

4 February 2026

s 9(2)(a)

Tēnā koe

Your request

Thank you for your request, received on 16 December 2025, under the Official Information Act 1982 (Act) for the following information:

- *In the previous paper on Superpeak Market Making, the Authority presented an analysis of (il)liquidity using the Amihud's Illiquidity metric as well as other detailed quantitative analysis of spreads and volumes. Can you confirm please whether any similar analysis was done for base-load ASX futures to inform the current consultation? If so could you please provide any outputs from that analysis.*

Our response

The Electricity Te Mana Hiko (Authority) has identified three documents within scope of your request. Document One is being released to you as an excerpt in accordance with section 16(e) of the Act, with out of scope information removed.

All documents are being released to you with some information withheld under the following sections of the Act:

- Section 9(2)(b)(ii), where its release would likely unreasonably prejudice the commercial position of the person who supplied the information.
- section 9(2)(ba)(i), to protect information that is subject to an obligation of confidence and making it available would likely prejudice the supply of similar information, or information from the same source.

These documents are attached as Appendix One.

Please note that these were early working documents reflecting our initial thinking and analysis, which may have since evolved.

Please also note that in Document One, the graph titled “Baseload demand, generation and hedges of non-gentailers” was not used to inform the proposals in the consultation paper [Market making review: strengthening price discovery in the forward electricity markets](#). There are many ways to analyse the Hedge Disclosure Obligations data depending on which level of verification, which trading dates and which effective dates are included. This was early analysis and while it is not incorrect to what it describes, we later determined that including all future effective periods in the average made the hedge result misleadingly small.

I am satisfied, in terms of section 9(1) of the Act, that the need to withhold the information referred to above is not outweighed by other considerations that render it desirable, in the public interest, to make the information available.

You have the right to seek an investigation and review by the Ombudsman of this decision. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

As this information may be of interest to other members of the public, the Authority may proactively release a copy of this response on our website. All personal data, including your name and contact details, will be removed before publication.

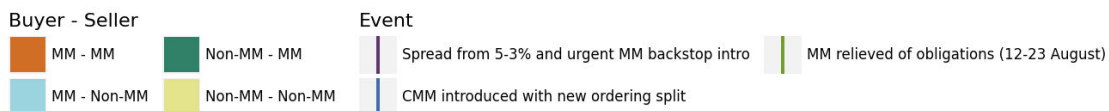
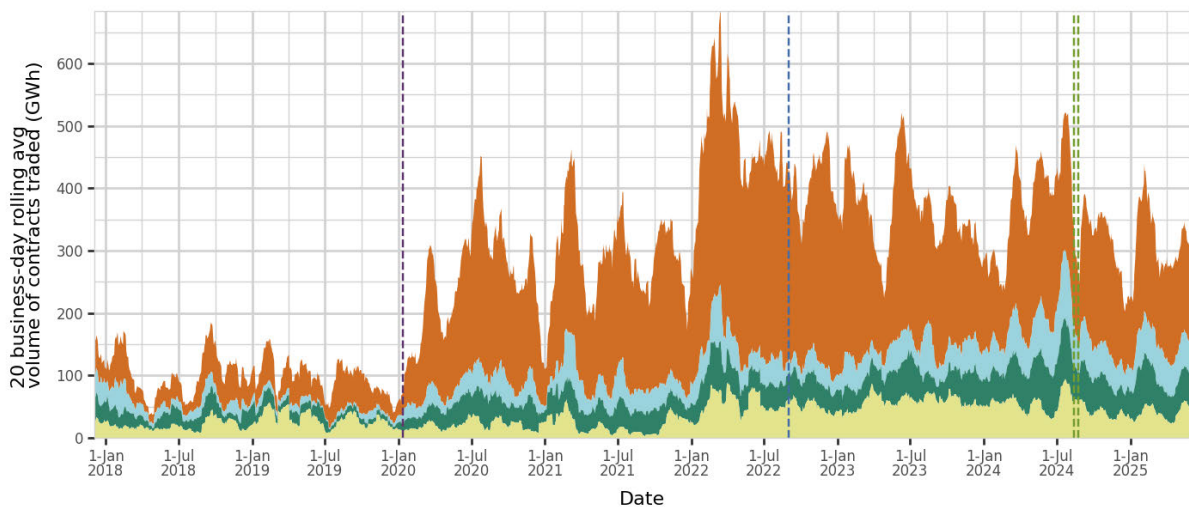
If you'd like to discuss this response with us, please feel free to contact us by emailing oa@ea.govt.nz.

Nāku noa, nā,

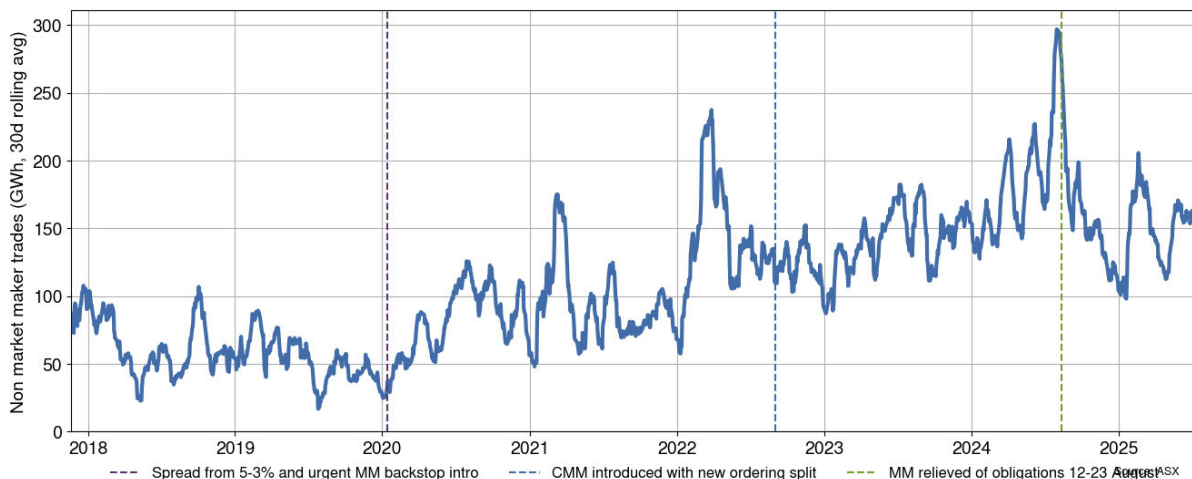
A handwritten signature in black ink, appearing to read 'Airihi Mahuika', with a long horizontal flourish extending to the right.

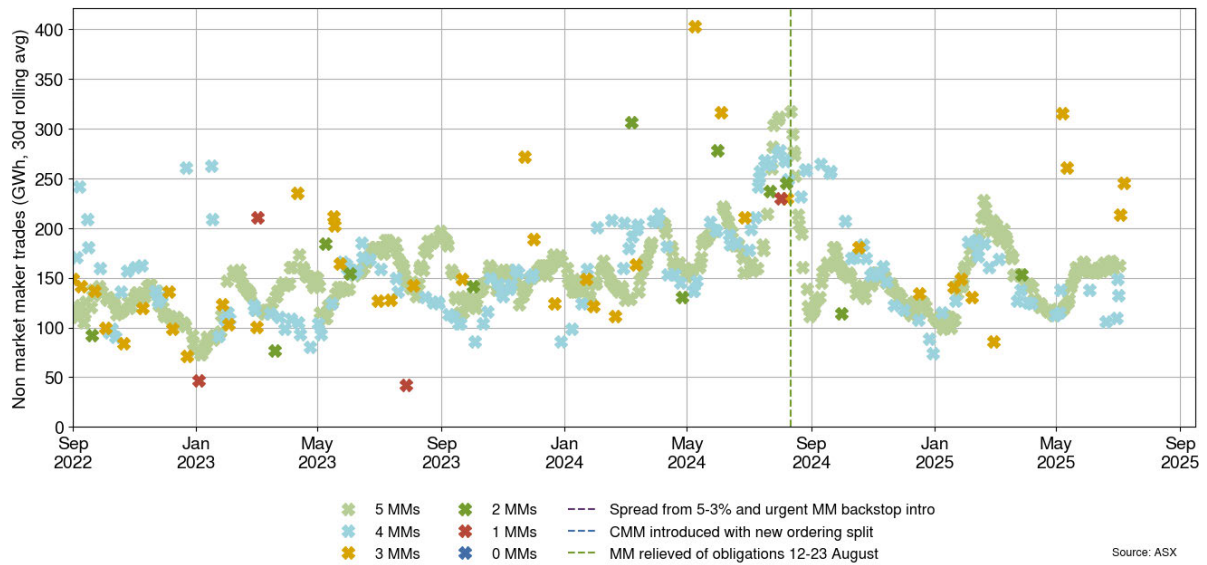
Airihi Mahuika
GM Legal, Monitoring and Compliance

Non-MM trades before/after



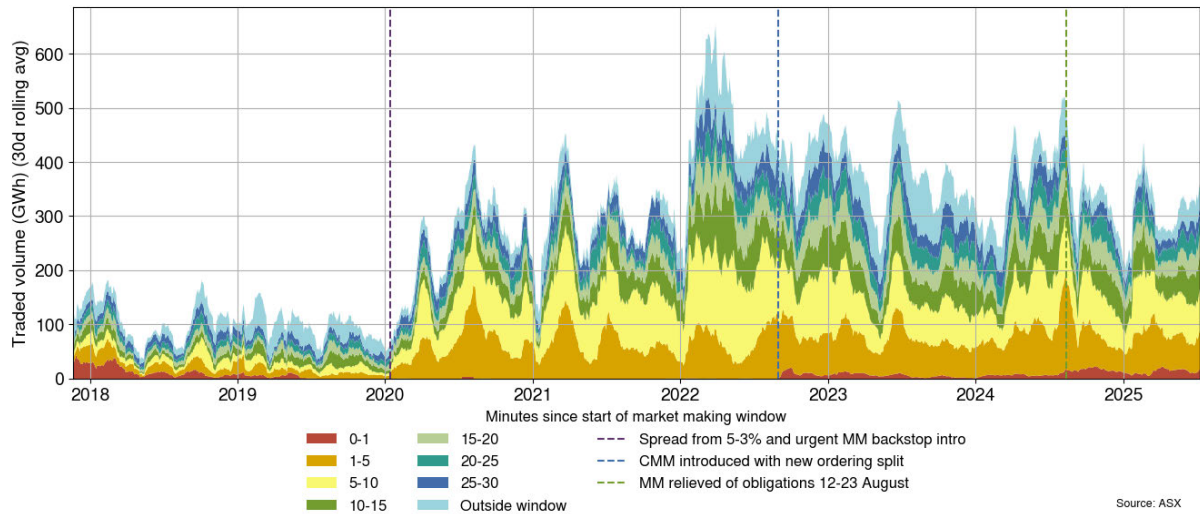
Source: ASX

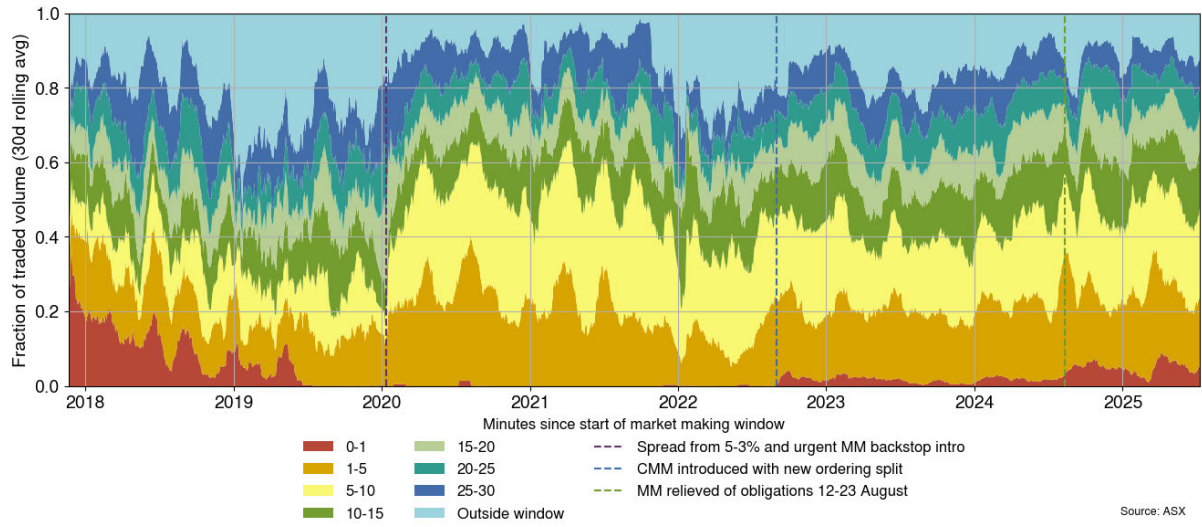




When are trades happening (Part2B.Q2)

