

Hedge Market Enhancements: Commercial market-making scheme

Code Amendment Consultation paper

Submissions close: 5pm, Tuesday 29 March 2022

15 February 2022



1 Executive summary

- 1.1 In August 2020 the Electricity Authority (Authority) decided to pursue an enduring market-making approach that enhances the existing market-making arrangements while improving efficiency, increasing trust and confidence in the market, and facilitating a service-oriented approach.
- 1.2 A commercial market-making scheme will build on the current arrangements, where market-making is provided by Contact Energy Limited, Genesis Energy Limited, Mercury NZ Limited and Meridian Energy Limited (the four regulated market makers).
- 1.3 The enduring approach involves an initial combination of one or more commercial providers of market-making services, and the four regulated market makers.
- 1.4 Introducing a commercial market-making scheme, will benefit consumers because it will enhance the performance of the New Zealand electricity futures market, which:
 - (a) allows New Zealand electricity market participants to benefit from a robust and liquid forward price curve;
 - (b) allows those that trade in the ASX futures market to benefit from liquidity and price efficiency supported by market-making; and
 - (c) allows for greater competition in the retail and generation markets.
- 1.5 The first stage of the approach will likely see 20% of the total market-making obligation provided by one or more commercial providers, with the remaining 80% provided by the four regulated market makers.
- 1.6 The Electricity Industry Participation Code 2010 (Code) sets out the requirements for the regulated market makers including a mandated backstop provision introduced in April 2021. The introduction and success of the initial commercial market-making scheme requires both regulated and commercial market makers to operate with the same service levels.
- 1.7 The Authority is seeking stakeholder views on amending the current market-making service level in the Code to align regulated market-making requirements with commercial market-making. The Authority is proposing the following service levels for both regulated market makers and commercial market makers:
 - a) Total market-making volume of 12 MW per contract (with 2.4MW allocated to commercial provider/s and 9.6MW allocated to regulated providers)
 - b) Spread between bid and offer prices of 3%.
 - c) Market-making exemptions of five days per rolling 20 trading days.
 - d) Inclusion of a refresh obligation.

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2 What you need to know to make a submission

Purpose of this document

- 2.1 This paper seeks feedback on the Authority's proposal to amend the Code to ensure commercial and regulated market makers operate under the same service levels and associated parameters. When making a submission, please consider the specific questions included in this document.
- 2.2 Industry feedback will inform the Authority's decision to amend and/or proceed with its proposal.

How to make a submission

- 2.3 The Authority's preference is to receive submissions in electronic format. Submissions in electronic form should be emailed to WholesaleConsultation@ea.govt.nz with 'Consultation paper – Commercial Market-Making Scheme Code Amendment' in the subject line.
- 2.4 Please note the Authority intends to publish all submissions it receives. If you consider that we should not publish any part of your submission, please:
- (a) indicate in a cover note which part/s should not be published;
 - (b) explain why you consider we should not publish that part; and
 - (c) provide a version of your submission that we can publish (if we agree not to publish your full submission).
- 2.5 If you indicate there is part of your submission that should not be published, the Authority will discuss with you before deciding whether to not publish that part of your submission. However, please note that all submissions we receive, including any parts that we do not publish, can be requested under the Official Information Act 1982. This means we would be required to release material that we did not publish unless good reason existed under the Official Information Act to withhold it. The Authority will consult with you before releasing any material that you said should not be published.

When to make a submission

- 2.6 Please deliver your submissions by **5pm on Tuesday, 29 March 2022**.
- 2.7 This deadline allows six weeks for submissions. The Authority will acknowledge receipt of all submissions electronically. Please contact WholesaleConsultation@ea.govt.nz if you do not receive electronic acknowledgement of your submission within two business days.

Further information

- 2.8 The Authority's website contains useful background material about the Authority's previous work relating to the commercial market-making scheme and hedge market enhancements.¹
- 2.9 Please direct any specific questions or queries to: WholesaleConsultation@ea.govt.nz.

¹ Available at: <https://www.ea.govt.nz/development/work-programme/risk-management/hedge-market-development>.

