ongoing market monitoring, we have been able to identify five key messages regarding power liquidity.
- A variety of factors have led to a decline in liquidity, with respondents in agreement that it was not the suspension of the MMO alone that caused the decline.
 - Certain policy levers were highlighted by stakeholders throughout responses. These were considered to be affecting trading incentives and therefore concentrating liquidity into certain products.
 - Reduced liquidity has had a varying impact on the market. The extent of this impact on stakeholders was mixed, with no alignment of responses based on market participant type.
 - There was no clear agreement on intervention. Suggested interventions were spread across market levers and policy changes.
 - Liquidity is gradually improving, with 2022 having been the most volatile and illiquid year since the MMO suspension.

¹⁴ Non-confidential stakeholder responses can be found here: [Call for input: power market liquidity \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/call-for-input/power-market-liquidity)

Section 1: Power market liquidity trends

Section summary:

3.6 This section investigates how the suspension of the MMO in 2019 has impacted liquidity in the power market.

Question 1

How do you consider Great Britain's power market liquidity to have changed between the suspension of the Market Making Obligation and today? What do you consider to be the main drivers of this?

3.7 We received 24 responses to this question. All respondents agreed with the CfI that liquidity had declined to varying extents. Respondents suggested this was due to numerous shocks, more than just the suspension of the MMO, citing a variety of reasons for this.

3.8 The main drivers given for the decline in liquidity were as follows:

- **Geopolitical shocks.** In the past five years, the GB power market has faced uncontrollable events which have impacted the entire market, such as Covid-19, Brexit, the Russian invasion of Ukraine in 2022, and the energy price crisis. Some of these shocks reduced market demand whilst others reduced confidence, both of which had an impact on traded volumes and liquidity.
- **Credit and collateral requirements.** The shocks mentioned above meant that wholesale prices in GB rose, the effects of which were worsened by market volatility. Increased costs meant traders were less likely to trade beyond short-term deliveries, therefore lowering churn and further increasing the costs associated with curve trading through wider bid-offer spreads. One generator stated that winter 2021-22 saw many generators unable to meet steep mark-to-market collateral calls, with the breaches in contractual arrangements halting hedging and increasing the risk of insolvency.¹⁵ Stakeholders commented that parties now need to look for alternative routes to market which involve less intensive credit requirements and that these

¹⁵ Marking to market is a way to measure how profitable or loss-making a trade is compared with the latest market price for the traded contract. Mark-to-market metrics are used by exchanges, brokers and market participants to gauge whether traders have the necessary amount of collateral to mitigate the impact of a market participant defaulting on the contract.

increased collateral costs could mean only larger buyers and sellers will be able to participate.

- **Contracts for Difference Scheme.** This government subsidy scheme is designed to encourage greater investment in low-carbon electricity generation. The growing amount of generation backed by Contracts for Difference (CfDs) means that a large proportion of GB generation is incentivised to trade according to the CfD reference price, which is the day-ahead price for intermittent generators. This encourages these generators to trade in the day-ahead market to manage their risk, which may further reduce liquidity in the forward market.¹⁶
- **Changing generation make-up.** The GB power market has seen an increasing share of demand being met by renewables, with a reduction in thermal assets. These thermal assets have traditionally hedged at least some of their future generation in advance by trading on the curve. As renewable assets have little-to-no incentive to forward trade due to the intermittent nature of their generation, this has had an impact on liquidity for curve products. One respondent commented that the impact of increasing embedded solar generation has reduced demand for power in certain EFA blocks, specifically 3 and 4.¹⁷
- **Price cap methodology.** The methodology for calculating the default tariff cap for domestic contracts is set using quarterly-traded products. The high proportion of domestic consumers on a default tariff cap therefore incentivises suppliers to trade according to the price cap methodology. This means that liquidity is mostly found in the quarterly products, with a reduction in liquidity on other contracts. The introduction of a backwardation allowance in the price cap methodology enabled suppliers to focus their hedging on just the front-quarter forward contract, as opposed to having a longer-term hedging strategy.

3.9 Eleven respondents stated that they did not think the suspension of the MMO in 2019 had been a cause for the decline in liquidity. They noted that liquidity has

¹⁶ Forward contracts are contracts for wholesale electricity to be delivered in the future beyond the next day only, ie from day+2 onwards. When traded in organised exchanges, forward contracts are standardised and referred to as 'futures'.

¹⁷ EFA, electricity forward agreement, blocks are six four-hour delivery products that form an EFA day.

been declining since 2016 because of an amalgamation of the factors stated above.

3.10 Other comments we received included:

- Intraday liquidity can end up being split between those trading intraday products and those using the Balancing Mechanism.
- A reduction of counterparties operating in the retail market reduces the number of different parties hedging their position.
- Alternative European power markets are more attractive for speculative participants, due to, amongst other things, larger trading pools and exchange trading.
- The level of GB interconnection capacity should not have a strong impact on liquidity – as interconnection has been increasing during a period of reduced liquidity.

Question 2

How do you consider that trading on the spot, prompt and forward markets has changed since the suspension of the Market Making Obligation?

- 3.11 We received twenty-one responses to question 2. Most responses agreed that wholesale liquidity has deteriorated, particularly in forward products. Key themes included:
- 3.12 **Harder to trade longer-term products.** Respondents stated that the further from delivery the product is, the less liquid the market is, and as such the wider spreads between bid and offer prices. This makes it difficult to find a contract more than two years ahead, as long-term benchmarking is an issue.
- 3.13 **Easier to trade near-term.** Eight respondents stated that trading in the spot and prompt market had improved, whilst three respondents said that the shorter-term trading had remained the same.
- 3.14 **Difficulty trading shaping products.** Respondents stated it has become increasingly difficult to purchase any shaping contracts apart from peakload, which typically only becomes available towards the end of the standard variable

tariff observation window.¹⁸ This lack of liquidity in shape contracts makes price discovery more difficult, and likely has a feedback effect of fewer market participants trading these products.

- 3.15 **Trading is more spread throughout the day.** Referring to trading behaviour, five respondents stated that since the suspension of the MMO, trading has become more spread throughout the day. One respondent noted this was a welcome improvement as the MMO constrained trading within the market making windows, however others commented that activity is now more sporadic throughout the day.
- 3.16 Six respondents stated that they did not think these changes in liquidity were due to the suspension of the MMO. One respondent stated that the MMO did not have an impact on liquidity, instead creating 'fake' liquidity.

Question 3

How does your assessment of current liquidity levels change when considering trading on financial products (excluded in our analysis) in addition to physical products (included)?

- 3.17 We received eleven responses to question three, regarding the trading of financial products. All respondents stated that including financial products in our analysis would not change the assessment of liquidity levels. Respondents further noted that financial trades are a very small percentage of GB market trading. Respondents noted that the low financial trading could present a barrier to entry in the UK power market which is not present in other international power markets.

Section 2: How liquidity is impacting trading

Section summary:

- 3.18 This section looks to identify how market participants have changed their trading behaviour since the suspension of the MMO, and whether the domestic price cap has had a significant influence on this. Respondents elaborated on the challenges they face when trading.

¹⁸ Trading for 'shaping' is when market participants trade a product that is a component of a larger product to better match their demand or supply profile; for instance, when they trade the separate monthly contracts forming the same quarterly contract.

Question 4

How has your trading behaviour changed since the suspension of the Market Making Obligation? What are your reasons for this?