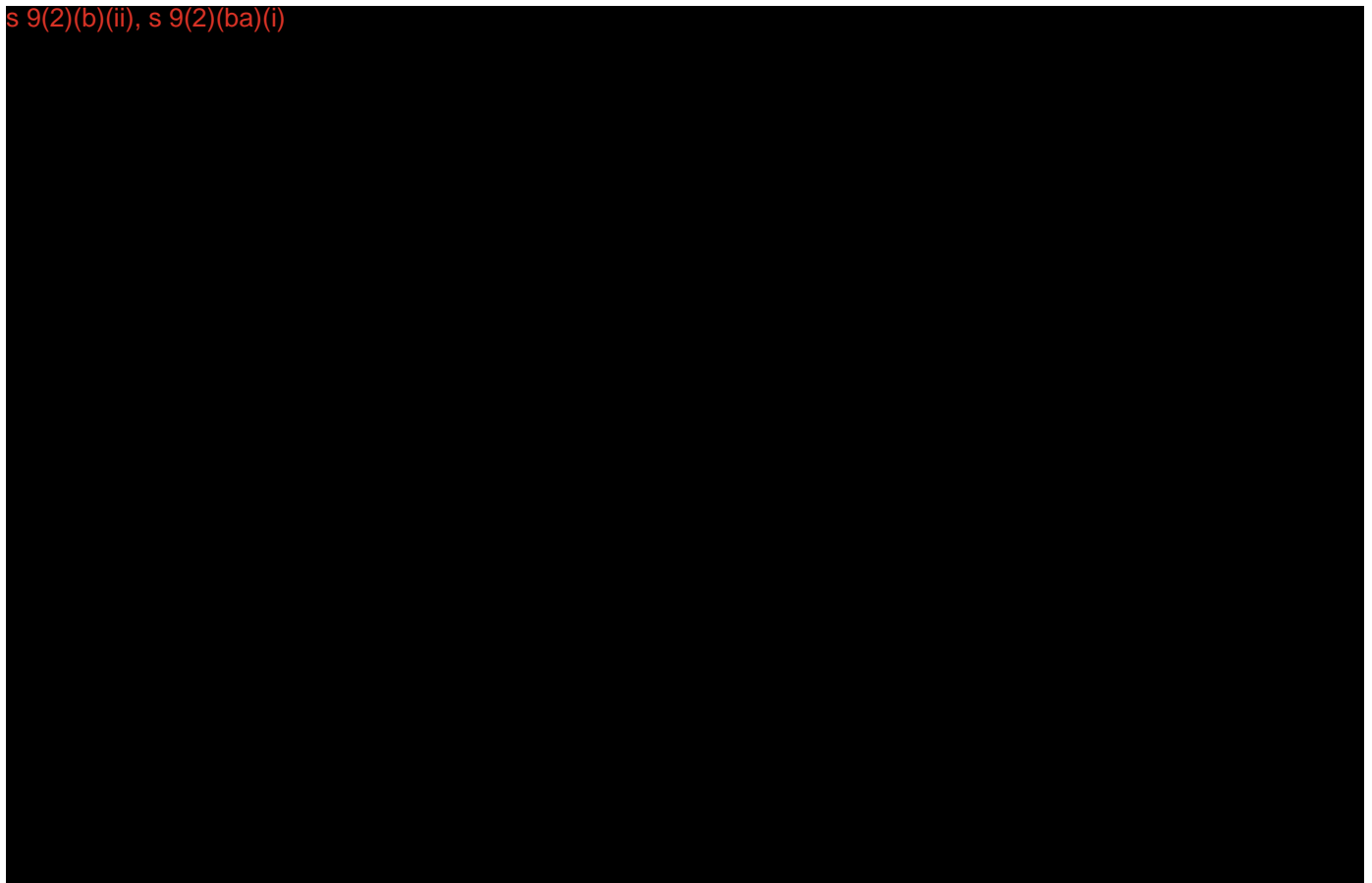
- Before 2020 there were a greater proportion of trades occurring in the first minute, this became very little until the CMM/new ordering split was introduced when it increased again, but still remains low.
- Typically at least 40% of traded volume occurs between 1-10 minutes.
- Pretty evenly shared between 10-15-20-25 minutes





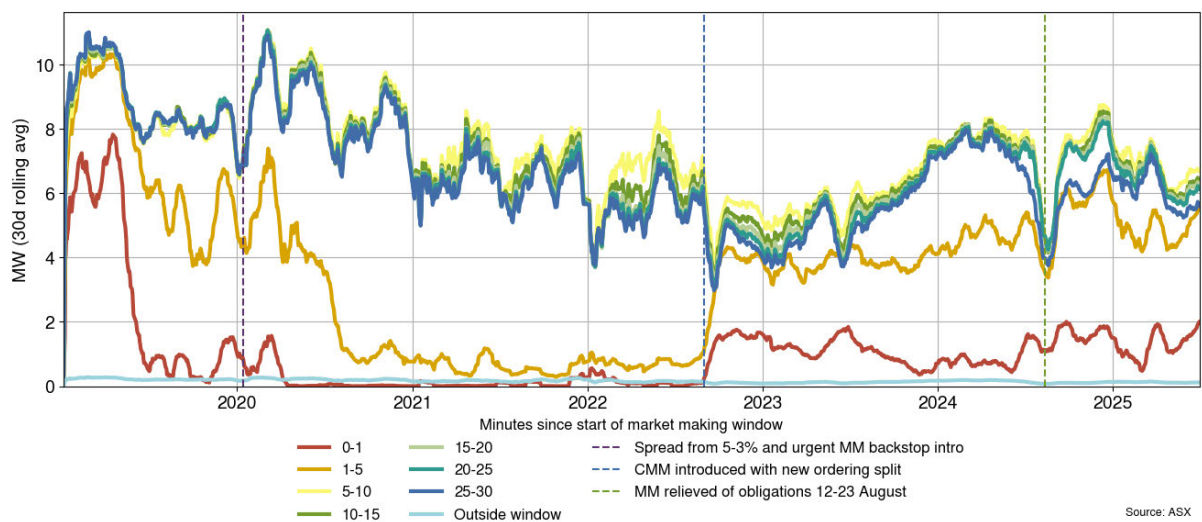
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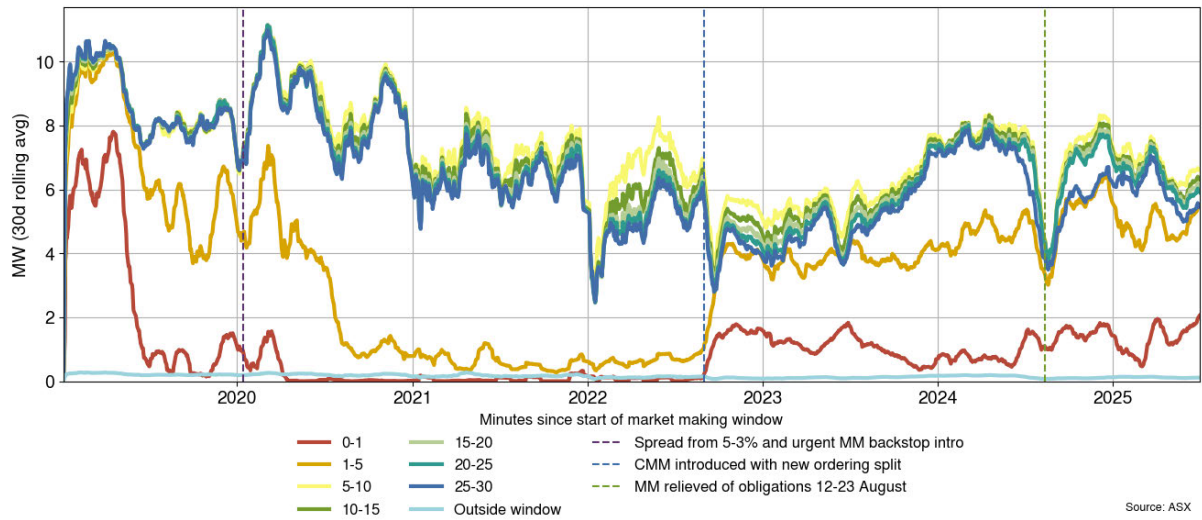


What's the depth across the MM window (Part2B. Q2)

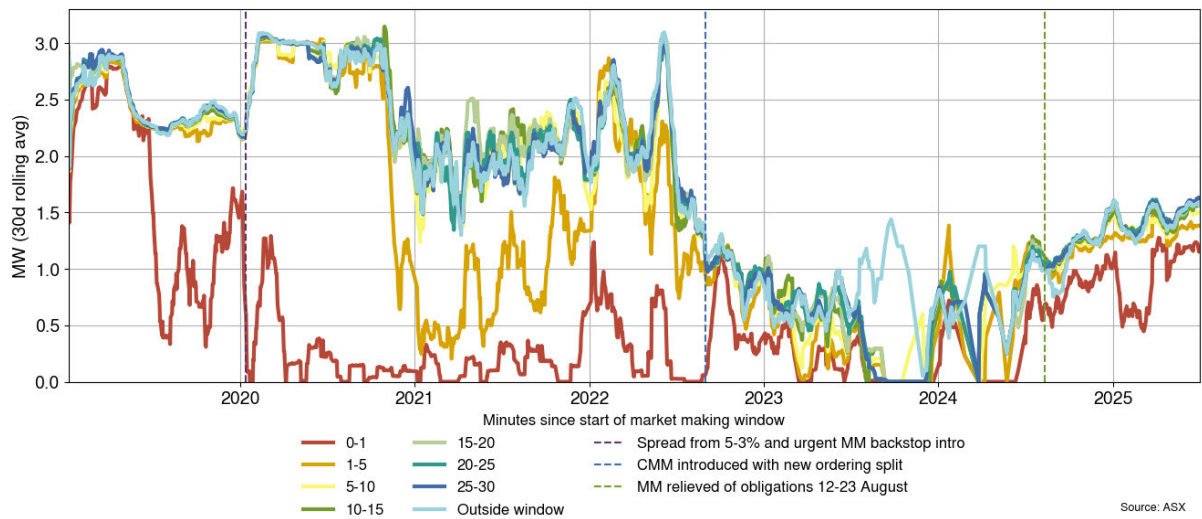
Avg active buy volume throughout session (time weighted avg)



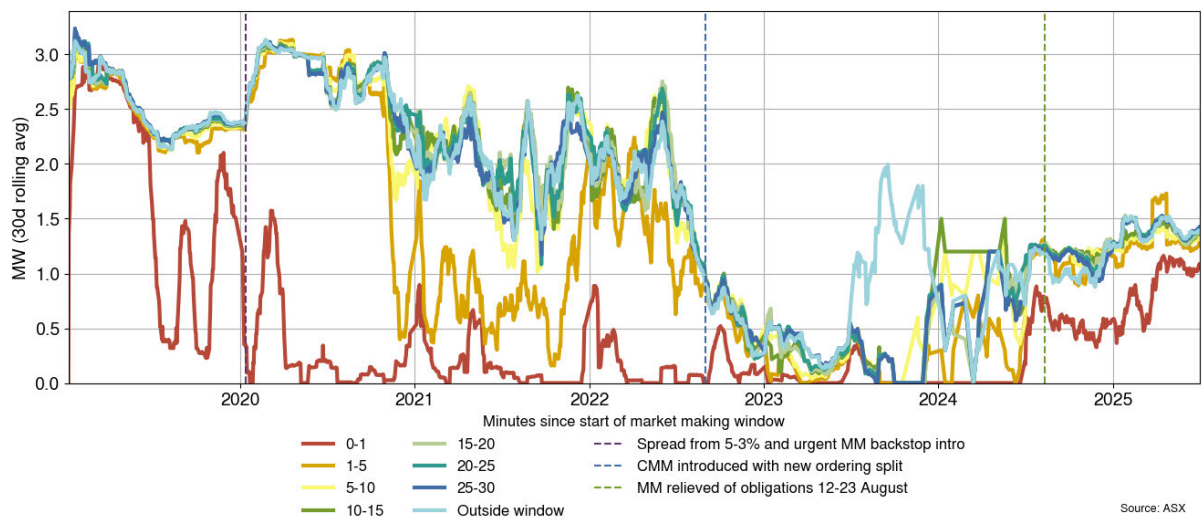
Avg active sell volume throughout session (time weighted avg)



Avg active buy volume of non-MM orders throughout session (not time weighted at all)

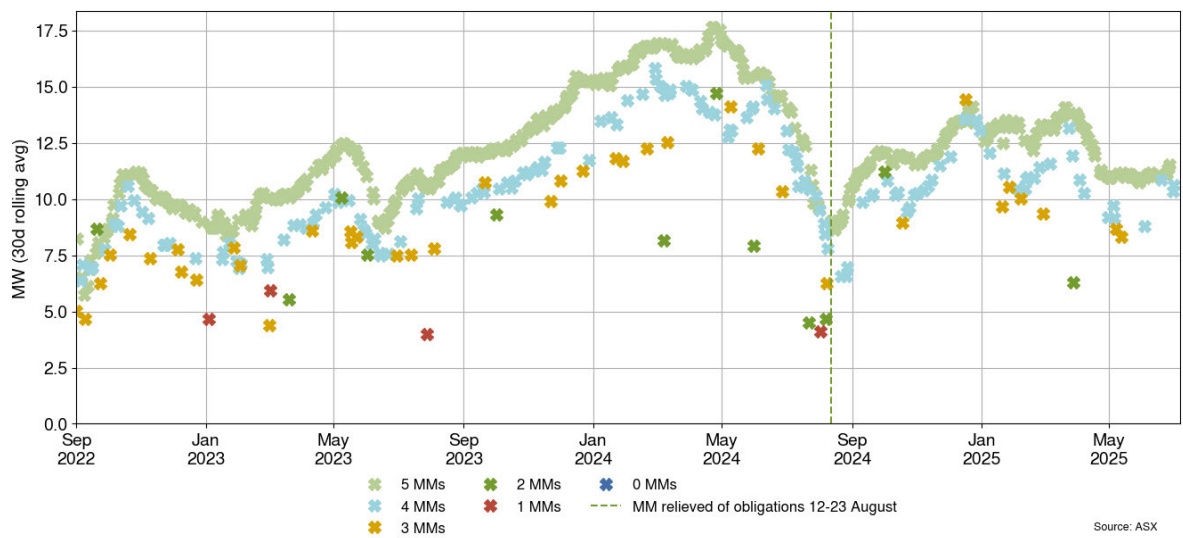
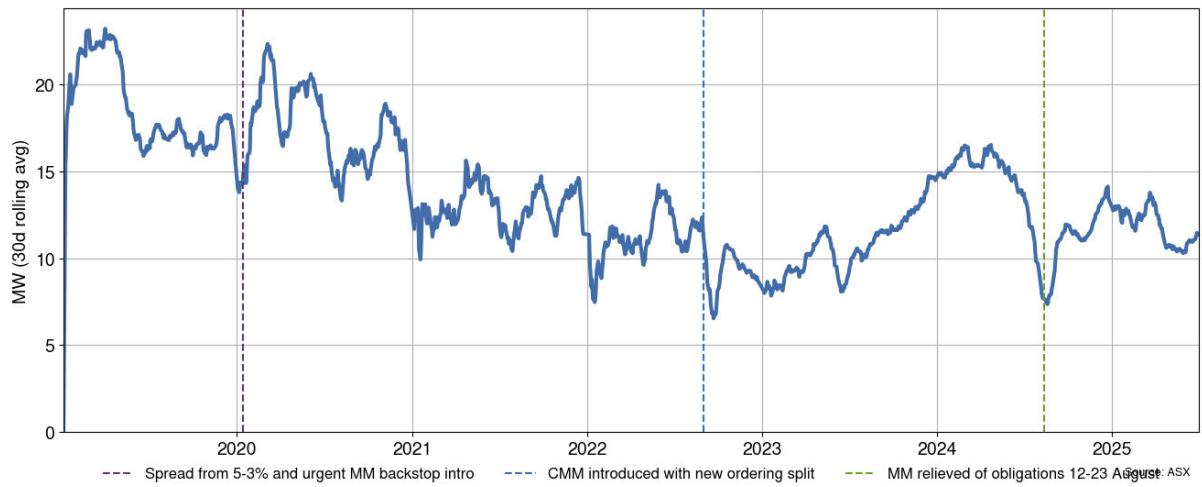