3 The Authority is progressing the enduring market-making arrangements

- 3.1 The Authority's *Hedge Market Enhancements: market-making project*² (HME) purpose is to ensure market-making services support a robust forward price curve and enable efficient risk management for the long-term benefit of consumers. The project has a goal of ensuring market-making services are sustainable and fit-for-purpose.
- 3.2 In August 2020 the Authority decided to pursue an enduring market-making approach that secures the benefits of the current arrangements while enhancing efficiency, improving trust and confidence in the market, and facilitating a service-oriented approach.³ The enduring market-making approach:
- (a) transitions, over a period of years, to a commercial and incentivised market-making arrangement where market-making services are performed by providers compensated on commercial terms by all generators and purchasers via the Electricity Authority Levy; and
 - (b) ensures the integrity of market-making services is maintained in the transition period through a combination of regulated market makers⁴ and commercial provider(s).
- 3.3 The Authority amended the Code by inserting a permanent mandatory market-making backstop provision in April 2021.⁵
- 3.4 The Authority is currently working to introduce commercial market-making services to take the place of some of the existing mandated arrangements. This proposed first iteration of the commercial scheme involves appointing one or more commercial market makers to provide 20% of the total volume of market-making contracts. The remaining 80% will be provided by the existing regulated market makers. Currently all volume is provided by the regulated market makers. The first iteration of the commercial scheme is planned to commence in mid-2022.
- 3.5 The Authority Board will regularly review the performance of any scheme and adjust any settings, including the service levels and balance between regulated and commercial providers, in the long term interests of consumers.
- 3.6 The purpose of the proposed Code amendment is twofold:
- (a) change the allocation of the global volume of market-making for regulated market makers in the backstop provision in the Code to reflect the lower share of market-making by regulated market makers as a result of the appointment of a commercial market maker(s).
 - (b) change the mechanism by which market-making is conducted by introducing two specific changes:
 - (i) how market makers are exempted from providing market-making services

² Information on this project is available at: <https://www.ea.govt.nz/development/work-programme/risk-management/hedge-market-development>.

³ Information on this project is available at: <https://www.ea.govt.nz/assets/dms-assets/27/Hedge-Market-Enhancements-enduring-market-making-approach-Decision-Paper1267526.6.pdf>.

⁴ Contact Energy Limited, Genesis Energy Limited, Mercury NZ Limited and Meridian Energy Limited.

⁵ Information on this project is available at: <https://www.ea.govt.nz/assets/dms-assets/28/Decision-paper-on-permanent-mandatory-market-making-backstop.pdf>.

- (ii) how market makers provide bids and offers into the market.

Commercial market-making scheme implementation

3.7 The Authority has progressed the implementation of commercial market-making:

3.8 Changes to the Authority's appropriation:

- (a) An increase to the Authority's current appropriation is required to fund the first iteration of the commercial market-making scheme, providing 20% of the current market-making volume.
- (b) The Authority consulted with industry participants in June 2021 to increase the Authority's appropriation.⁶ The consultation requested feedback on the preferred level of service for the commercial scheme and the impact this has on the levy on industry participants.
- (c) The consultation resulted in a request to Cabinet for an increase to the Authority's appropriation.⁷ This request was approved by Cabinet on 22 September 2021. The approval was for an ongoing annual increase to the Authority's appropriation from the financial year 2022/23. The appropriation increase for a maximum of \$14.4m per annum is sufficient to fund 20% of the current market-making volume.

3.9 Procurement process:

- (a) The Authority is procuring commercial market-making services in a two-step process, the Registration of Interest (ROI) and the Request for Proposal (RFP).
- (b) The ROI closed on 24 September 2021.⁸ The results of the ROI saw a shortlist of suppliers selected, and this shortlist will be invited to the RFP stage. The RFP will be open between February and April 2022, where one or more suppliers will be selected to provide commercial market-making services.

The mandatory backstop arrangements must align with the intended joint mandatory and commercial arrangements

3.10 The current regulated market-making service levels and associated parameters are in Part 13 of Code, and act as a mandatory backstop for market makers.

3.11 The success of market-making requires both regulated and commercial market makers to operate under the same market-making service levels and associated parameters in the Code. Without consistent requirements, some market makers (either regulated or commercial) would face higher risks to provide market-making services, leading to inefficient outcomes for market participants, to the detriment of consumers.

⁶ Information on this project is available at: <https://www.ea.govt.nz/assets/dms-assets/28/Levy-consultation-Commercial-Market-Making-Scheme-Consultation-paper.pdf>.

⁷ Information on this project is available at: <https://www.mbie.govt.nz/dmsdocument/17883-electricity-authority-levy-increase-funding-the-commercial-market-making-scheme-minute-of-decision-proactiverelease-pdf>.