- 3.19 We received eighteen responses to question four. Respondents identified several reasons for their changes to trading behaviour. Overall, respondents felt that trading is being impacted by low liquidity and there is a desire to trade more forward products. Two major trends were identified – firstly that **trading costs have risen**, and secondly that there has been **a shift of liquidity away from forward markets and into short-term products**. Respondents said that trading is pushed closer to delivery, resulting in a decline in hedging and forward trading.
- 3.20 Several respondents stated that their hedging strategy for domestic retail customers is defined by the price cap, as this has become the “de facto customer price”, and therefore hedge strategy. One respondent commented it is very challenging to deviate too far from this without the increased risk of being misaligned with the price cap. Furthermore, as the price cap is set using baseload and peakload prices, the lack of liquidity on peakload products has left companies exposed to this shape in the prompt market.
- 3.21 The lack of liquidity has led to **increased risk**, with respondents noting that price discovery has declined on contracts which were previously covered by the MMO. Some respondents stated that they must proxy trade to meet customer requirements.
- 3.22 In contrast, three respondents stated that without the MMO, market participants can trade throughout the day and there is more flexibility compared to the previous requirements of trading in pre-defined windows.

Question 5

How do you consider that liquidity for the price cap indexed products has changed since the implementation of the default tariff cap?

- 3.23 We received nineteen responses to question five. A majority of the respondents were in agreement that the implementation of the default tariff cap has led to a **shift in liquidity away from seasonal contracts and towards the quarterly products**. As mentioned in the CfI, the number of households on a variable tariff rose significantly in the year to July 2023. Multiple respondents noted that this

has had a significant impact on market behaviour. The recent change to the price cap methodology (summer 2022) has meant that trading for domestic consumers has changed from seasonal to quarterly products.

- 3.24 The majority of respondents, not just suppliers, stated that **their trading is closely aligned with the domestic price cap methodology**.¹⁹ Respondents commented that traders are incentivised to mirror the price cap methodology, and that the price cap methodology has reduced demand for products more than 12 months ahead and increased the liquidity within quarterly products. They also commented that as price cap indexed products are closer to delivery, there is less opportunity to hedge further out on the curve.
- 3.25 Respondents commented that with a fixed default tariff cap in place, it is harder to launch competitive fixed tariffs en masse, as suppliers continue to trade similar patterns to one another.
- 3.26 One respondent said that during the periods where the price cap is calculated, there is significantly more interest from one side of the market. This imbalance can drive the price to an artificial level.

Question 6

How easily do you consider you are able to trade the products that you need to? Which products would you like to trade that you are currently not able to, where this can be directly attributed to the liquidity of the product?

- 3.27 Responses were split evenly for question six, with eight respondents each, on whether they can or cannot trade as they would like to.
- 3.28 Respondents said that domestic energy suppliers tend to **concentrate their electricity purchases towards the end of the day** to match the price cap methodology benchmark. Suppliers try to minimise risk as much as possible by trading in line with the price cap methodology. As a result, domestic energy suppliers are often price takers at the end of the trading day, as they try to purchase volumes to match the ICIS²⁰ end-of-day price assessments. Retailers also often have to trade across large bid-offer spreads to achieve a hedge.
- 3.29 Several respondents commented that they **want to be able to trade more long-term products**, with trading more than one year ahead being difficult. It

¹⁹ [Price cap - Decision on changes to the wholesale methodology \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/price-cap/price-cap-decision-on-changes-to-the-wholesale-methodology)

²⁰ ICIS is one of the main international price reporting agencies for energy commodities.

was also highlighted that there is **difficulty buying peak consumption** for industrial and commercial contracts, instead having to purchase baseload product and build up a base-peak exposure.

- 3.30 One respondent said to reduce shape risk even further, it would be useful to have a liquid forward market to trade EFA block products. They stated block products are extremely illiquid at forward stage, meaning their business is forced to carry significant risk and resort to hedging strategies to manage delivery shapes that are never a perfect correlation for the desired block product.

Question 7

What has been the cost to your business of any illiquidity that you have encountered?

- 3.31 We received fifteen responses to question 7. Although none of the respondents were able to quantify the cost of illiquidity that their business had encountered, responses identified where costs of trading have risen. Respondents stated that they had seen **higher prices across all traded products**, specifically noting that forward trading had become more expensive. Larger bid-offer spreads had led to higher ask prices and therefore higher prices being paid than would be found in a liquid market. Stakeholders noted it was difficult to accurately reflect shape cost over time due to variance in shape hedging costs and high volatility in expected costs.
- 3.32 Respondents highlighted there has been a **large increase in costs associated with credit requirements** due to this increased risk. One respondent commented that retailers do not want to pay the risk premium that generators need to cover their hedging credit requirements, making it difficult to trade.
- 3.33 As trading costs have increased, organisations have taken a more cautious approach to trading. This has meant that there have been fewer bids and offers in the market which has had a further knock-on effect on market liquidity. Respondents highlighted that higher trading costs may have disproportionate impacts to companies depending on their size and/or financial reserves.
- 3.34 Respondents also stated that the lack of price stability has caused higher costs and that prices are not always reflective of market values, which can cause delayed purchases and add extra risk of price movements.
- 3.35 In contrast, three respondents stated that there had been no cost to their business nor changes in their trading behaviour.

Section 3: The future of liquidity

Section summary:

3.36 This section investigates how market participants think liquidity might change in the future, and the reasons for this.

Question 8:

Do you consider that liquidity will improve or decline in the short-medium term? What do you consider will be the drivers of this?

3.37 We received seventeen responses to this question and the answers were mixed. Nine respondents stated that liquidity was likely to decline in the short-medium term; three respondents stated it was likely to improve; and five respondents were unsure, requesting further time to assess whether the market normalises independently. The respondents identified a variety of drivers for this.

Liquidity will decline:

- 3.38 Respondents highlighted that the combination of increasing CfD-backed generation, with a continued drive to reduce the number of traditional thermal assets on the grid, are **changing GB's generation make-up**.
- 3.39 As the CfD reference price is based on the day-ahead price for intermittent generators, this encourages trading in the day-ahead market to minimise risk. Eight respondents commented that, because of this, liquidity in the day-ahead market is good, but liquidity in the forward market is limited and likely to drop further without incentives for these CfD-backed intermittent generators to trade forward products.
- 3.40 One respondent suggested that this could further be impacted by decisions on the design of future two-way CfDs, including their reference price for calculating CfD difference payments. For example, if the CfD intermittent reference price was based on a basket of different products, instead of just the hourly price on a day-ahead basis, then this would increase volumes traded over the time periods included in the basket.
- 3.41 Additionally, thermal assets benefit from greater predictability of generation, which traditionally encourages them to forward-hedge on the curve. As these generation sources are coming offline, the amount of generation they hedge on

the curve is also decreasing. This acts as a drain on forward market liquidity. Another noted that they are finding fewer generators offering contracts three years out – contrary to a few years ago when longer-term energy contracts were more available to large consumers. One respondent observed that spark-spread trading is also likely to decline as combined-cycle gas turbine (CCGT) operation, and eventually capacity, reduce.²¹

- 3.42 Multiple respondents mentioned the **lack of a competitive fixed tariff market** where there is less buying interest beyond the default tariff cap hedging window. One respondent said that without a change to the domestic price cap methodology they see limited prospect of change in market liquidity.
- 3.43 One respondent also stated that **uncertainty** over future regulatory and structural changes inhibits confidence in trading beyond near-term requirements.