Avg active sell volume of non-MM orders throughout session (not time weighted at all)

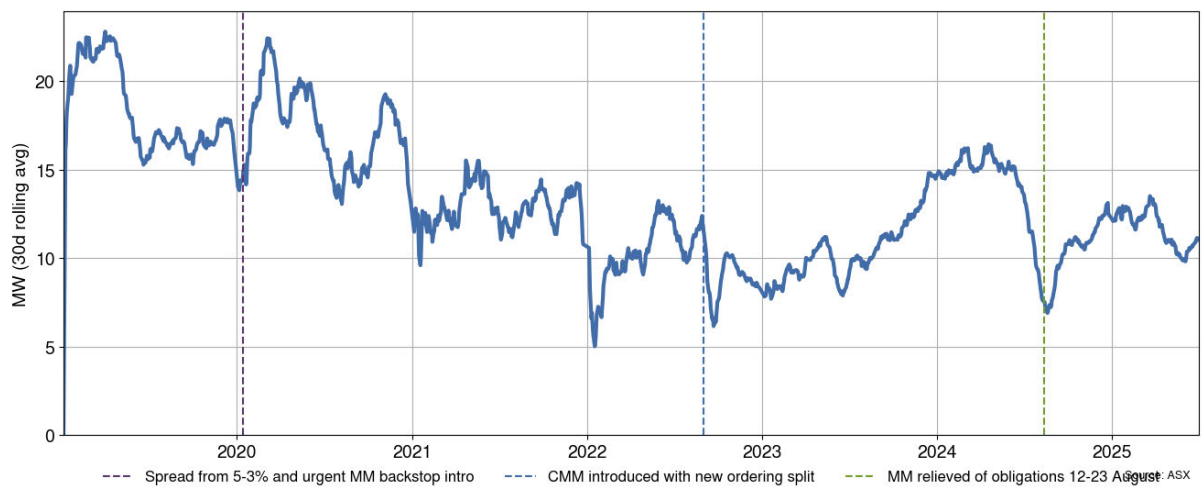


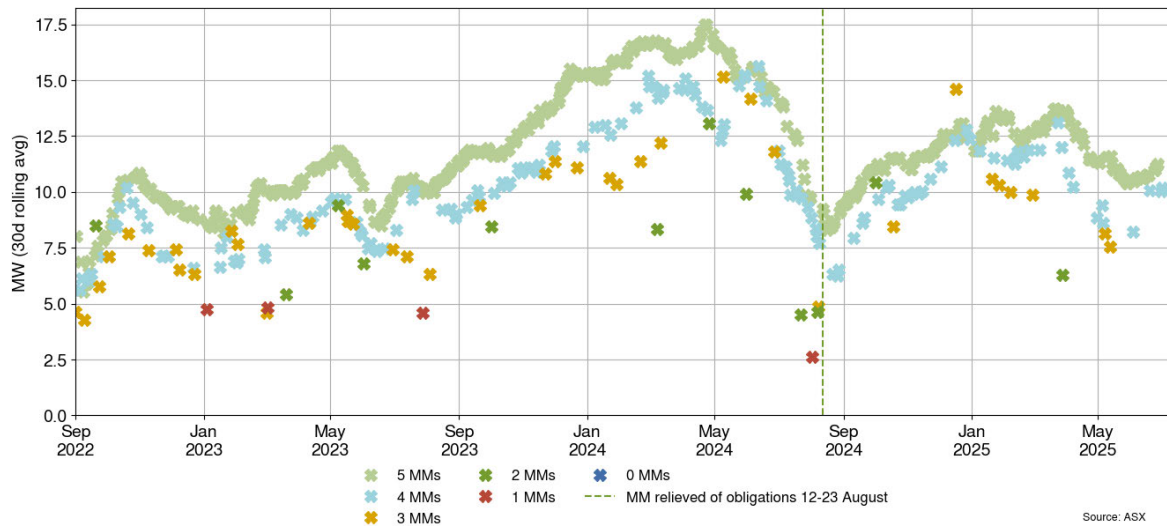
Avg depth in MM window raw and by MM number

Avg active buy volume in session (time weighted avg)

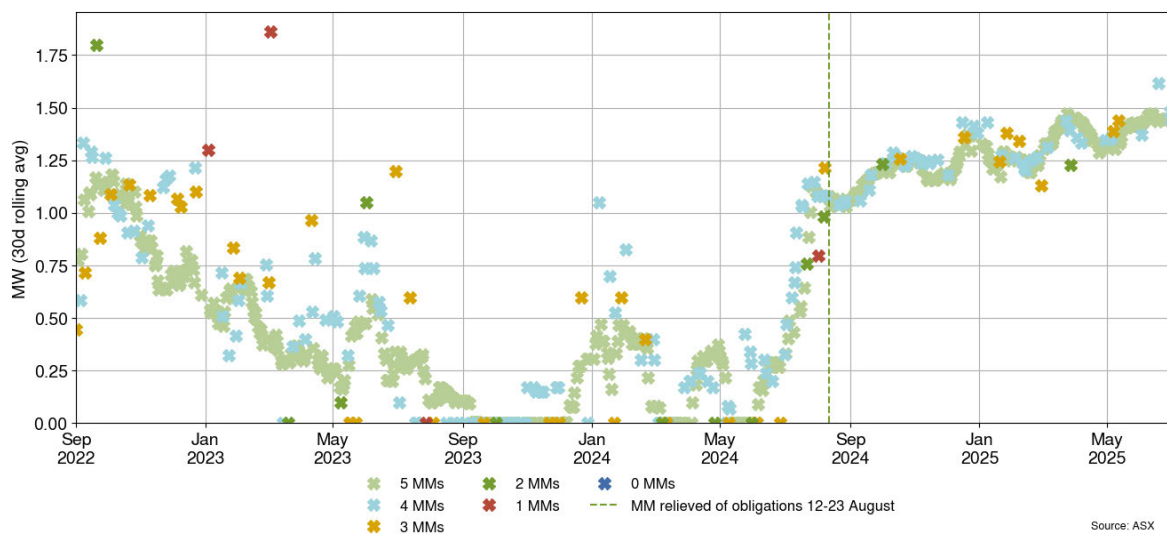
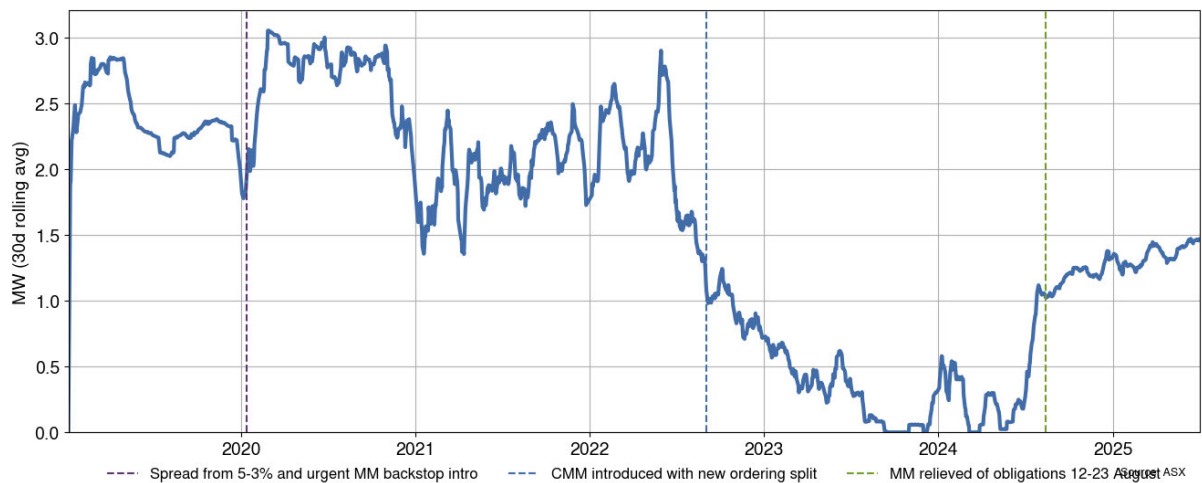


Avg active sell volume in session (time weighted avg)

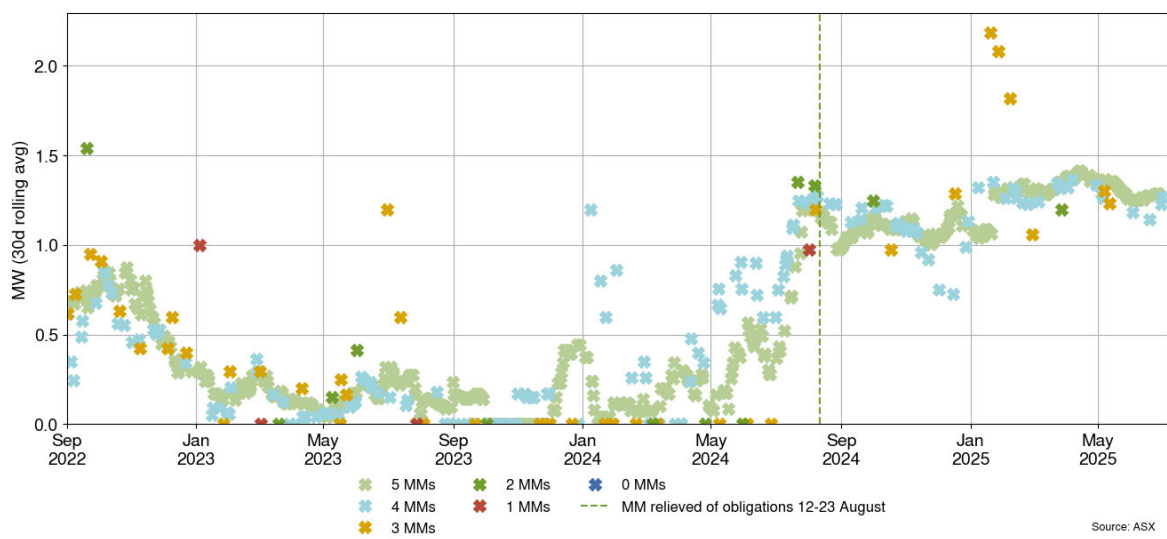
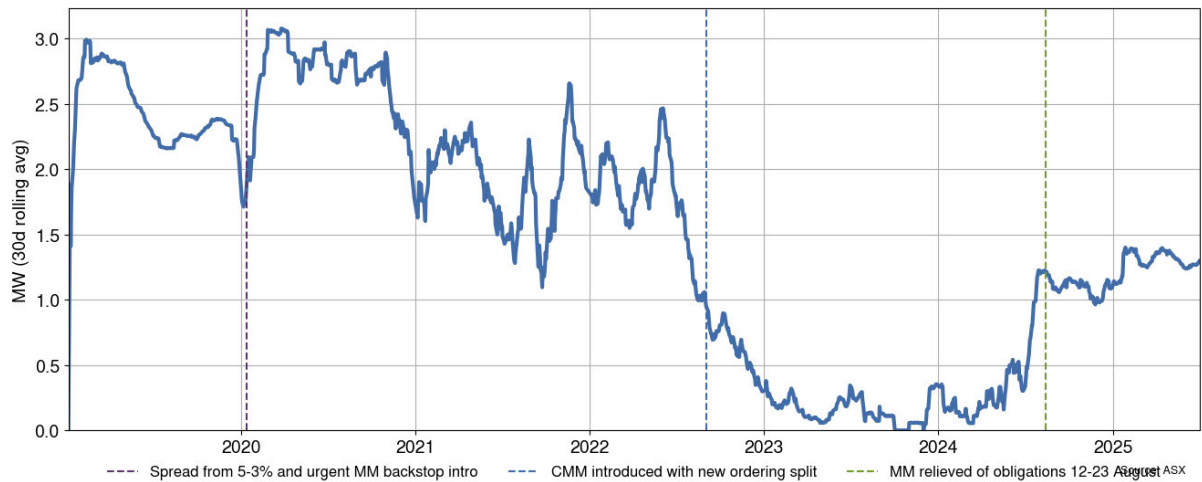