⁸ Information on this project is available at: <https://www.ea.govt.nz/development/work-programme/risk-management/hedge-market-development/commercial-scheme/>.

- 3.12 As part of the procurement, the Authority has tested the design of the market-making obligation with potential providers of market-making services, including indications of the cost of market-making under a range of design changes. The information on the cost of market-making, as well as responses to the levy consultation has informed the Authority's proposed market-making parameters. The detail of the costs of market-making provided by potential suppliers does remain commercially confidential.

Q1. Do you have any feedback on the Authority's proposal to align regulated market-making obligations with commercial market-making obligations?

The Authority intends to maintain the current bid-offer spread and the total volume of futures contracts

- 3.13 Currently, the four regulated market makers⁹ each provide 3 MW of volume for each market made contract, providing a total of 12 MW of volume available to buy or sell. The Authority intends to retain the current total volume of 12MW.
- 3.14 The Authority consulted on service levels in June 2021 as part of the commercial market-making levy consultation.¹⁰ The results of the levy consultation suggested a preference for maintaining the total volume of provision at 12 MW. There was no indication from any respondents that an increase in total volume was preferred.
- 3.15 The total volume of 12 MW per contract is sufficient to cover approximately 72% of average electricity demand (calendar year 2020).¹¹ This excludes other forms of risk management such as any internal matching of supply and demand or long-term contracts (such as the virtual asset swaps or industrial loads).
- 3.16 The Authority also considered the risk of over provision of service but decided, on balance, that 12 MW was appropriate because market trading volumes and open interest have continued to grow since the increased global volume of 12 MW was introduced in 2020.¹² For reference, the average monthly trade contracts have increased from 13,221 contracts per month to 35,537 contracts per month since global volume was increased.¹³
- 3.17 See Figure 1 for monthly trade volumes from 01 January 2018 to 01 January 2020, and
- 3.18 Figure 2 for monthly trade volumes from 01 January 2020 to 01 January 2022.¹⁴

⁹ Contact Energy Limited, Genesis Energy Limited, Mercury NZ Limited and Meridian Energy Limited.

¹⁰ Information on this project is available at: <https://www.ea.govt.nz/assets/dms-assets/28/Levy-consultation-Commercial-Market-Making-Scheme-Consultation-paper.pdf>.

¹¹ Calculation is based on total available market made capacity of 3,384 MW for hedge contracts and average electricity demand for New Zealand in 2020 of 4,699.40 MW.

Market made hedge contract capacity calculation: 188 trading days x 12 MW per contract x 1.5 periods (quarterly offered all year and monthly offered half a year) x 2 nodes (Benmore and Otahuhu) x 0.5 for the market made volume removed on opposite side of the transaction.

¹² Information on this project is available at: <https://www.ea.govt.nz/assets/dms-assets/27/Hedge-Market-Enhancements-enduring-market-making-approach-Decision-Paper1267526.6.pdf>

¹³ Based on average monthly trades for 24 months prior to January 2019 versus average monthly trades for all months post January 2019. Source, www.emi.ea.govt.nz.

¹⁴ Source: www.emi.ea.govt.nz

Figure 1 ASX futures volume traded, 01 January 2018 to 01 January 2020 (before volume increase) ¹⁵