Liquidity will improve:

- 3.44 The three respondents who felt liquidity would improve in the short term pointed to reducing volatility and improving market stability.
- 3.45 Respondents noted that **credit requirements should reduce** as prices stabilise; and that reduced credit requirements should ease the pressure on all parties, particularly suppliers, which will in turn improve liquidity.
- 3.46 Two respondents stated that, under the correct commercial and regulatory frameworks, **growing levels of interconnection** with neighbouring markets have the potential to improve liquidity in the GB market by extending trading into the intraday and forward timeframe. One respondent said that a potential **full price recoupling with the EU/SDAC** (single day-ahead coupling) would help to improve liquidity in the GB market.
- 3.47 One respondent stated that liquidity in the prompt markets should rise as more **storage assets come online**, although they need to have good intraday volatility to make the storage case viable, and any flattening of supply and demand could jeopardise this.²²

²¹ The spark-spread is the difference between the wholesale market price of electricity and its cost of production using natural gas.

²² Prompt is defined as trading for delivery after day-ahead and up to the next month (front month), ie trading on day+2 onwards, next weekend, next week's weekdays, the remaining days of a week (balance of the week) or month (balance of the month) for which deliveries have begun.

Continued monitoring:

- 3.48 Five respondents stated they were currently unsure if liquidity would improve or decline in the short-medium term and wanted Ofgem to wait before taking any further action. Respondents referred to the geopolitical situations and regulatory interventions which have impacted trading, and that with time **there may be a return to 'normal' conditions.**
- 3.49 Eight respondents said that the uncertainty surrounding upcoming changes to market structure under the Review of Electricity Market Arrangements (REMA) is having an impact on longer-term investment. One respondent stated that REMA should be used to address challenges with forward liquidity and another that the potential REMA reforms can improve incentives. These respondents wanted to **understand how REMA would impact liquidity,** before encouraging Ofgem to take action.

Section 4: Potential intervention options

Section summary:

3.50 This section investigated if intervention in the power market may currently be justified, and if so, what interventions could be considered.

Question 9

Given the levels and drivers of liquidity, do you consider that liquidity intervention in Great Britain's power market would be justified in the short-medium term?

- 3.51 The responses to question nine were split almost evenly on whether intervention would be justified.
- 3.52 **Intervention would not be justified in the short-medium term:** Thirteen respondents stated that they did not think liquidity intervention would be justified in the short-to-medium term. Six of these respondents said that it is too soon for intervention and further analysis is required. Respondents noted that there has not been a prolonged period since the suspension of the MMO without a market shock. They therefore suggested that Ofgem should refrain from intervening on the market until stability has fully returned.
- 3.53 Several respondents commented that they do not want direct intervention as it would not address the structural drivers. Furthering this, some respondents felt that addressing liquidity without undermining the broader benefits said structural drivers provide would be an extremely difficult and complex task.
- 3.54 **Intervention would be justified in the short-medium term:** Twelve respondents stated they considered that liquidity would not improve without support and therefore immediate action was required.

Questions 10/11/12

(Q10) What market-led approaches could be used to improve liquidity?

(Q11) What regulatory interventions do you think could be appropriate to improve liquidity?

(Q12) If intervention was required, what would your preferred option be? What benefits would this bring to your business? Where possible, please quantify these benefits.

3.55 In response to the following questions (questions 10, 11 and 12), a variety of market-led and regulatory interventions were proposed, in some cases expanding

beyond the short-medium term. We have categorised these into regulatory, market-led and government options.

- 3.56 Some respondents did not think intervention was justified, but have suggested interventions regardless, therefore the total numbers in this section are not consistent.

Regulatory approaches:

- 3.57 The regulatory approaches suggested included implementing a market maker and making amendments to the domestic price cap.

- 3.58 As regards **market making**:

- Three respondents supported a return to the MMO under the correct conditions or if an alternative intervention cannot be found.
- Six respondents stated they did not want a return to the MMO. One respondent stated that they do not wish for a return to the MMO, as the “artificial patterns of trading become a crutch to the market”.
- Eight respondents discussed a Tendered Market Maker as a potential option, commenting that it would help to alleviate the burden of the MMO whilst socialising costs fairly.²³

- 3.59 Eleven respondents stated that changes to the **domestic price cap methodology** could help liquidity. Suggestions included:

- Changing the reference price to a weighted average of trades throughout the day to avoid market participants all trading at the end of the day by trying to match the closing price.
- Changing the price cap methodology to include more forward products to encourage greater forward trading in longer-term products.
- Removing regulatory barriers, such as the price cap, would increase competition. Currently the price cap puts all suppliers on the same hedge path. This would also allow the market to focus liquidity on products that were naturally liquid prior to the intervention.
- Extending the price cap period to cover a 24-month traded period rather than that of 12 months. This would have the effect of promoting demand for longer-term products.

²³ Tendered Market Maker (TMM) is when the market making process is procured via a competitive tender, likely with costs socialised. There are numerous forms which a TMM can take.

Government decisions:

3.60 Many respondents stated that the following would help improve liquidity, and suggested:

- **Reforming the CfD intermittent reference price**, for example so the reference price is set on a blend of different prices across the curve. Stakeholders suggested that as more intermittent generation supported by CfDs comes online, without adaptation of the CfD intermittent reference price, the new generation will be incentivised to trade day-ahead.
- **Clarity on REMA** to further confirm the direction of market reform. These respondents highlighted that the uncertainty of potential reform makes them less likely to trade longer term and that liquidity may be considerably impacted by significant change. Specifically, respondents commented on the potential introduction of locational pricing within GB and the associated need for financial transmission rights.
- **Recoupling of the two hourly day-ahead GB auctions** by merging the GB power exchanges' order books, creating one pool of market participants and one day-ahead price. This could create a more robust price signal which is more efficient for trading and respondents highlighted this would reduce operational complexity.
- **Recoupling of the GB and European electricity markets** as this would align the GB power market to continental Europe. Comments noted that the market would benefit from greater alignment to physically connected trading partners and would reduce trading frictions. One respondent stated that since Brexit the trading arrangements have become much more complicated, creating a barrier to participation.
- Greater cooperation with EU neighbours and **improving the cross-border trading arrangements** in the UK-EU Trade and Cooperation Agreement (TCA).
- **Greater credit support from the government**, which would help to alleviate costs for traders.
- **Potential changes to the current market design**. These included shortening the market time unit (30 minutes at present) and/or moving Final Physical Notice gate closure closer to real time, consolidating the number of ancillary services markets, making information more clearly available and enabling participation by a broader range of market participants.

- **Strengthening the UK emission trading system (ETS)** and linking it with the EU ETS. This would have an enhanced role in driving the decarbonisation effort across the UK economy. Respondents suggested that the current lack of liquidity could be overcome by linking the UK ETS with the much larger and a lot more liquid EU ETS.

Market-led approaches:

- **New tradeable products** to encourage different trading patterns. For example, specific products for electric vehicle charging or weather derivatives.
- **Potential liquidity windows**, or a liquidity day, would promote greater confidence in trading. Having a short period where traders all voluntarily posted bids or offers would boost action in the market, encouraging liquidity.

Section 5: General

Section summary:

3.61 This section allowed market participants to highlight any other views relating to liquidity.

Question 13:

Are there any other considerations that you would like us to be aware of?

3.62 Multiple suggestions were raised by stakeholders in response to this question. The points not covered in previous questions include:

- One respondent commented that they are concerned about trading contracts with locational differences on other platforms. They stated, this has undermined retail competition between regional suppliers because vertical integration between local production and retail has been the only way to hedge these risks effectively.
- A comment that wholesale price reporting services typically report price assessments using a notional bid-offer spread that does not accurately reflect actual bid-offer spreads seen on the market. Therefore these spreads do not provide any useful information about liquidity.