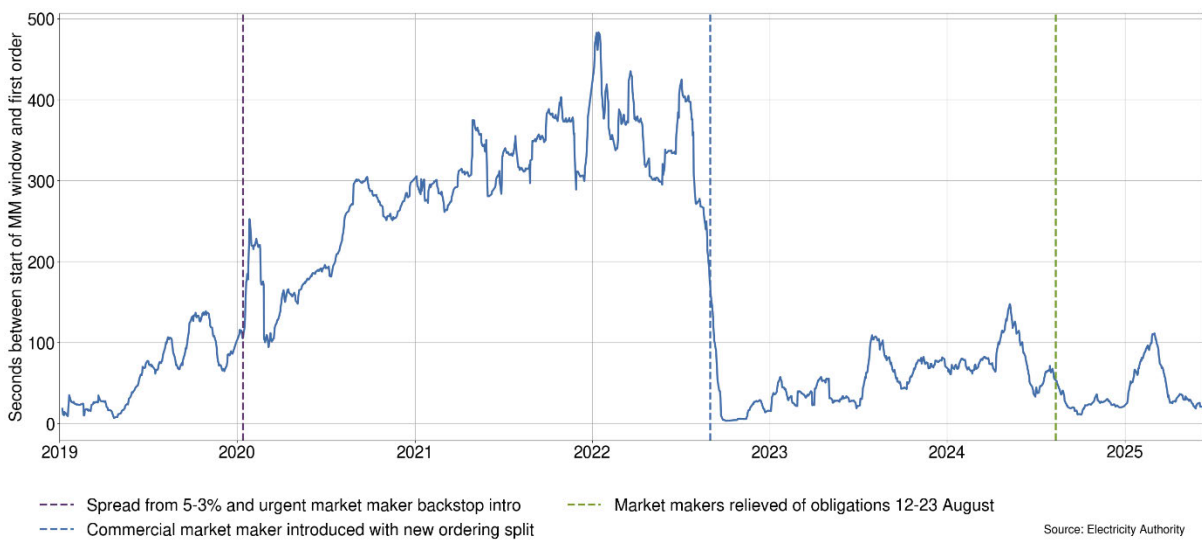
Avg active buy volume of non-MM orders in session (not time weighted at all)



Avg active sell volume of non-MM orders in session (not time weighted at all)

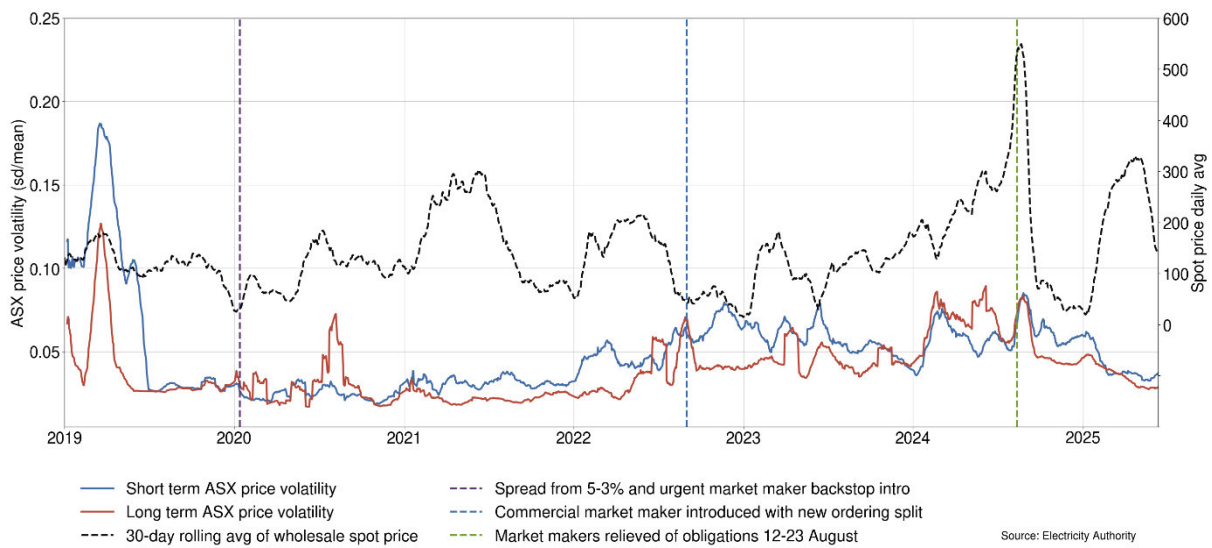
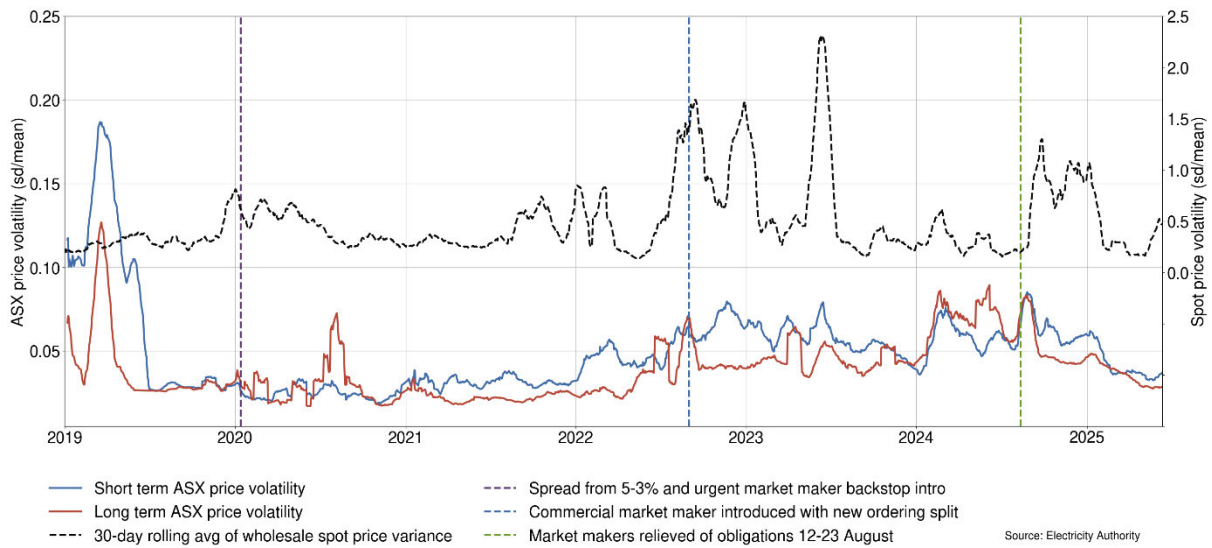
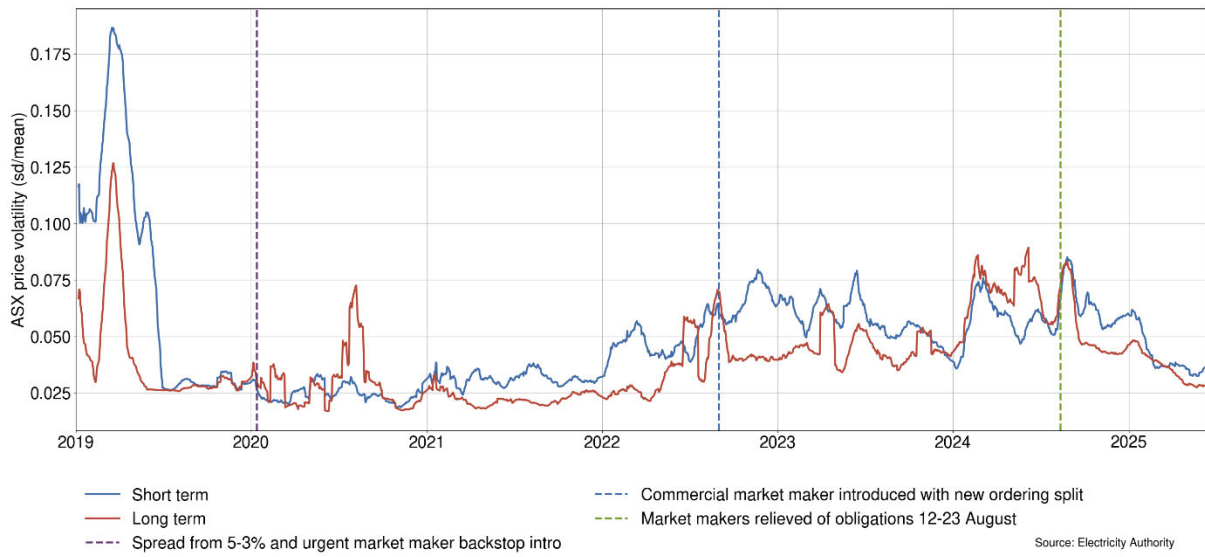


Avg time between start of MM window and first order (30 d rolling avg)



Introduction of CMM and reorder split reduced time between start of window and first order.

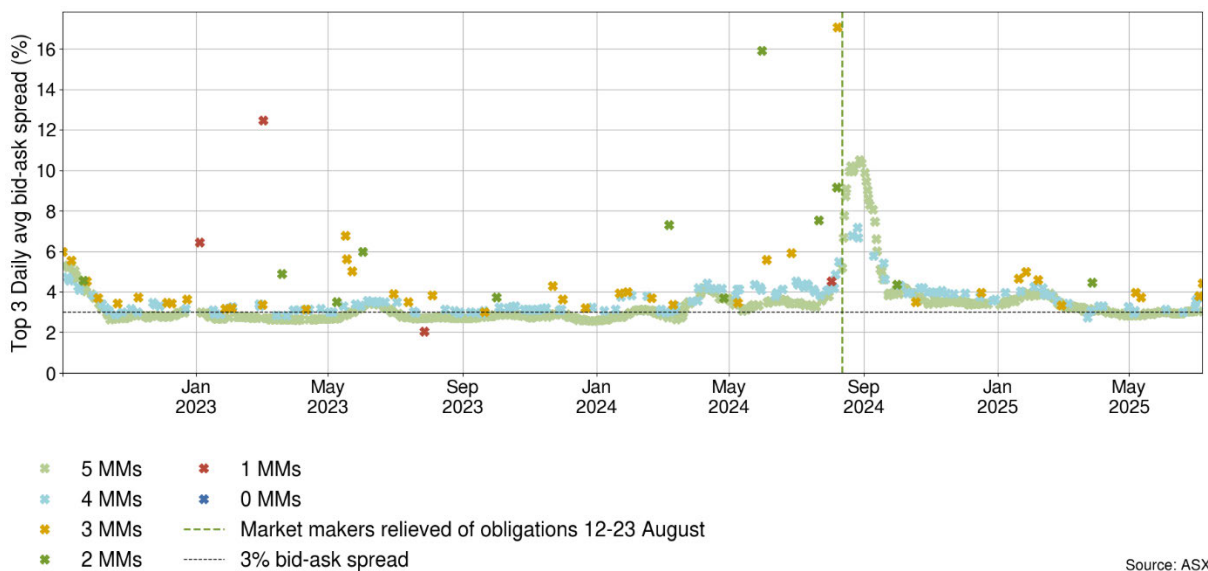
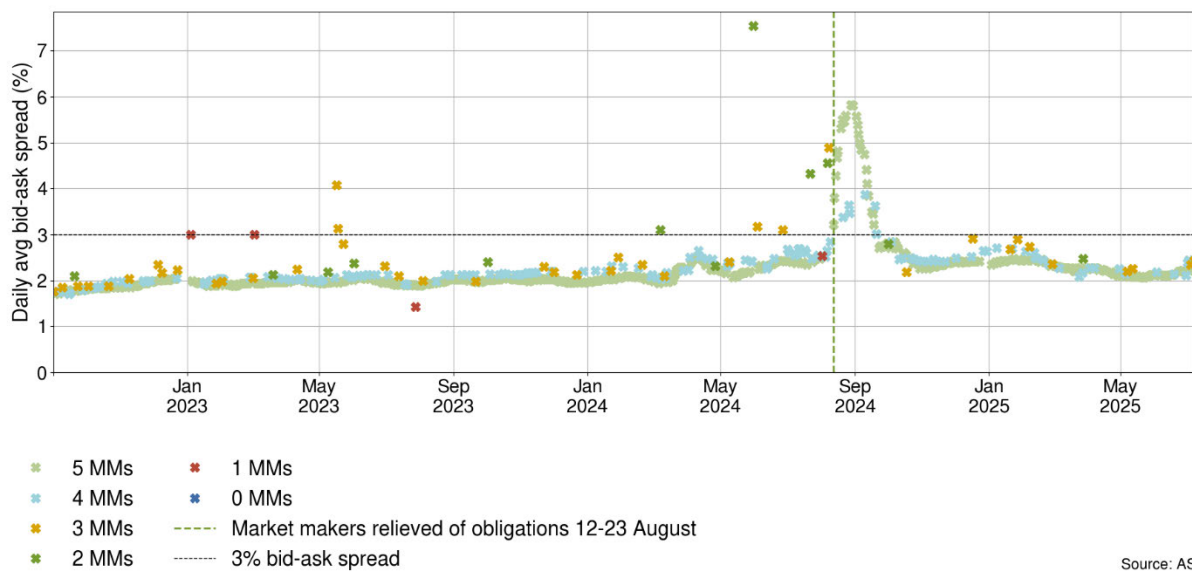
In session order price volatility