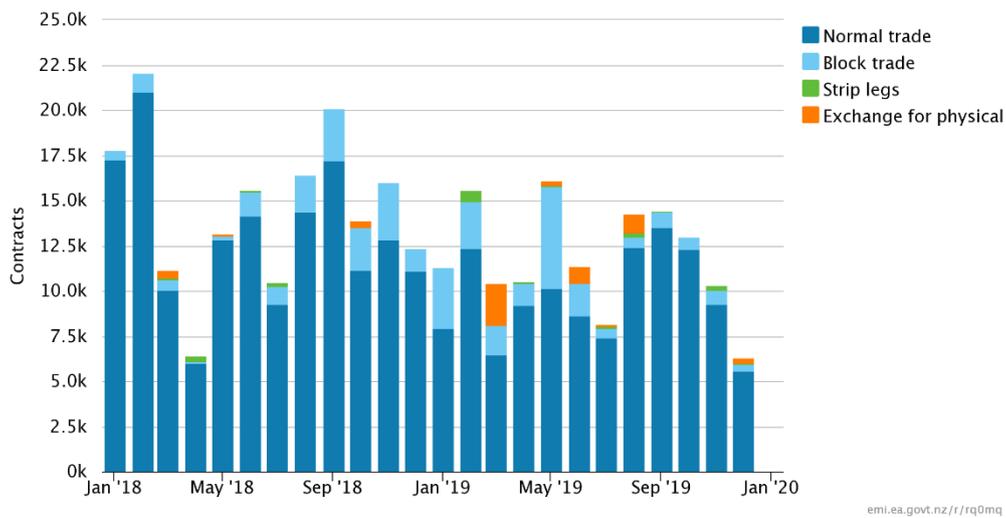
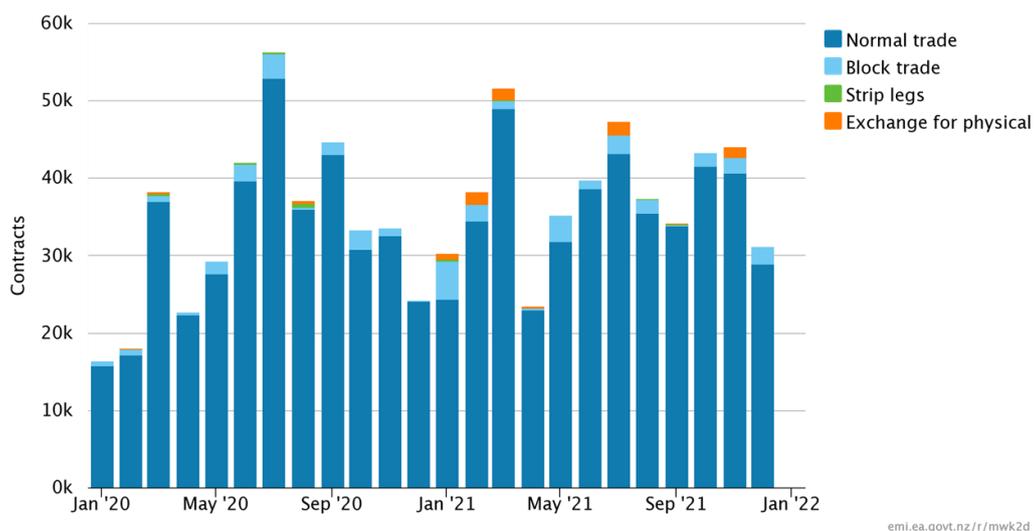


Figure 2 ASX futures volume traded, 01 January 2020 to 01 January 2021 (after volume increase)



¹⁵

All trades shown in monthly trade volumes are one of four types:

Normal – these are anonymous trades made during the ASX trading session. The majority of trades are normal.

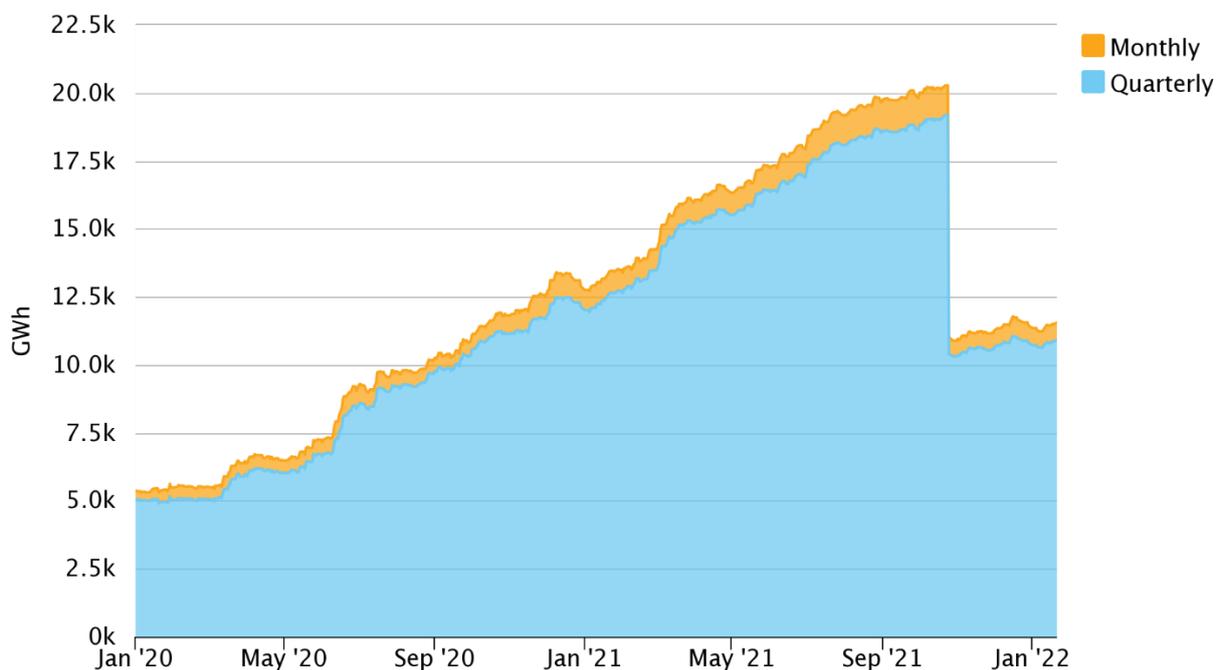
Strip legs – a strip trade is defined as a trade where four consecutive quarters of a futures product (with the same volume for each of those quarters) are bought or sold simultaneously, at a weighted average yearly price. Strip legs are also trades made during the trading session.