4. Ofgem Response & Next Steps:

Overview

4.1 We have carefully considered all responses to the CfI, along with assessing our regular liquidity monitoring. **At present, we do not yet consider that there is a clear and strong case for proceeding with market intervention** (for example in the form of a market making obligation or market maker). We will not introduce any specific liquidity interventions in the short-medium term but will continue discussing various policy levers with relevant teams. We will also continue monitoring liquidity going forward.

A market maker would not address the drivers of low liquidity

4.2 Respondents identified that structural drivers are likely to be the causes of low liquidity, rather than the suspension of the MMO. For example, **geopolitical shocks and market volatility** have clearly had an impact on liquidity, however these have not been long term, sustained issues that require intervention to address. Our regular market monitoring has shown a clear improvement in liquidity as market volatility has declined and the market has stabilised. This stabilisation can also be seen in the increase of fixed tariffs available in the domestic market; in 2023 165 tariffs were launched compared to 263 tariffs in 2024 so far. We will continue to monitor the market going forwards.

4.3 Similarly, certain **policy levers** have also had an impact on liquidity, with policies such as the price cap and CfDs incentivising certain trading behaviours among market participants. However, we consider a market intervention (in the form of a market maker) would not directly address these causes of low liquidity, and instead would be forcing liquidity in a market where it is not naturally found due to these incentives.

4.4 We are therefore working closely with the Ofgem and DESNZ teams designing these policies to investigate whether any changes could be made to improve power liquidity.

- On the **price cap**, Ofgem committed to reviewing the price cap wholesale allowance methodologies as part of the 2024/25 Price Cap Programme of Work.²⁴

²⁴ [Energy price cap programme of work for 2024 and 2025 \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/energy-price-cap-programme-of-work-for-2024-and-2025)

We expect that through this review, stakeholders will be able to directly flag how the price cap methodology impacts liquidity and suggest improvements. This could include choices such as price cap frequency, the use of end-of-day price assessments, as well as the products and price data used to set the price cap, which were identified by respondents as concentrating liquidity into quarterly contracts at the end of the day.

- Any proposed adjustment to price cap methodology aimed at improving market liquidity must be considered in the round. For example, while moving back to a seasonal cap might improve the liquidity of longer dated products it would expose suppliers to greater volume risk. We judged in 2022 that exposing suppliers to that level of volume risk was not ultimately in customers' interests, as it risked market stability and supplier failures.
- Any transparently calculated bottom-up price cap will require the articulation of an assumed hedging approach. The impact of this on liquidity is therefore, to some extent, a feature of price caps. As a result, adjustments to the price cap methodology are more likely to shift liquidity between products and times rather than generate an overall increase in traded power volumes.
- On **CfDs**, potential reforms are currently being reviewed by DESNZ as part of the REMA programme. The second REMA consultation was open for 8 weeks, from 12 March 2024 to 7 May 2024. The second REMA consultation included options for changing the CfD reference price used to calculate difference payments, both as a stand-alone option, and in conjunction with other policy options (for example Deemed CfDs). DESNZ is considering the feedback received and will publish an overview as part of the Summary of Responses.
- Market participants also referenced uncertainty in future policy affecting confidence, and therefore liquidity. To see further updates, please visit the DESNZ REMA webpage.²⁵
- Some respondents suggested greater credit support could help to improve liquidity. Information can be found on the past Energy Markets Finance Scheme on the HM Treasury website.²⁶ For now, HM Treasury and Bank of England will continue to monitor developments in energy markets.

²⁵ [Review of electricity market arrangements \(REMA\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/review-of-electricity-market-arrangements-REMA)

²⁶ [Launch of the Energy Markets Finance Scheme - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/launch-of-the-energy-markets-finance-scheme)

- Other suggestions to improve liquidity included re-coupling GB auctions for cross-border trade with the EU at the day-ahead timeframe. In August 2023 the previous government published a response to its consultation on re-coupling GB auctions for cross-border trade with the EU at the day-ahead timeframe. The consultation confirmed an intention to legislate to achieve a single GB clearing price, subject to engagement with the Specialised Committee on Energy (SCE), industry and stakeholders.²⁷
- Another suggestion to improve liquidity included greater cooperation with EU neighbours and improving the cross-border trading arrangements in the TCA. Alongside other aims, the TCA aims to ensure the UK and EU's (i) efficient use of electricity interconnectors; and (ii) coordination to develop arrangements for robust and efficient outcomes for all relevant timeframes. The TCA sets out the basis for these new arrangements in the day-ahead timeframe as an implicit (selling capacity on the interconnector and electricity together) multi-region loose volume coupling (MRLVC) trading model, with the objective of maximising the benefits of trade.
- We will continue to work closely with the relevant teams and stakeholders designing these policies, to consider improvements to power market liquidity where possible.

Responses did not provide a clear consensus that intervention would be justified

- 4.5 The wide variation in opinions on liquidity levels, and therefore any future intervention, is most clear from the responses to question nine. The almost even split between those who think intervention would be justified, and those who do not, demonstrates to us that there are starkly different views on whether liquidity is at a level to justify intervention.
- 4.6 Responses were also varied on whether market participants could trade the products that they wanted, and whether liquidity would improve or decline in the short-medium term. There was also a lack of clear quantitative evidence of the impact that illiquidity was having on businesses.

²⁷ [Re-coupling Great Britain electricity auctions for cross-border trade - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/re-coupling-great-britain-electricity-auctions-for-cross-border-trade)

4.7 We therefore consider that there is no clear consensus that liquidity is not meeting market participant requirements, or that market participants cannot effectively manage their risk.

Liquidity metrics show that liquidity is improving

4.8 We committed to assessing liquidity against Ofgem’s liquidity objectives.²⁸ As market volatility has stabilised, we have seen an improvement in liquidity metrics. We will continue to carefully monitor these metrics and assess them against our liquidity objectives, to determine if liquidity is continuing to improve and if market participants can manage their risk.

4.9 Our analysis, set out in the appendix, shows that:

- Total traded volumes reached a trough in Q3 2022 before recovering throughout 2023 and 2024.
- Traded volumes on baseload season products have declined since the suspension of the MMO, however this decline has not been consistent. As with other liquidity metrics, they reached a trough in 2022 before starting to rebound in 2023.
- Traded volumes on peakload season products have declined since 2021, however the increase in embedded generation and a need to adjust positions closer to real-time might be contributing to this decline.
- Traded volumes on both baseload and peakload season +1 have declined, whilst traded volumes on baseload and peakload quarter +1 have increased. This is likely driven by the change in the price cap methodology.
- Bid-offer spreads across front contracts have narrowed, following their peak in 2022. In Q1 2024, bid-offer spreads for the front quarter contract were at their lowest level since the suspension of the MMO in 2019.
- Traded volumes on spot contracts have stayed relatively stable since 2016, with total traded volumes on intraday contracts continuously increasing. Bid-offer spreads on day-ahead contracts remained tight and competitive even during the period of volatility.

²⁸ Ofgem’s liquidity objectives are to: a) Ensure the availability of a range of longer-term products, b) Support robust reference prices that are widely available to market participants, c) Promote an effective near-term market.

- 4.10 Although total traded volumes have declined on some longer-term products since the suspension of the MMO, we have seen liquidity holding up on near-term contracts and particularly on the spot. As confirmed by respondents, the shift away from longer-term trading over the past few years is likely driven by the increased market volatility experienced in 2022. As market volatility stabilises and confidence returns to the market, we would expect the percentage of trades on longer-term products to increase.
- 4.11 The reduction in bid-offer spreads and the increase in total traded volumes, particularly on some longer-term contracts, suggests that liquidity may now be recovering. We will continue to carefully monitor these metrics.