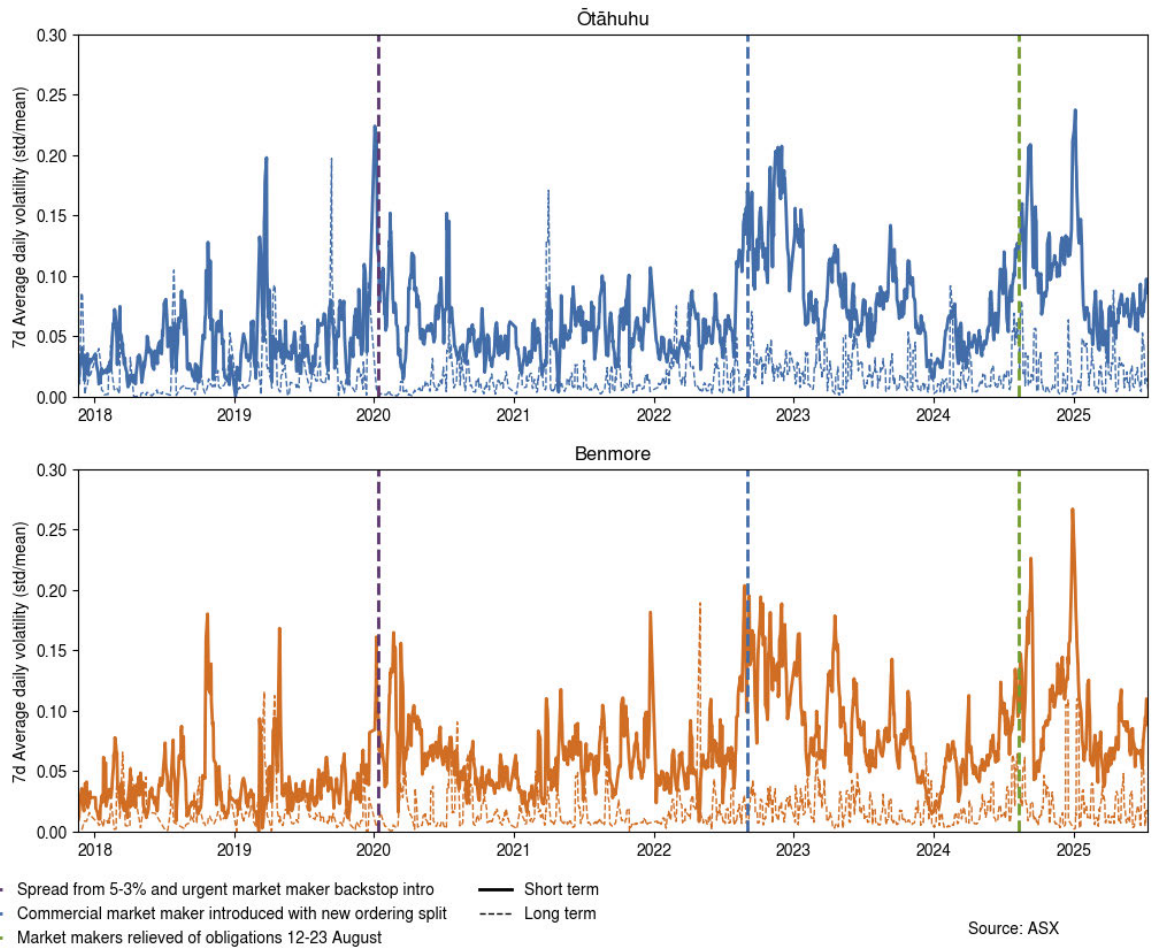
Does number of MM make a significant difference (part 1. Q4)

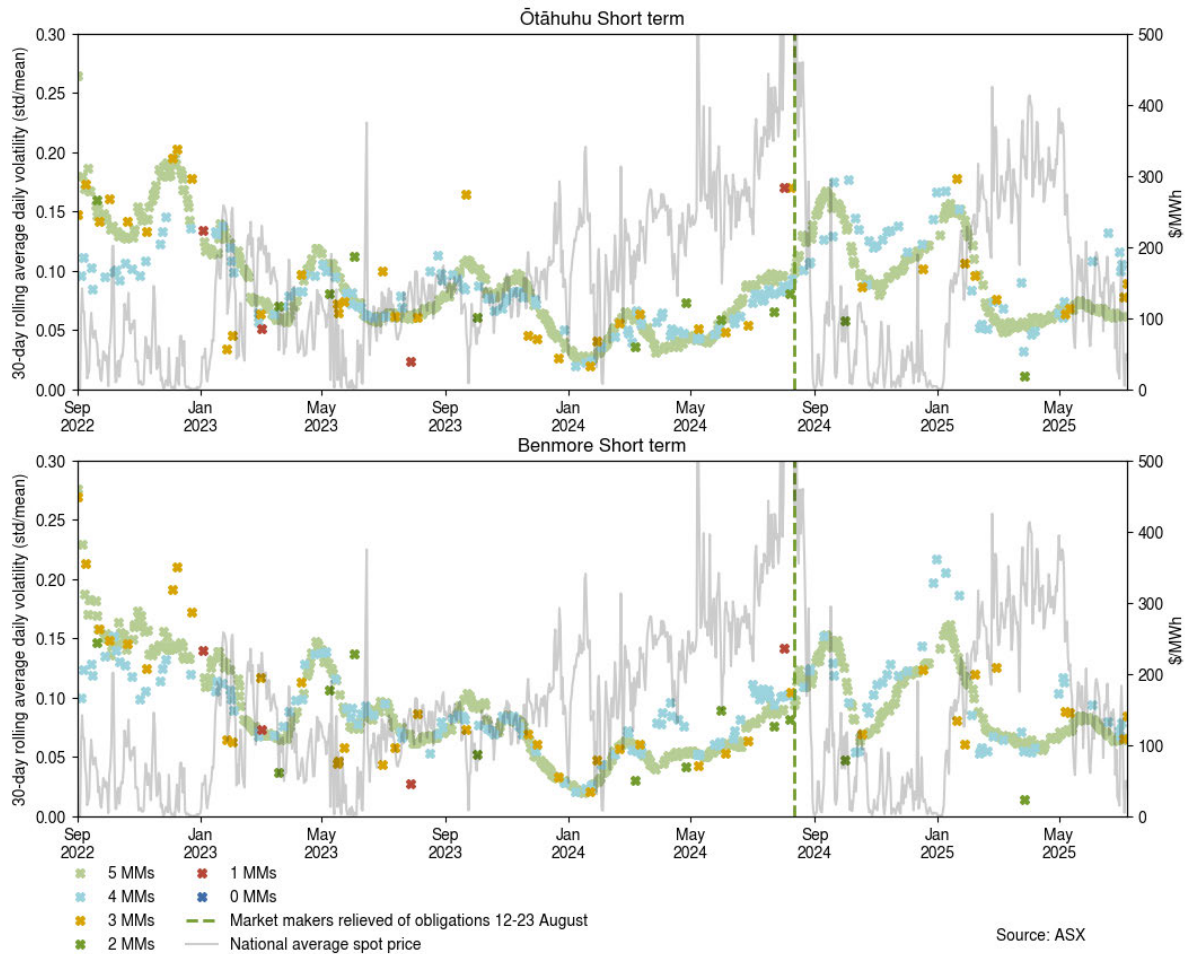
For each day, the number of market makers is defined by looking at sell side only and the number that:

- Offer at least 18 unique contracts (6 monthly contracts and at least 12 quarterly contracts)
- And in each of those contracts offers at least 10 contracts before 2020, at least 30 between 2020 and Sept2022 and at least 12 from Sept2022 and onwards



Difference between 3-5 market makers is small (although there is still and improvement). Spreads tend to blow up once there is <2 market makers.





Again, seems to be little difference between 4-5 market makers, but ≤ 3 market makers seems changes, but not always worse volatility, just different.

Is ASX unbiased predictor of spot prices? (Part 1. Q1)

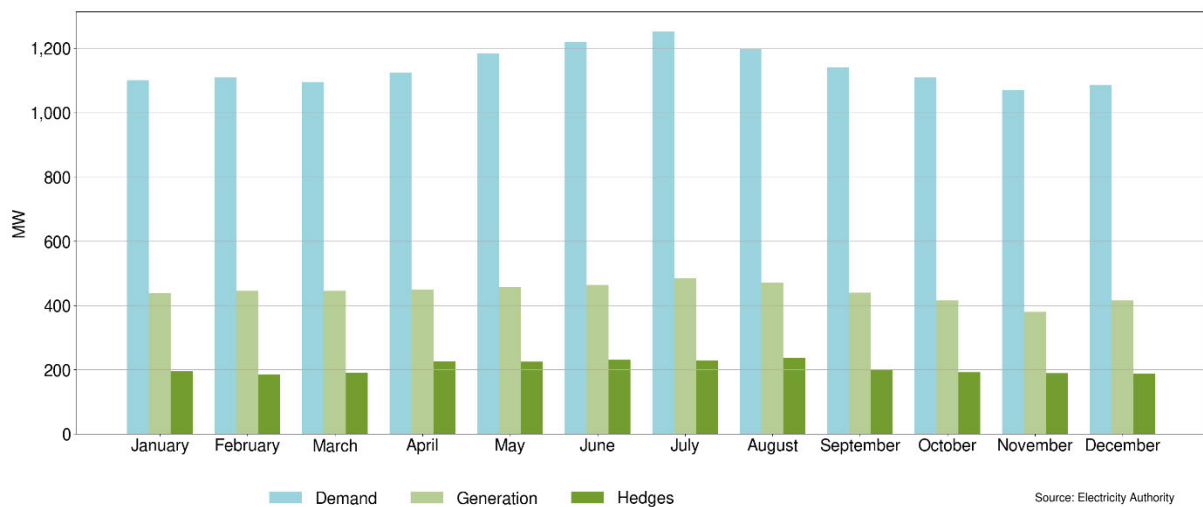
Early trading tends to underestimate the spot price, but the bias tends to disappear as the trades get closer to real time.

4. Conclusion

Are ASX prices an unbiased predictor of Spot prices? One would have to answer that in early trading there is generally some downward bias in ASX prices, but the bias largely disappears in later trades (the last 200 or so). It is also worth noting that:

- Since September 2018 (the time of the Pohokura outage), volatility in ASX prices and Spot prices has been high, so a downward bias in early trades is not surprising. Against that background, the lack of notable bias in later trades is fairly remarkable.
- Although bias is usually low, ASX prices are not efficient estimators of Spot prices. That is, the standard deviation of the errors are relatively high.

Baseload demand, generation and hedges of non-gentailers



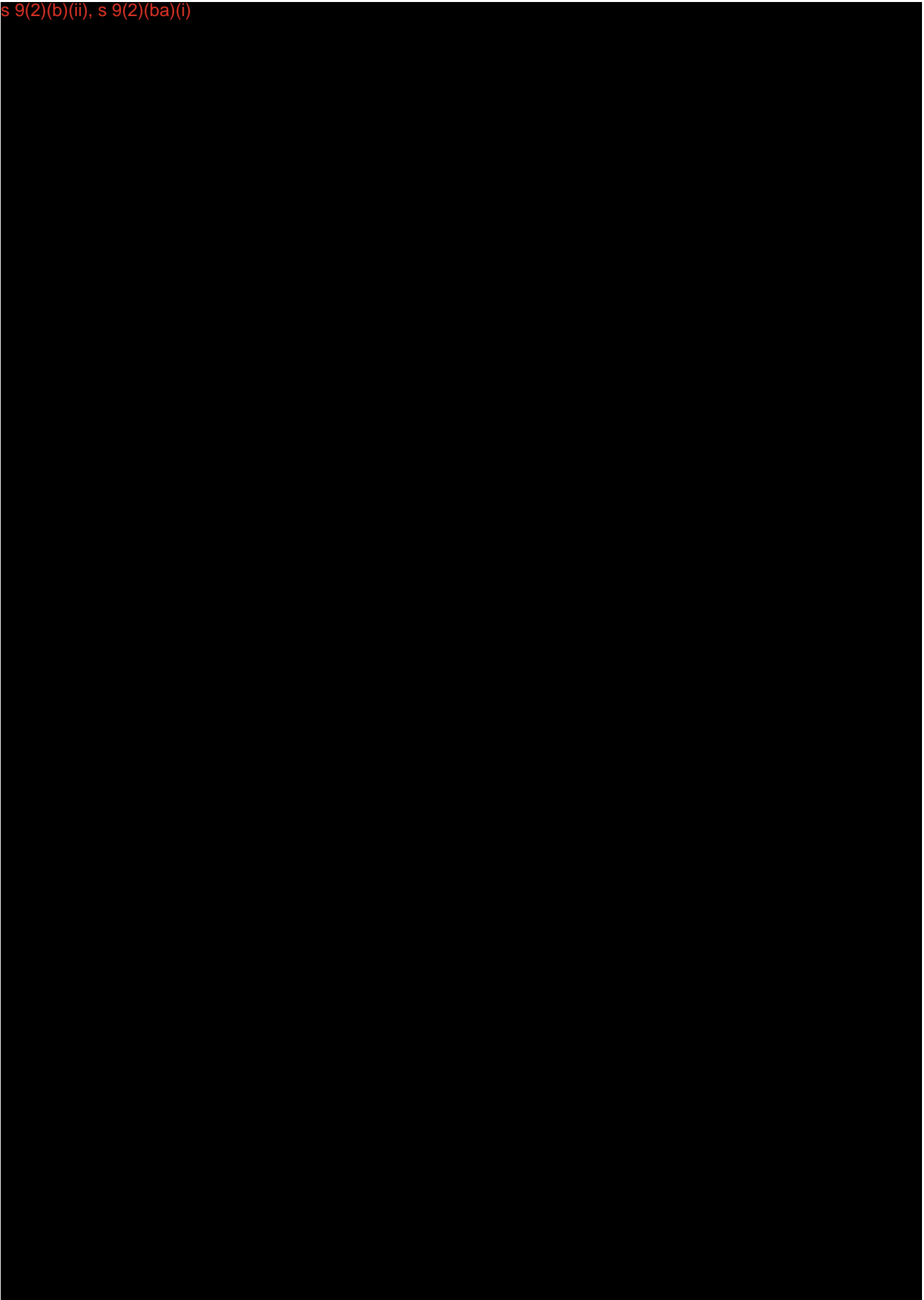
Hedges were netted so that the amount parties sold for the same period would cancel out with what they bought (like open interest), then just the net volume bought by non-MMs was added together to get a daily MW value. The monthly average was calculated from these daily MW values. These averages include data from 2021 and beyond.

This shows that non-MMs are generally holding onto ~200MW of baseload hedges, while ~1,000MW of baseload demand is taken from and ~400MW of generation is added to the spot market by non-gentailers. A mean of ~18% of non-gentailer demand is hedged.