Block – block trades are a form of off-market transaction and are formed outside of the trading session. Such trades enable market participants to bilaterally arrange transactions (e.g. via over-the-counter negotiation) which can be registered for clearing by an ASX participant.

Exchange for physical (EFP) – an EFP is another type of off-market transaction between wholesale participants which involves the switching (or exchanging) of an over-the-counter derivative for an exchange-traded derivative.

- 3.19 The number of contracts traded have increased since the increase in volume offered by market makers, and the trade volumes are also increasing. If trade volumes had stabilised post the increase in market made volume, then you could conclude that there is an excess of volume provided. However, this is not the case. Data from EMI¹⁶ reported that post the increase in market made volume, the average unadjusted monthly trade volume for calendar year 2021 was 6,119 GWh, compared to the average unadjusted monthly trade volume in the previous calendar year 2020 of 5,173 GWh.
- 3.20 In addition, open interest has increased from 5,367 GWh on 01 January 2020 to 11,561 GWh on 21 January 2022.¹⁷ See
- 3.21 Figure 3.
- 3.22 Open interest is the total number of outstanding contracts that are held by market participants at the end of each trading day. The Authority notes the significant decrease in open interest reported by ASX in October 2021. The decrease in open interest was a result of a change to reporting by a clearing participant's reporting of a single participant's multiple trading accounts¹⁸. 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.

Figure 3 ASX futures open interest, 01 January 2017 to 21 January 2022 (to date)



emi.ea.govt.nz/r/ziyus

¹⁶ EMI is the Authority's Electricity Market Information (EMI) website.
https://www.emi.ea.govt.nz/Forward%20markets/Reports/DRERRQ?DateFrom=20200101&DateTo=20220101&Instrument=FUTURE&Location=ALL&CommodityType=All&Duration=ALL&Maturity=ALL&TimeScale=M ONTH&Show=GWH_GROSS&_si=v|3

¹⁷ Source, www.emi.ea.govt.nz

¹⁸ This change in reporting is being investigated by the ASX.

- 3.23 Maintaining this global level of service, with the introduction of commercial market-making will see:
- (a) each of the four regulated market makers¹⁹ being required to provide 2.4 MW of volume (9.6 MW provided by regulated market makers); and
 - (b) one or more commercial providers contracted to provide a total of 2.4 MW of volume.

Q2. Do you agree that the total volume should remain at 12 MW per contract, if not why?

- 3.24 Currently, the four regulated market makers¹⁹ provide bids and offers at a maximum spread of 3%. Based on stakeholder feedback, Authority's analysis, and cost/service level trade-offs, the Authority is proposing maintaining the 3% spread requirement across both regulated and commercial providers. The Authority previously consulted on spread levels in the levy consultation in June 2021.²⁰
- 3.25 Since January 2020, when the Authority moved market-making spread from 5% to 3%,¹² open interest has more than doubled. See
- 3.26 Figure 3 in Para 3.22. This suggests that the reduction in spreads has contributed to the increase in participants trading and maintaining positions in the New Zealand electricity futures market.
- 3.27 During the procurement process for commercial market-making services, the Authority received cost indications for market-making at different spread levels. Cost indications did not provide a conclusive answer if a lower spread results in higher costs of market-making. The lack of conclusive cost data, the slight preference from the levy consultation for 3% spreads, as well as the increase in trading and open interest since the change from 5% to 3% in January 2020 supports maintaining the current level of bid-ask spread.
- 3.28 The Authority will however obtain cost information from RFP respondents to obtain final data on cost/service level trade-offs. If the cost of market-making at different bid-ask spreads varies significantly from previously indicated levels, and subsequently change in bid-ask spread is in the long-term benefit of consumers, the Authority may revisit the bid-offer spread.