Next Steps

- 4.12 In conclusion, having assessed and analysed all responses and data available to us, we do not consider that there is a clear case that liquidity is continuously deteriorating, or that liquidity is not enabling market participants to effectively manage their risk. We will therefore not be proceeding with market intervention in the short-medium term.
- 4.13 We do understand, however, that there are certain policy levers which are affecting trading incentives and therefore concentrating liquidity into certain products. We are working closely with the relevant teams across Ofgem and DESNZ to consider how liquidity could be improved under these policies.
- 4.14 Our regular market monitoring has shown an improvement in liquidity throughout 2023 and 2024, and we will continue to monitor these liquidity metrics. We encourage industry to pro-actively engage in the markets they participate in and progress any changes that may be within their control that could help to improve liquidity.
- 4.15 We are, however, not ruling out introducing a market intervention in the future. We will consider progressing this if we see a sustained deterioration in liquidity metrics or receive strong quantitative evidence that multiple market participants cannot effectively manage their risk.

5. Appendix: Liquidity Metrics

1. Total traded volumes

Our analysis presented here is based on over-the-counter (OTC) data from price-reporting agency ICIS and exchange data from the exchanges EPEX, ICE and Nord Pool.

It is important to note that the OTC data we used here covers trades with physical delivery of the commodity (OTC Physical) and does not include financial trades (OTC Financial), which do not entail physical deliveries and work as a hedge against spot prices.

1.1 Liquidity reached a trough in Q3 2022 and has been increasing since.

Figure 1 shows a general decline in volumes traded across all contract types between Q1 2016 and Q3 2022. After this we have seen a gradual increase in total OTC volume per quarter and churn.

Liquidity was highest towards the end of 2016, after which total trading fell to a monthly average of around 255 terawatt-hours (TWh) until Q2 2020, despite the MMO only being in operation until November 2019. Volumes reached a low of around 160TWh in Q3 and Q4 2022, at the heights of wholesale market price volatility, before recovering throughout 2023 and 2024. Total trading for all contracts increased during 2023 as price volatility eased, peaking at around 222TWh in Q1 2023.

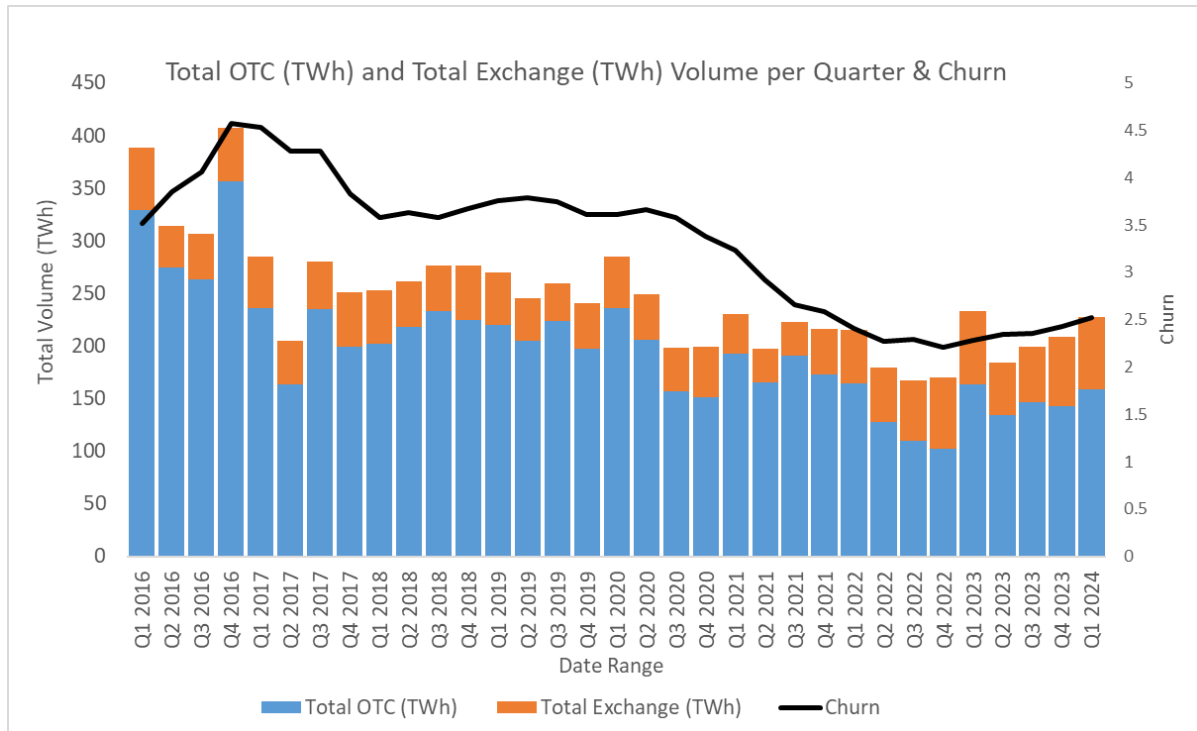
In figure 1 we have included the overall churn rate seen in the OTC market. Churn rates show the number of times that a product is traded before delivery to the end consumer. The higher the rate of churn, the greater the trading activity and liquidity of a market.²⁹ The churn line shows a gradual increase from Q3 2022, which demonstrates increased activity between traders since the trough in 2022.

Figure 1 – Total GB power OTC and exchange traded volume and churn rates per quarter^{30 31}

²⁹ Churn rates vary depending on the time of year. Typically rates are higher during the summer and lower during the winter. This is associated with increases in demand during winter months, but is also linked to the tendency for a significant proportion of forward hedging to be done by late summer, ahead of the delivery of the Q4 and Winter season contracts.

³⁰ Source: Ofgem analysis of OTC Data from ICIS and exchange data from ICE, Nord Pool and EPEX. The ICE and Nord Pool data is publicly available, while the EPEX data is provided to Ofgem under licence. The churn rate is derived from the total OTC and exchange volumes divided by the power consumption, with the latter data publicly available on the government's website.

³¹ As of January 2024, Ofgem no longer calculates churn as a monthly ratio. Instead, we calculate the churn ratio as a rolling 12-month average to better align the timeframe of contract forward trading with that of energy delivery to end consumers.



1.2 Traded volumes on longer-term contracts have declined, but may be recovering

Following the trend shown in Figure 1, traded volumes on longer-term market making products³² declined between 2019 and 2023, reaching a trough in 2022 before recovering slightly in 2023. This suggests the market volatility and the geopolitical shocks of 2022 had an impact on total traded volumes, with these beginning to recover in 2023 as the volatility declined. Baseload S+2 increased 14% between 2022 and 2023, with S+3 and S+4 increasing 22% and 14% respectively.