Net position

s 9(2)(b)(ii), s 9(2)(ba)(i)

s 9(2)(b)(ii), s 9(2)(ba)(i)

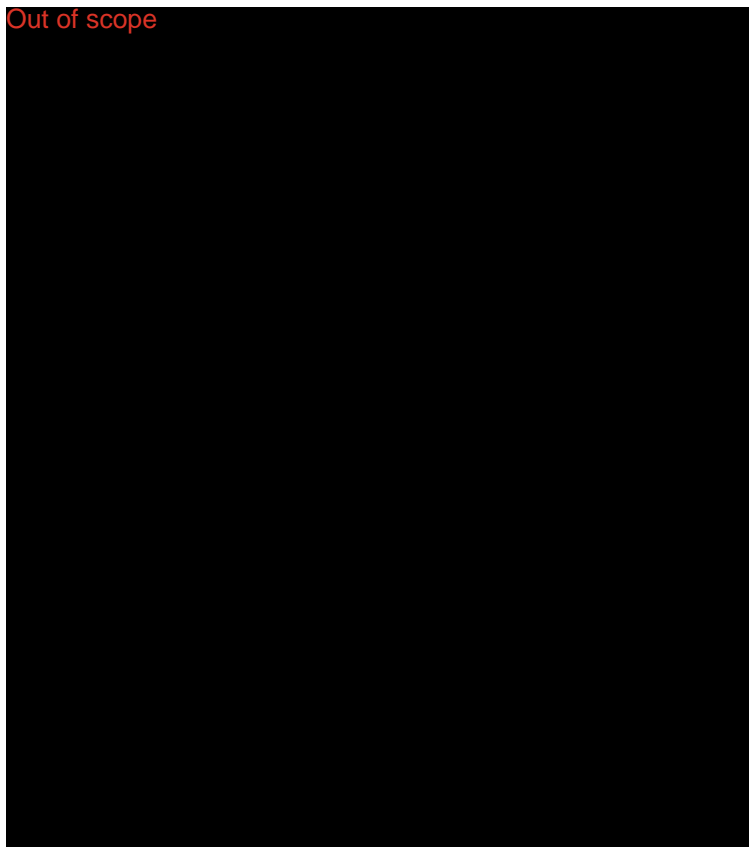


s 9(2)(b)(ii), s 9(2)(ba)(i)



Out of scope





Are peaks getting peakier?

While the max demand for the day is trending up (Figure 1) that is likely just because demand as a whole is going up. The ratio of daily max demand to average demand is actually trending down (Figure 2), likely due to more interest in load shifting (ie, demand response and time of use plans). However, it's true that **prices** are becoming peakier, as the ratio of max price to avg price is trending up (Figure 3).

Figure 1: Daily max demand (of half-hourly avg) in MW

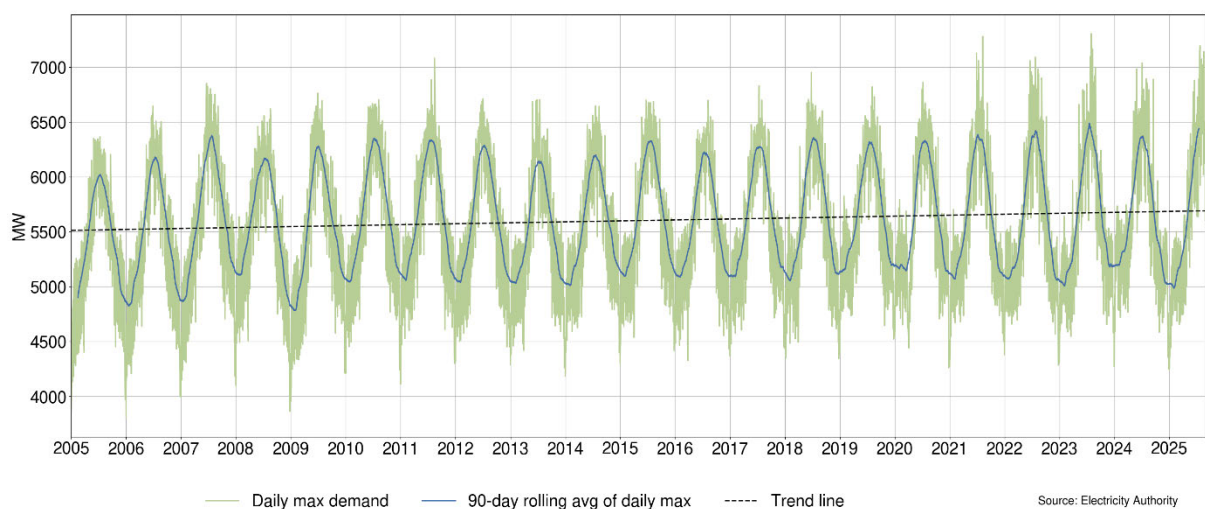


Figure 2: Ratio of daily max demand (of half-hourly avg) to daily avg demand

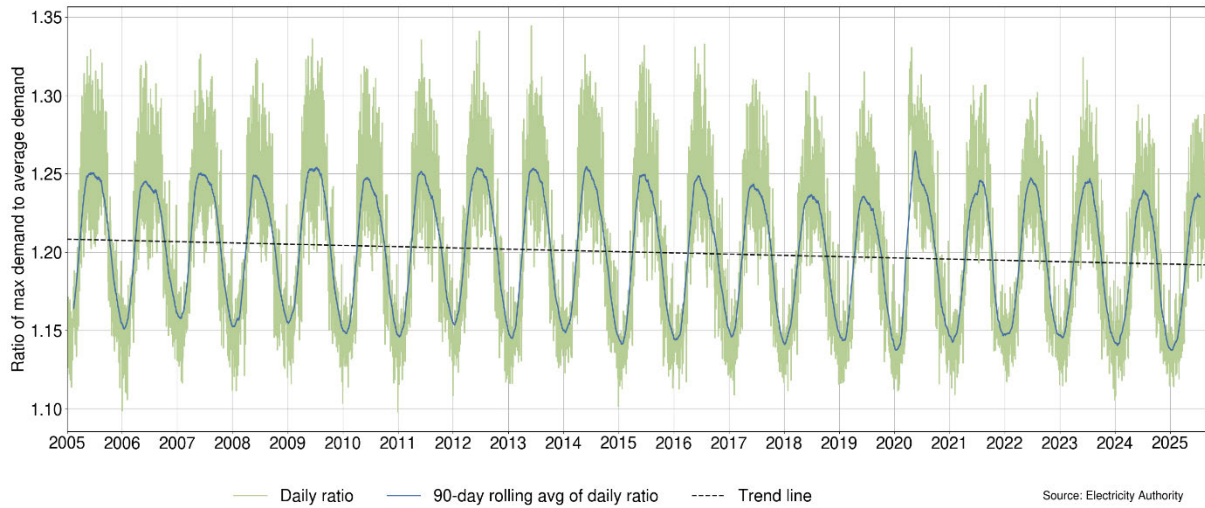
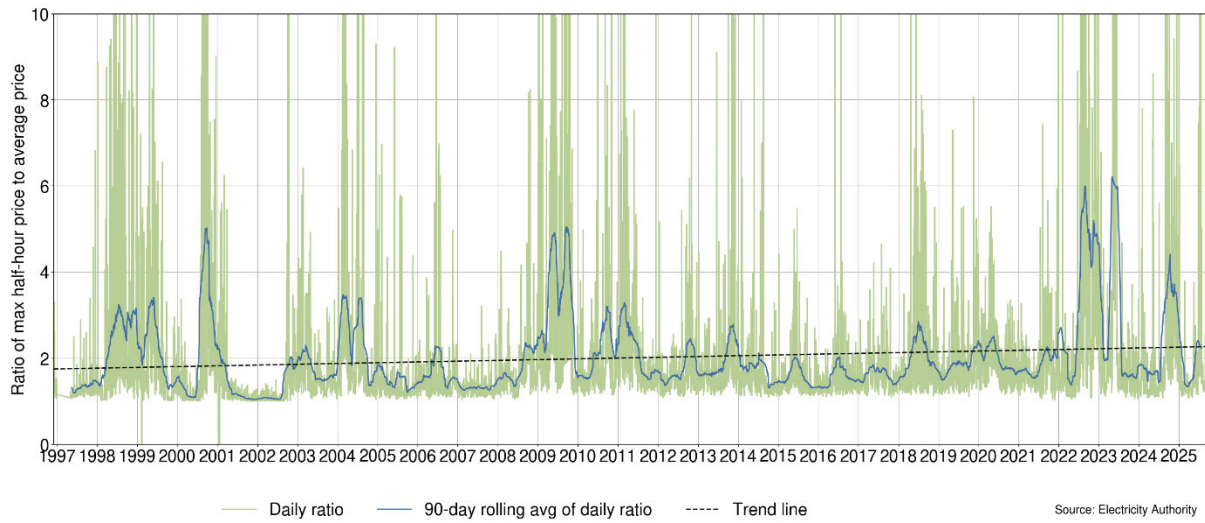


Figure 3: Ratio of daily max (of avg half-hourly) price to daily avg price



Out of scope

Part 1: Is MM achieving its policy objectives (robust forward price curve, improved access to hedges) consistent with the policy criteria of reliable, efficient and sustainable provision of MM

Q3 - What impact have policy changes had on market liquidity / access?

Background

In 2011, the four gentailers entered into a voluntary arrangement with ASX to continuously provide buy and sell offers for specific electricity futures products. This market making arrangement was intended to help rapidly establish a functioning futures market by improving liquidity and price discovery. The government set a goal to have 3,000 GWh of uncovered open interest (UOI), across all listed futures contracts, by 1 January 2012.

As the market matured, the terms of the arrangements were tightened. For example, the Authority recommend to reduce the required bid-ask spread from 10% to 5% in October 2011¹, reflecting higher expectations for service levels.

The voluntary nature of the arrangement proved fragile under stress. During 2018, in response to market stress caused by the Pohokura gas outage, market makers widened their spreads or withdrew entirely, as the voluntary agreement allowed unlimited exemptions during periods of portfolio stress.

Market-making in electricity futures became a formal requirement with the introduction of the backstop mechanism into the Electricity Code in 2020. This policy intervention aimed to address concerns around liquidity and price discovery in the futures market, particularly during periods of low voluntary participation. The policy objective was to:

- *support a robust forward price curve*
- *increase availability of risk management contracts to market participants*

Since then, several additional reforms have been implemented to strengthen and refine the market-making settings including tightening the bid-ask spread, introducing commercial market maker and refresh obligation.

Market making policy changes 2020-2025 (changes are highlighted in green)

	Feb 2020	Apr 2021	Sep 2022	Aug 2024	Sep 2024	July 2025
	Mandatory backstop		CMM, refresh, exemptions	Stress relief		
Status	Temporary Code change	Permanent Code change	Permanent Code change	Temporary relief of obligation	Temporary Code change	Temporary Code change expired
Volume/ market maker	30 lots (3 MW)	30 lots (3 MW)	24 lots (2.4 MW)	12 lots (2.4 MW)	24 lots (2.4 MW)	24 lots (2.4 MW)
Spread	3%	3%	3%	15% ²	3%	3%
Number of market makers	4	4	5	5	5	5

¹ [Ensuring market making arrangements are fit-for-purpose over time - consultation paper.pdf](#)

² This change was temporary and withdrawn in two stages – spreads reduced to 8% from 21 August 2025, and returned to 3% from 26 August 2025.

Exemptions	5 per month	5 per month	5 in 20 rolling days	-	5 in 20 rolling days	5 in 20 rolling days
Refresh			12 lots initial order	6 lots initial order	12 lots initial order	12 lots initial order
Stress relief					For contract with prices > \$500MWh, spread 5%	---

Analysis

Market making policies

To address the policy question of how these interventions have influenced market performance and participant behaviour, this paper examines the impact of three key market-making policy changes:

- The backstop measure (2020)
- Introduction of commercial market maker (CMM), refresh obligations and change to exemptions (2022)
- Implementation of the Stress Relief Mechanism (2024) (out of scope of this paper)

Together, these policy changes represent a progressive evolution of the market-making framework in New Zealand's electricity futures market from voluntary to a more prescriptive regime. This paper evaluates their collective and individual effects on market liquidity, providing insights into the effectiveness of the market making regulatory interventions.

How we measured the impact of market-making policies

Liquidity

A central objective of the market-making policy changes has been to support a robust forward price curve and improve access to risk management contracts.

Achieving these goals requires a liquid electricity futures market in which participants can easily transact—buying or selling with minimal price impact, sufficient volume, and low transaction costs.

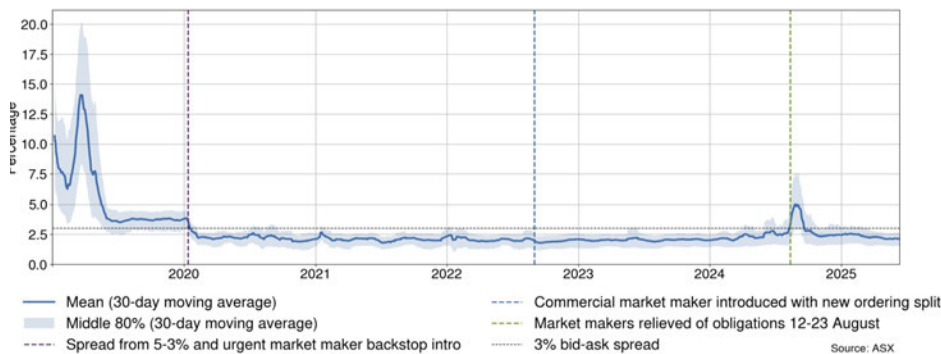
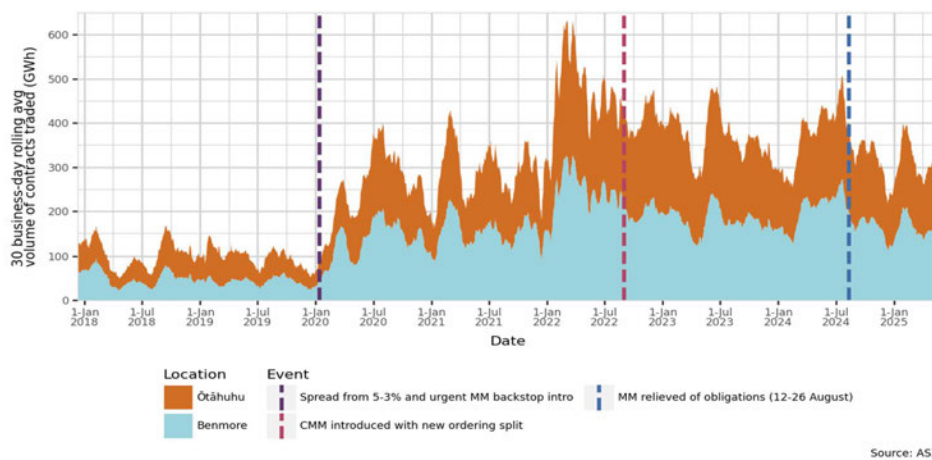
A liquid market fosters confidence that prices reflect fair value and that trades can be executed efficiently. This confidence is essential for a credible market, where participants rely on transparent and reliable pricing to manage risk.