Q3. Do you agree that the spread between bid and offer prices should remain at a maximum of 3% if not why?

¹⁹ Contact Energy Limited, Genesis Energy Limited, Mercury NZ Limited and Meridian Energy Limited.

²⁰ Consultation responses are available at: <https://www.ea.govt.nz/development/work-programme/risk-management/hedge-market-development/consultations/#c18742>.

The Authority does not consider the introduction of commercial market-making is a net cost to levy payers

- 3.29 Currently, the full 12 MW of market made volume is provided by four regulated market makers. These providers are not paid for this service, however market makers incur costs in providing this service. This is reflected in the price indications the Authority has received from potential commercial market makers (from both existing and new market makers) in providing market-making services, as well as historical indications (in trading updates and Annual Reports) from market makers that market-making is a cost to their business. This cost is currently borne by the regulated market makers and are recovered from a combination of their generation or retailing businesses implicitly.
- 3.30 The commercial market maker procurement is non-discriminatory and has received interest throughout the process from existing and new market makers. The Authority procurement process has been designed to ensure a competitive outcome is obtained.
- 3.31 Therefore, the allocation of part of the market-making volume obligation from the regulated market makers to a commercial market maker will not result in a net cost to all electricity levy payers, and will be an increase in efficiency as the costs of the commercial market-making scheme will be allocated to all generation and purchasers via the Electricity Industry levy, compared to the current situation where all costs are borne by an (albeit significant) subset of generation and purchasers.

4 The Authority is enhancing the robustness of the market-making scheme

- 4.1 The Authority has identified two areas of the existing market-making scheme that will benefit from changes. Specifically, the Authority intends to change:
- (a) how market makers are exempt from providing market-making services
 - (b) how market makers provide bids and offers into the market.