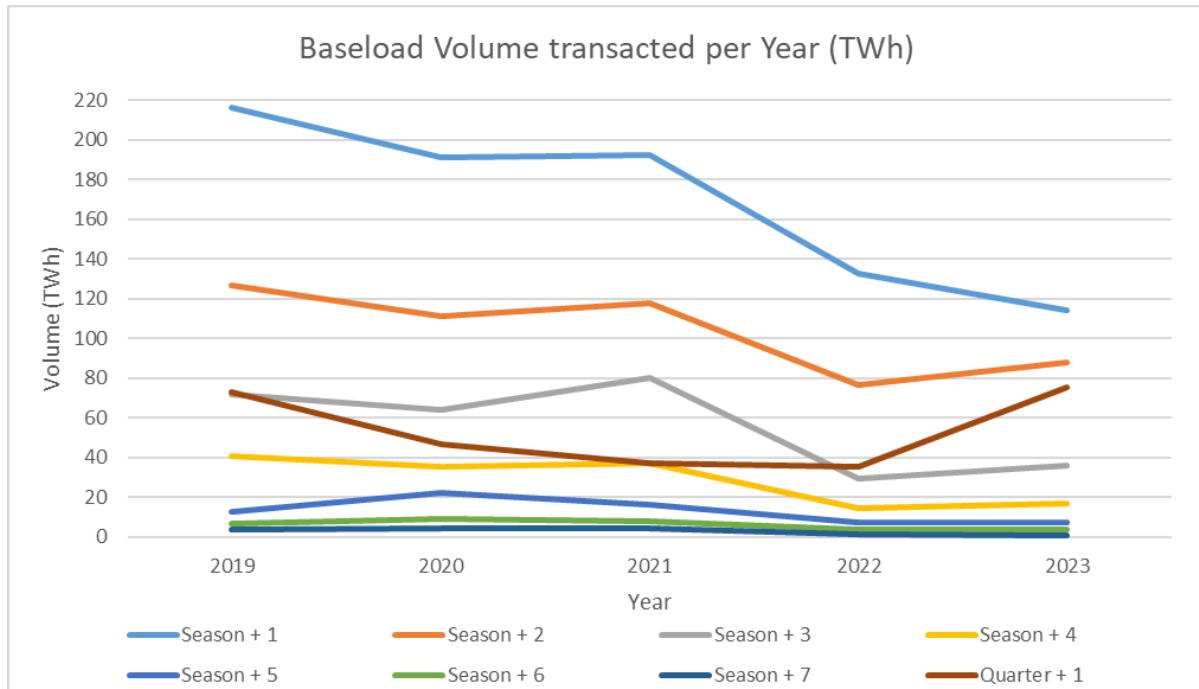
However, we have seen a continued decline on the baseload S+1 contract, with traded volumes decreasing 14% between 2022 and 2023. In contrast, we have seen traded volumes on baseload Q+1 increase by 111% over the same period, suggesting that the decline on S+1 is likely driven by the change in price cap methodology from season to quarterly contracts.

Total traded volumes on longer term contracts not covered by the MMO have traditionally been low, however these products have not shown a continued decline

³² Baseload seasonal products covered by the MMO included Season+1, Season+2, Season+3 and Season+4.

following the suspension of the MMO. Traded volumes on baseload S+5, S+6 and S+7 increased 30%, 20% and 19% respectively between 2019 and 2021.

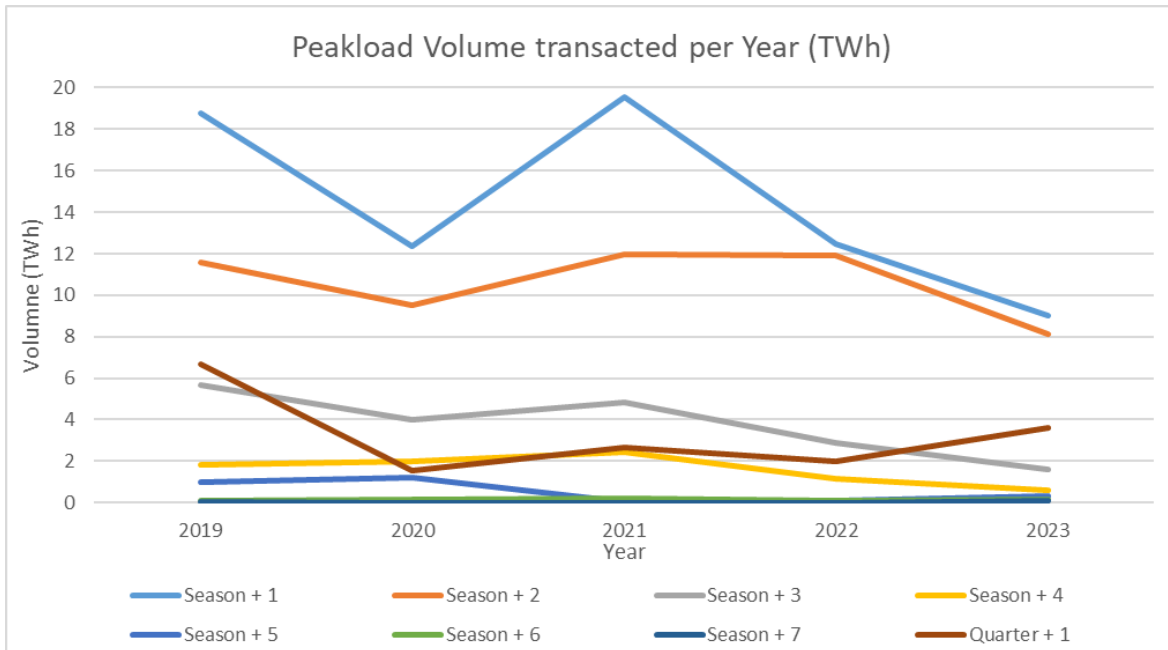
Figure 2 – Baseload volume transacted per year



Peakload contracts show a mixed picture, with S+1 and S+2 both increasing 4% between 2019 and 2021, despite a substantial drop in 2020. However, these contracts have shown a continued decline since 2021, with no rebound in 2023 as seen in other metrics. We consider the increase in embedded generation might be contributing to this decline, reducing the need to trade peakload contracts in favour of shorter-term shaping on the spot/prompt which better reflects market fundamentals.

As seen on baseload Q+1, peakload Q+1 also shows an increase in total traded volumes in 2023, correlating with a decrease in total traded volumes on S+1. This is likely to be caused by the change in price cap methodology from seasonal to quarterly products.

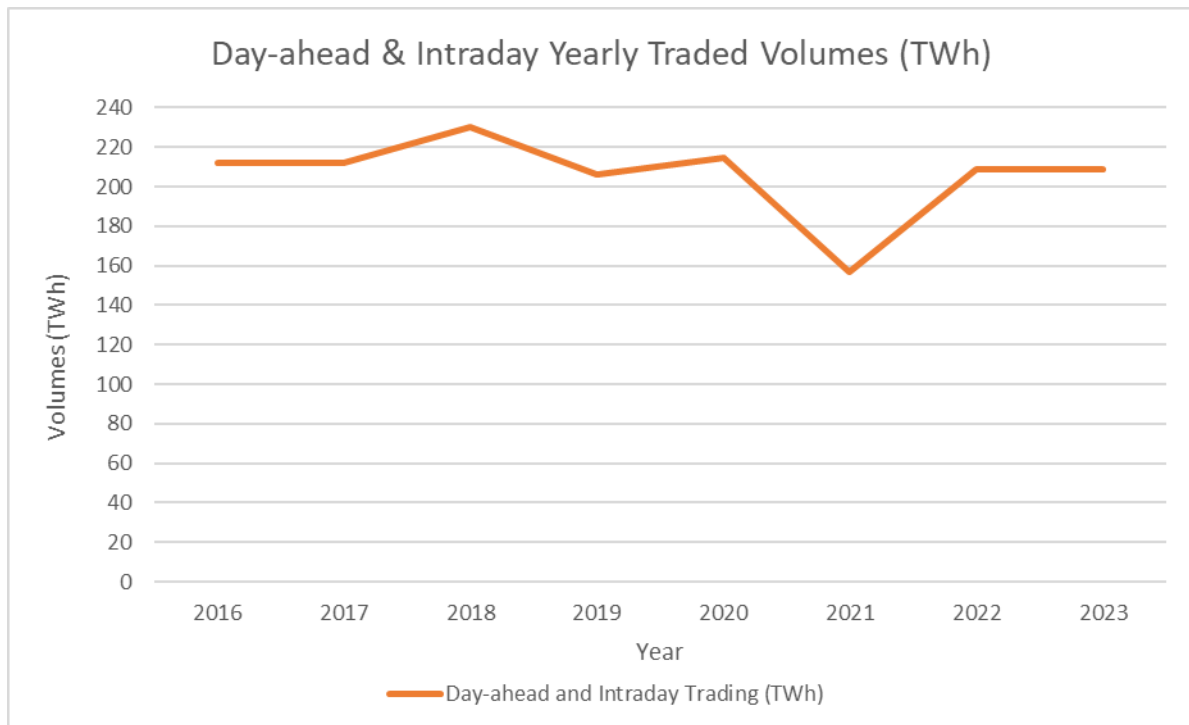
Figure 3 – Peakload volume transacted per year