The presence of market making encourages liquidity as it effectively corrals market activity into the market making window. By knowing market makers are present in the market, other participants are encouraged to participate – further enhancing liquidity and strengthens confidence in forward prices. These forward prices provide important signals guiding investment, operational, and trading decisions across the electricity sector—from shaping generators' output strategies to informing retailers' tariff offerings to making medium to long term investment decisions.

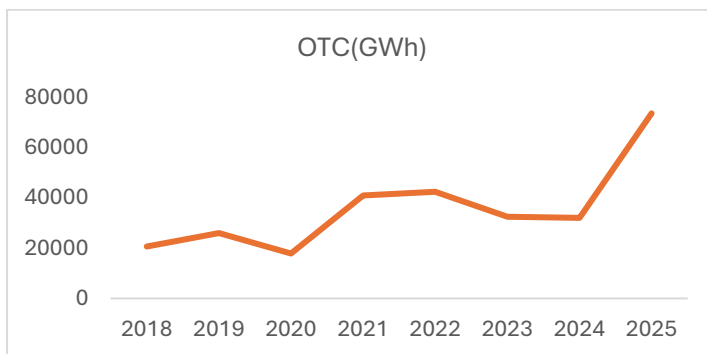
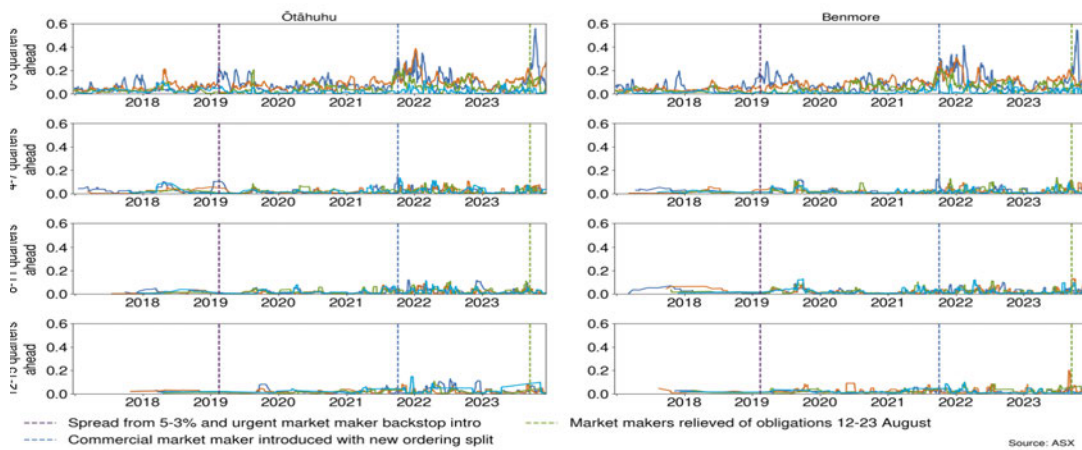
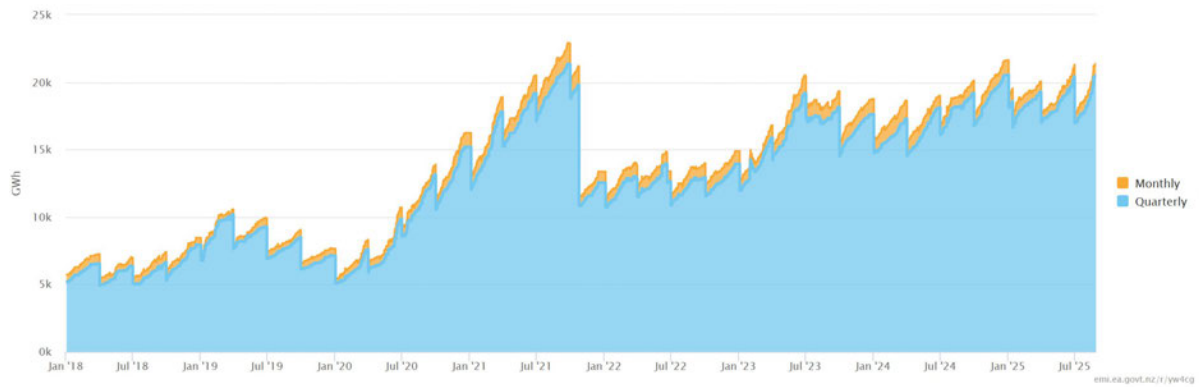
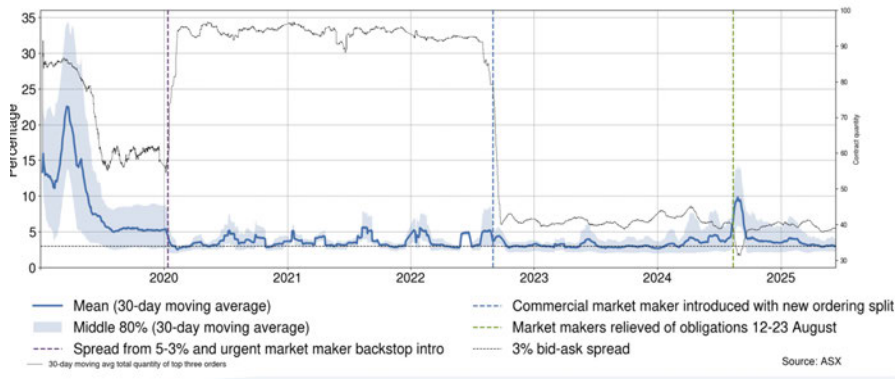
To assess the effectiveness of market-making policies, this paper evaluates market liquidity using several key indicators:

- **Trade volumes:** Indicate the level of market engagement and participants' ability to enter and exit positions.
- **Bid-ask spreads:** Narrow spreads suggest lower transaction costs and more efficient pricing.
- **Market depth:** Reflects the volume available at the best bid and offer prices, supporting larger trades without significant price movement.

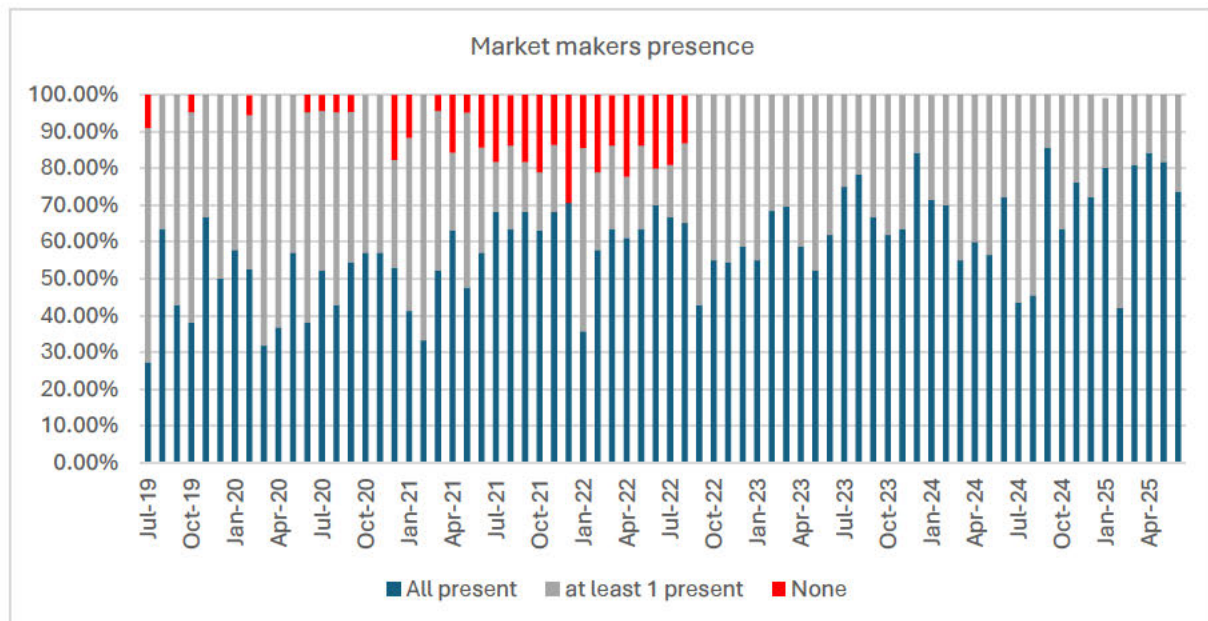
Indicators	Mandatory backstop measure	CMM + Refresh+ 5 exemptions in 20 rolling days	Stress relief
Trade volume	Increase	Inconclusive	Impact already assessed and published
Bid-ask spread	Decrease	Decrease	
Market depth – top 3 order spread	Decrease	Dropped slightly More stable	
Open interest ³	Increase	Increase	
Volatility in near term contracts	Increase	Increase	
Market makers presence	Decrease	Increase	



³ In October 2021, there was a decrease in open interest as a result of a change to reporting by a clearing participant’s reporting of a single participant’s multiple trading accounts. The historical record prior to October 2021 is unable to be updated by ASX. The historical record is therefore, overstated, however the increase between Jan 2020 and Jan 2022 is still significant, noting that the January 2020 figure is potentially overstated.



The increase in OTC contract volumes in 2025 is likely driven by changes to hedge disclosure obligations, which now require participants to report information on a broader range of contracts. As a result, a greater volume of contracts is being disclosed, contributing to the observed rise in reported OTC activity



Conclusion

These policy changes (excluding the stress relief mechanism) have had a measurable impact on the market making policy objectives of supporting a robust forward price curve and increasing access to risk management contract. They generally strengthened liquidity and broadened access to risk management contracts.

While the observed impacts of market making policy changes are supported by quantitative indicators—such as shifts in traded volume, and open interest— it is challenging to attribute these outcomes solely to policy changes with high confidence. The New Zealand electricity market is inherently complex and highly sensitive to external factors such as weather variability, fuel availability, and supply disruptions, which can significantly influence trading behaviour and market outcomes. As a result, it is difficult to fully isolate the effects of policy changes from broader market dynamics. These findings should therefore be interpreted with caution, acknowledging that multiple overlapping influences may shape liquidity and access over time.

Costs and benefits of implementing these policies

Like all regulatory interventions, market-making policies in the electricity futures market come with both costs and benefits. On the benefit side, these policies have significantly supported a robust price curve. Improved liquidity, tighter bid-ask spreads, and greater market depth contribute to better price discovery, which is essential for risk management, investment decisions, and overall market confidence.

However, these benefits are not without trade-offs. The implementation of market-making obligations has introduced higher financial, operational, and administrative burdens for market makers. For some

market makers, particularly during periods of low market activity or heightened volatility, the costs associated with market-making obligations may potentially outweigh the perceived benefits under the current settings.

The impact of these policies is not uniform across all market participants. Market makers with the right strategic positioning, robust systems, and effective risk management frameworks can find profitable opportunities through market making. s 9(2)(b)(ii)

So what?

Since the introduction of market-making policies, the electricity sector has undergone significant changes. To ensure that the benefits of these policies continue to outweigh their costs, it is essential to regularly assess whether the current settings remain fit for purpose.

This paper explores the appropriateness of several key market-making parameters, including appropriate volume, mix of products, refresh obligations and exemptions.

Additional analysis

Need to link the changes in volumes and bid -ask spreads (which were policy changes) to liquidity indicators - eg market depth (eg can we reference how prices varied less when certain volumes were transacted?)

I wonder if we can have an estimate of how much open volume there was from 2022 (or how much volume each company had net short or long)

Part 2: How could we further improve MM settings?

2.B: Other settings

Has the refresh obligation met its objectives? Has it unintentionally increased in-session volatility or scratching?

Background

Voluntary refresh introduced to lower the impact of inadvertent trades

In 2020, the Authority introduced mandatory market-making obligations requiring each regulated market maker to offer their full volume obligation in a single tranche. Once that tranche was traded, the obligation was considered fulfilled, and the market maker was no longer required to provide buy or sell prices for that contract product.

This structure presented challenges for the New Zealand electricity futures market. Although market-making services were available during a 30-minute window at the end of each trading day, market makers tended to enter the window at similar times. This behaviour led to a concentration of trading activity in the first few minutes, often resulting in instantaneous trades and a rapid reduction in available volume. Such conditions increased the risk of inadvertent trades and reduced the effectiveness of price discovery.

To address these issues, the Authority introduced voluntary refresh obligations in 2022. The refresh mechanism enables market makers to split their volume obligation into two parts, with the second part contingent on whether the first is traded. This design aims to maintain liquidity throughout the session and ensure continuous price availability for participants seeking to enter or exit positions. The refresh obligation was intended to:

- Reduce the impact of inadvertent trades,
- Ensure volume remains available in the market after initial trades,
- Strengthen the forward price curve without diminishing total tradable volume.

Analysis

How did we measure the impact of voluntary refresh?

To evaluate the impact of the refresh obligation, we examined several market indicators, including the frequency of instantaneous trades (executed in under one second), in-session price volatility, and average active buy and sell volumes.

Following the introduction of refresh, there was an increase in instantaneous trades that might raise questions about whether some of these trades were unintended, particularly in a fast-moving environment.

Volatility within the market-making session also increased. This may reflect more dynamic pricing behaviour, as market makers adjusted quotes in response to trades and the refresh requirement.

Market depth remained stable across the full session, but there was a clear increase in volume during the first five minutes. This pattern aligns with the intended effect of the refresh obligation, which encourages market makers to reintroduce volume after initial trades, thereby sustaining liquidity beyond the early burst of activity.