1.3 Trading on spot markets have stayed stable

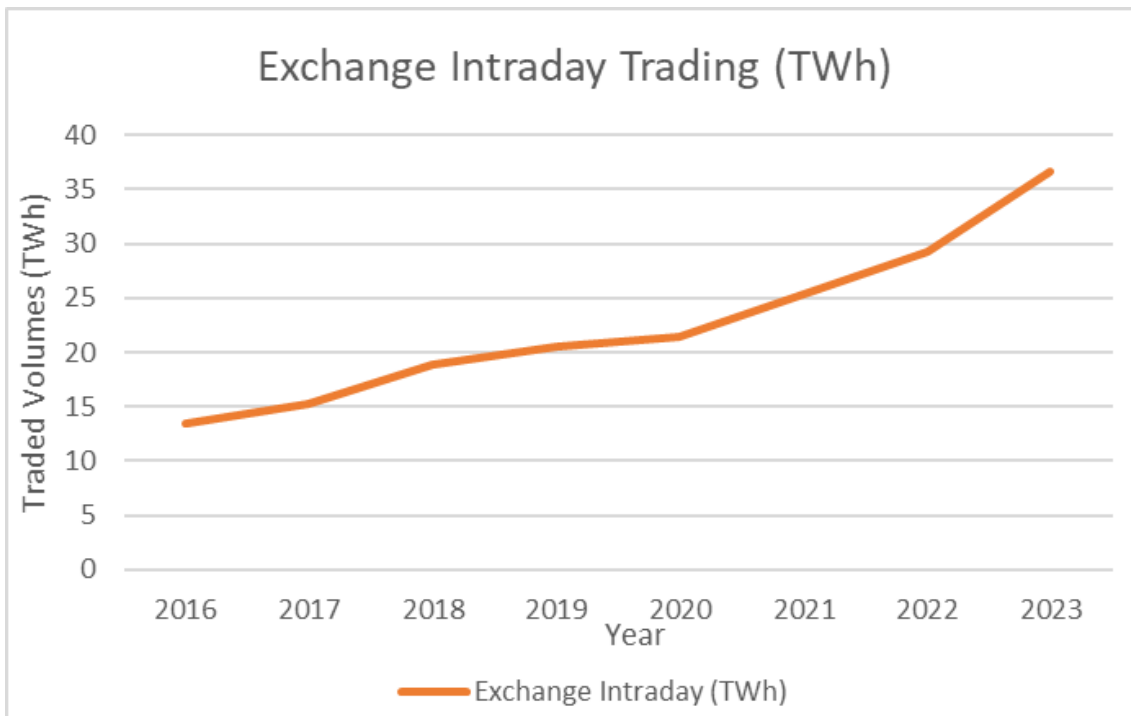
Total traded volumes on day-ahead and intraday contracts have stayed relatively stable, from 211 TWh in 2016 to 208 TWh in 2023, despite a drop to 157 TWh in 2021. This drop is likely due to a decrease in demand following the Covid lockdowns, and traded volumes on these contracts have since recovered as demand has also recovered.

Figure 4 – Day-ahead & Intraday year traded volumes



Although total volumes of intraday contracts are relatively low, they have been steadily increasing and almost tripled since 2016. This likely reflects the increase in embedded generation and renewables on system, resulting in a greater need to adjust positions close to real-time.

Figure 5 – Exchange Intraday trading



1.4 Traded volumes increase at the end of the day

Figure 6 shows that when the MMO was in place, traded volumes were constrained to the market making windows between 10.30-11.30am and 3.30-4.30pm.

Since the suspension of the MMO, traded volumes within the traditional 10.30-11.30am market making window have been substantially lower. However, since 2021 traded volumes have proportionately increased in the periods between the two traditional windows and continue to rise throughout the day. This suggests that trading now occurs more evenly throughout the day.

ICIS assessments of power prices are based on bid-offer information picturing the market at 4.30pm, unless the last point of market liquidity can be traced back to an earlier point in time. These end-of-day price assessments are used as a contractual price index by participants throughout the wholesale market.

Figure 6 below demonstrates the changing patterns of trading throughout the day. Prior to the MMO being suspended, the peaks for the trading windows are clear. In 2023, trading tends to be quieter during the day, before peaking at 15:00. This trend is evident in 2024 despite lesser data, but the peak is later at 16:00, which correlates with the timing of the ICIS assessments used for the price cap methodology.

Figure 6 – Evolution of OTC-traded front-quarter GB power contract volumes by time of day³³