It is important to recognise that these changes did not occur in isolation. External factors, including the presence of clearing participants and spot price volatility, also influence market behaviour and

should be considered when evaluating outcomes. As a result, it is difficult to attribute observed outcomes solely to the refresh mechanism

Conclusion

Market has responded positively to refresh obligations

The market has responded positively to the introduction of refresh obligations. Most market makers have voluntarily adopted the refresh feature, indicating its practical value and alignment with participant needs.

The mechanism has proven effective in supporting continuous pricing and maintaining liquidity throughout the session. Complementary policy changes—such as the introduction of CMM and adjustments to exemptions—played a critical role in mitigating potential downsides and ensuring sufficient volume remained available.

Looking ahead, the Authority is considering two options:

- **Option 1: Maintain the status quo**, preserving the current refresh framework.
- **Option 2: Expand voluntary refresh**, encouraging broader adoption while retaining flexibility for participants.

Appendix

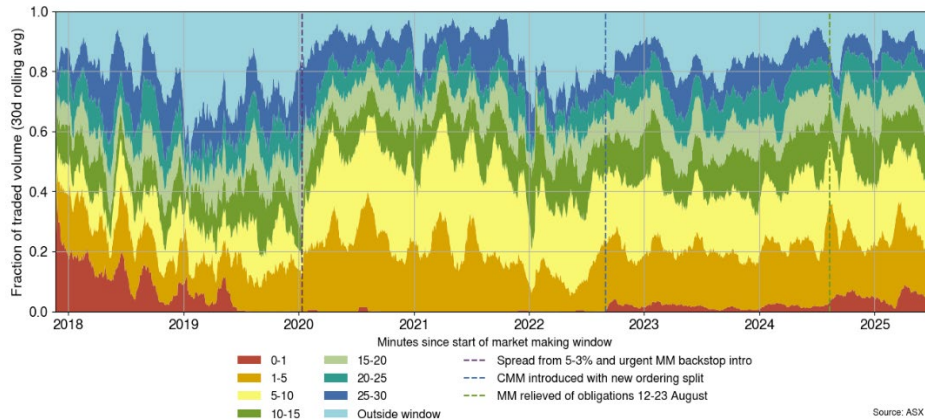
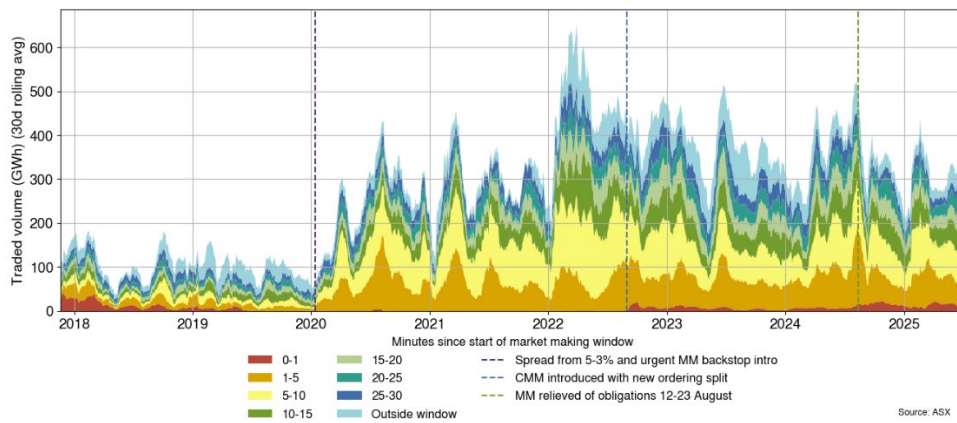
Detailed analysis

s 9(2)(b)(ii), s 9(2)(ba)(i)

Before 2020 there were a greater proportion of trades occurring in the first minute, this became very little until the CMM/new ordering split was introduced when it increased again, but still remains low.

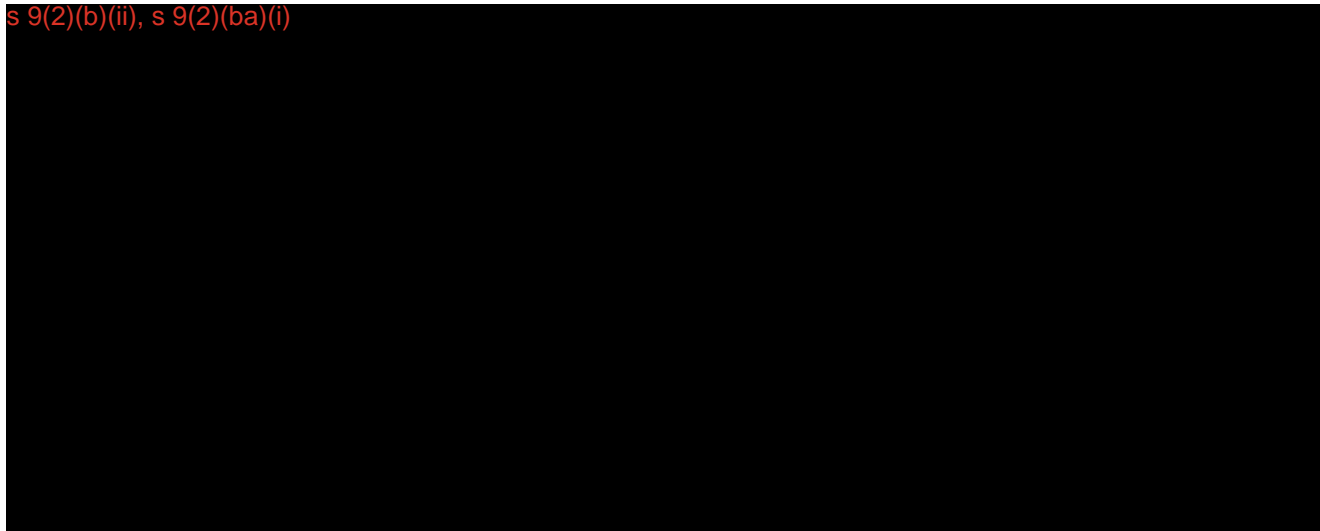
Typically at least 40% of traded volume occurs between 1-10 minutes.

Pretty evenly shared between 10-15-20-25 minutes



s 9(2)(b)(ii), s 9(2)(ba)(i)

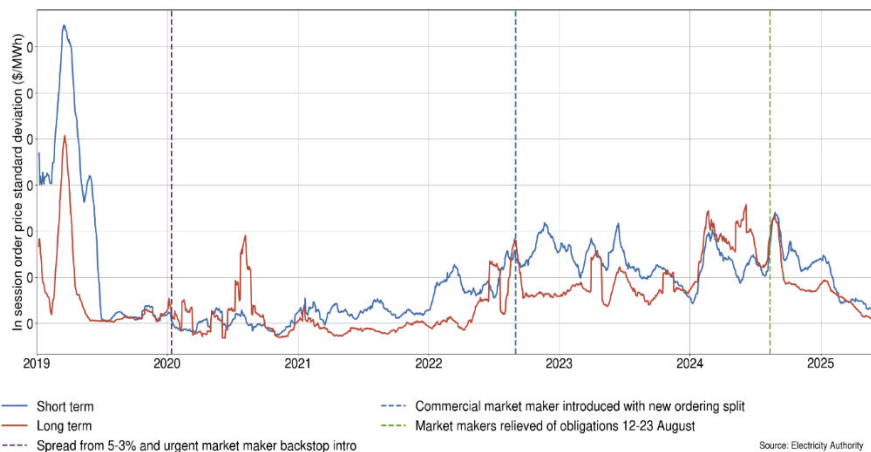
s 9(2)(b)(ii), s 9(2)(ba)(i)



In session price volatility increased after changes in 2022. It has declined significantly in mid 2025.

External factors and spot price volatility seems to have an effect

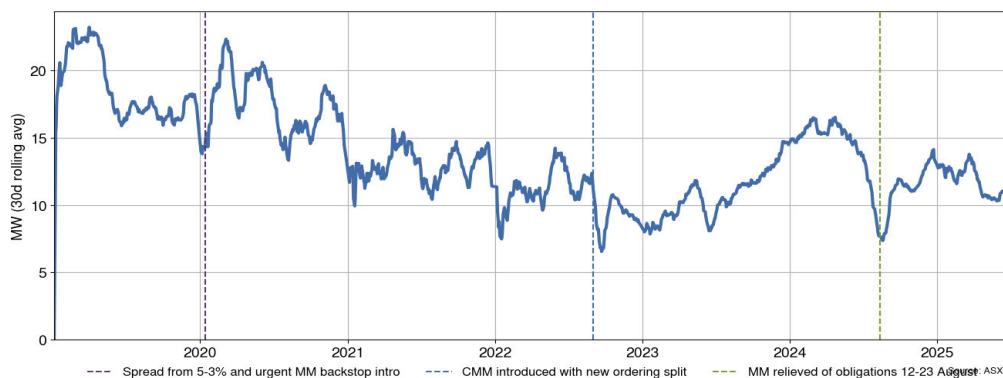
Ask monitoring to add spot price volatility to this graph

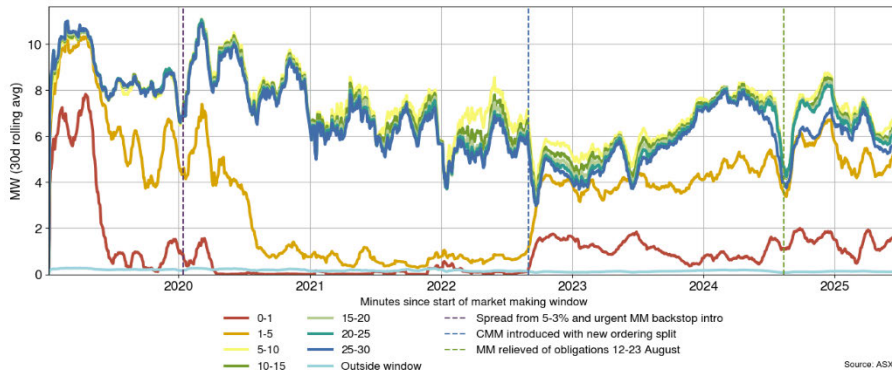


Depth

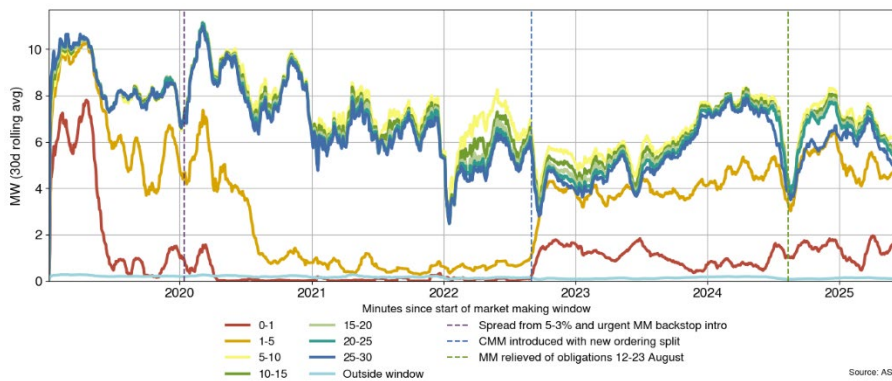
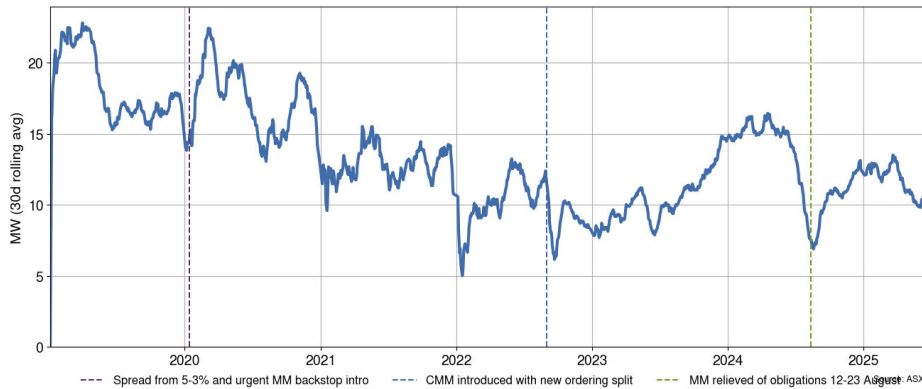
Average active buy volume remained relatively the same after 2022 changes. But average buy volume in the first 5 mins has increased.

Volume was available even after refresh when we reduced to offered volume to half. Influenced by exemption policy change. Refresh didn't have negative effect.

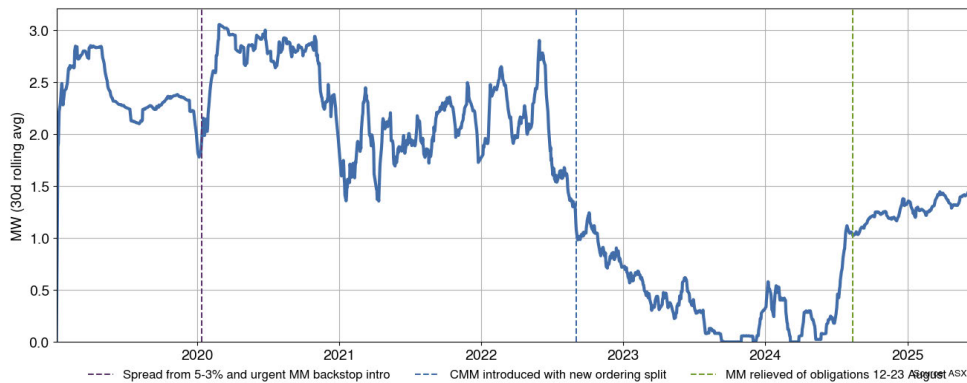




Average active sell volume remained relatively the same after 2022 changes. But, average sell volume increased in the first 5 mins



Non-market maker average active buy volume



Non-market maker average active sell volume (loss of clearing managers, the external factors have strong impact)