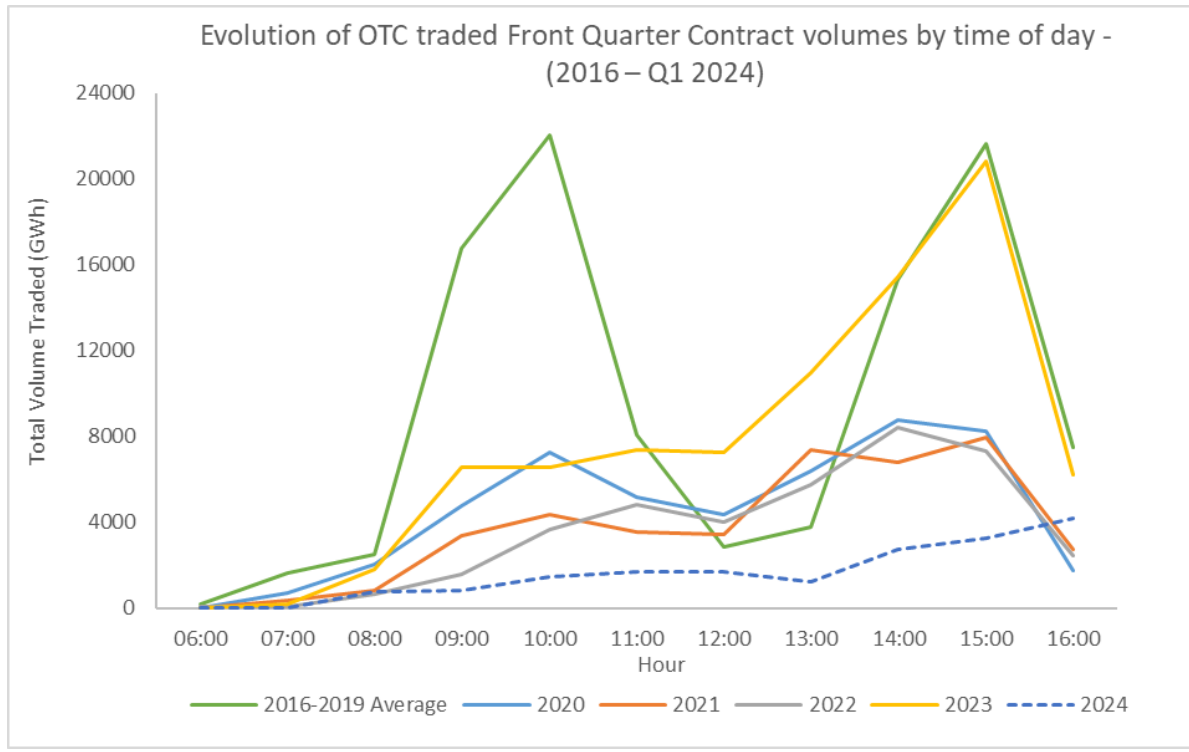
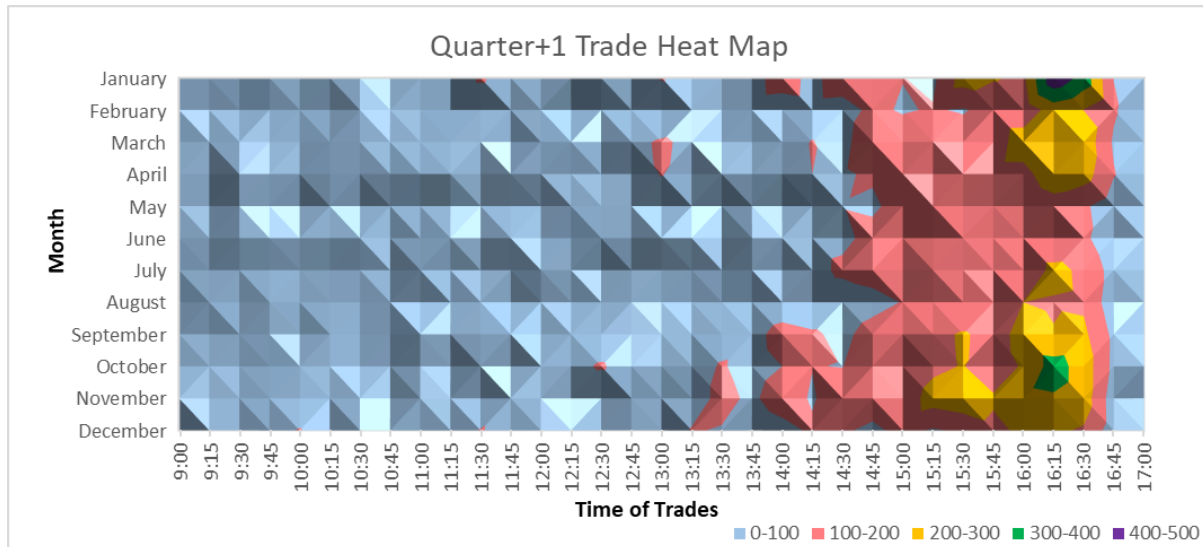


Figure 7 below also demonstrates this trading pattern on the front quarter product throughout 2023. The number of trades is seen to pick up towards the end of the day, and consistently the peak is seen at 16:00 to 16:30 throughout the year. This also correlates with the ICIS assessment used for the price cap methodology.

Figure 7 – Quarter + 1 number of trades heat map

³³ The data granularity in figure 6 is limited to hourly intervals whereas electricity market settlement is half-hourly. It also means that we cannot show how trading differs between 16:00-16:30 and 16:30-17:00, which is relevant to the extent that participants can/cannot bid/offer to match the ICIS price assessment.



2. Bid-offer spreads

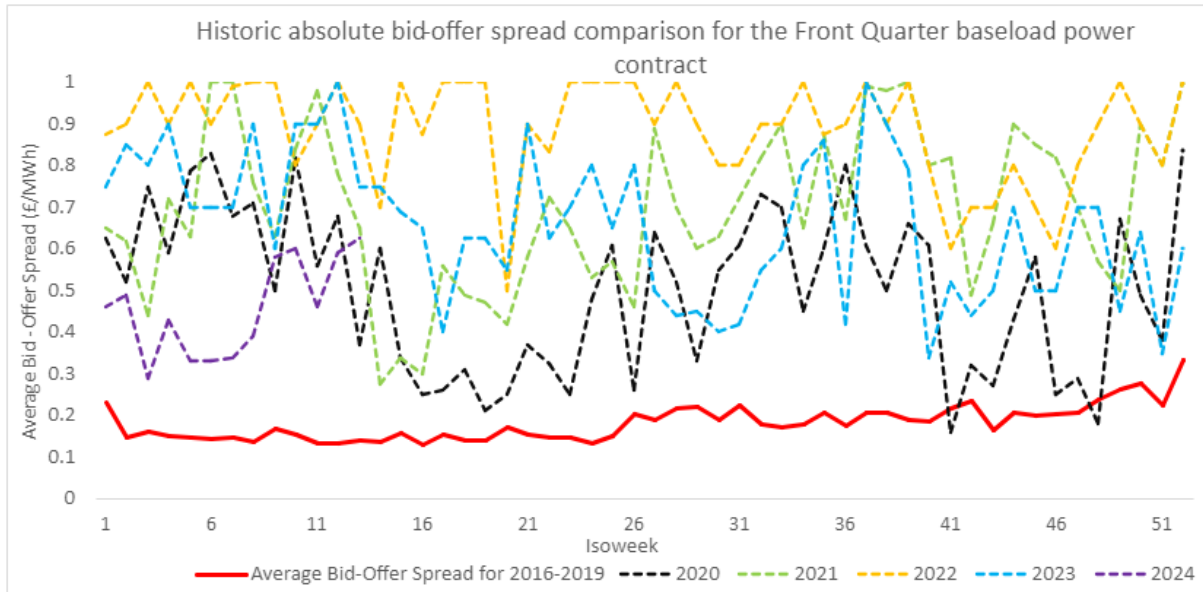
2.1 Bid-offer spreads have been decreasing since 2022.

Bid-offer spreads reached their highest levels in 2022. The first quarter of 2024 shows bid-offer spreads have been consistently lower than the levels seen in 2022-2023. This is also the lowest it has been since the 2016-2019 average.

Figure 8 shows the bid-offer spreads for the baseload front-quarter contract, which is often indexed in the standard variable tariff price cap. The influence of the MMO on bid-offer spreads is shown in the 2016-2019 average below.

Figure 8 – Historic absolute bid-offer spread comparison for the front-quarter GB power baseload contract³⁴

³⁴ Ofgem analysis of data provided under licence from ICIS.



Since the suspension of the MMO, the spread between the best bid to buy and the best offer to sell had grown. However, the trend since the suspension of the MMO is consistent with other liquidity metrics, where bid-offer spreads reach consistently high levels in 2022 before reducing in 2023. Lower wholesale prices and market volatility in 2023 have likely reduced the credit requirements needed to trade, increasing competition and liquidity in the market.

Figure 9 demonstrates a similar picture, with average bid-offer spreads on the curve increasing following the MMO suspension in 2019, reaching their highest levels in 2022 amid spiking energy prices, before decreasing in 2023 and 2024.

Bid-offer spreads on the front month and the front season have fallen to a similar level to 2021. On the other hand, bid-offer spreads on the front quarter, although higher than they were under the MMO, are lower in 2024 than in 2021. This could be due to increased buying interest on this contract caused by the price cap methodology change.

Bid-offer spreads on the day-ahead contract have remained broadly consistent since 2016, demonstrating stable levels of liquidity on this product.

Figure 9 – Yearly average bid-offer spreads for day-ahead, front-month, front-quarter and front-season GB power baseload contracts