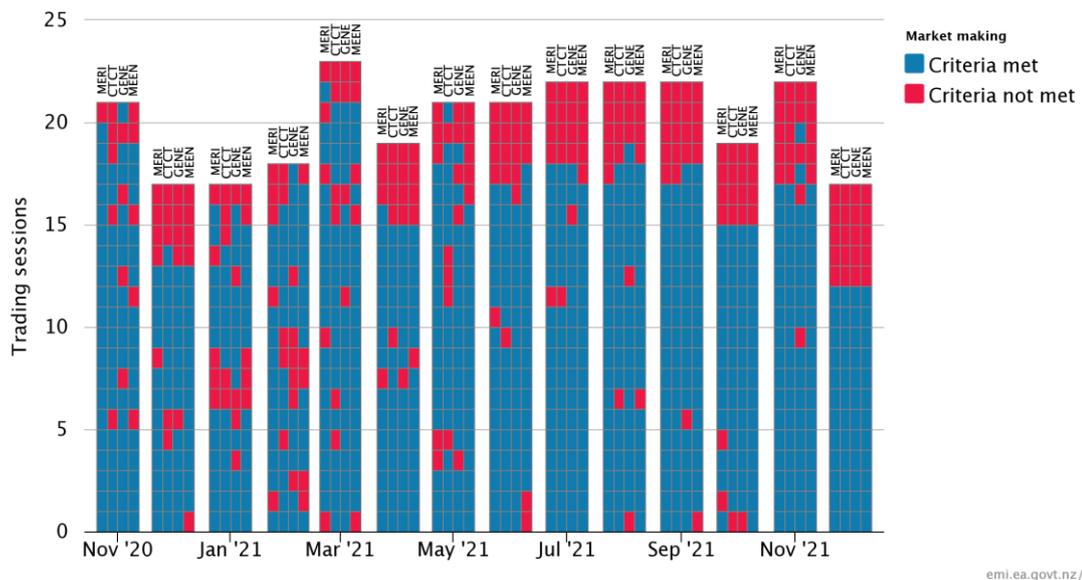
Exemption regime

- 4.2 The existing regime for allowing market makers exemptions from providing service is five days per calendar month. The Authority is proposing amending this regime to five exemption days per rolling 20 trading days for both commercial and regulated market makers.
- 4.3 Over the past 12 months, the regulated market makers' have each concentrated their use of exemption days at the end of each calendar month. It is costly to provide market-making services during adverse trading conditions, therefore there is an incentive to retain exemption days until the end of the calendar month in case there are adverse trading days.
- 4.4 This results in market makers retaining exemption days until the last possible trading days each month and using them all once the number of exemption days remaining match the number of trading days remaining. Over time, this becomes reinforcing as the end of the month becomes more expensive for market makers to provide services if there are fewer service providers active during that period (because the others are using exemptions).

4.5 Consequently, the end of each calendar month has seen the withdrawal of market-making services. The withdrawal of market-making services means there are limited trades undertaken at the end of the month.

4.6 **Figure 4** shows the concentration of each market makers' use of exemptions towards the end of each month.²¹ The first trading days of each month are at the bottom of each bar and the last trading days of the month are at the top of each bar. Days where market makers do not provide services are marked in red and days where services are provided are marked in blue. It is particularly apparent during the December and January holiday period where a combination of public holidays, exemptions and market closure sees market-making cease for approximately three weeks at a time.

Figure 4 Regulated market maker performance, November 2020 to December 2021



4.7 The concentration of exemption days is an unintended outcome for the New Zealand electricity futures market due to the following reasons:

- (a) There is a reduction in value of the forward price curve as it potentially becomes more volatile from the lack of trading volume, and there is reduced opportunity for market participants to undertake risk management activities. This lack of trading on non-market maker days at the end of the calendar month increases uncertainty to the forward price curve and inhibits consecutive days of continuous price discovery. Both the forward price curve and risk management activities are key benefits derived from the New Zealand electricity futures market.

When less than three market makers are present in a session the reduction in trading volume is significant. When no market makers are present the average daily traded lots is almost 10 times less than when all four market makers are present.

The average trade activity for the last three months (02 September 2021 to 03 December 2021) when different number of market makers are present is summarised in Table 1.

²¹ Source: www.emi.ea.govt.nz

Table 1 Table of market makers in a session and corresponding average daily traded lots²²

Number of market makers in session	Number of average daily traded lots ²³
0	263
1	576
2	1442
3	2316
4	2316

- (b) The provision of five exemption days had the intention of allowing market makers to be exempt from market-making obligations during periods of market related or non-market related stress. However, anecdotal evidence suggests the behaviour shown from the use of exemption days at the end of the calendar month is not necessarily reflective of periods of market related stress nor is it likely that each market maker is experiencing the same non-market related stress over the same period. Examples of non-market related stress include staffing, IT infrastructure, company events etc. This behaviour of concentration exemption days at the end of a calendar month has become a systematic issue and is not the intention of the exemption rule.
- 4.8 Accordingly, the Authority intends to amend the exemption regime from one of five days per calendar month to five days in a rolling 20 trading day period. The intention is to ensure exemptions better reflect the times of stress for market makers and address issues of the lack of liquidity. The Authority intends that a rolling period will remove the concentration of exemptions at the end of a calendar month, by removing the automatic reset of exemptions at the start of each month, to a situation where each market maker assesses the value of each day to take an exemption independently of other market makers positions. It is more likely that any concentration of exemption days will take place on days of the highest risk, rather than at the end of calendar months.
- 4.9 The Authority notes that the proposed Code amendment does not explicitly reference the exemption regime. The exemption regime details are covered in the agreement between the regulated market makers and the ASX. If, after consultation, the Authority considers the exemption regime proposal will benefit consumers, it will work with ASX to have this change reflected in its market making agreements with each of the regulated market makers.

²² Source: Electricity Authority

²³ A "lot" is a unit of 0.1MW per contract

- 4.10 The Authority did consider an alternative mechanism to alter commercial and regulated market makers incentives to make markets during times of stress. This alternative was an incentive scheme, where non-performing market makers would pay a fee to performing market makers. This concept was included in the commercial market-making RFI and ROI. The proposed incentive scheme design is included in Appendix D. Feedback from the ROI did not suggest the incentive scheme would have a positive impact on the cost of commercial market-making, was particularly complex to administer and would be challenging to implement. Market makers, both potential and existing were skeptical of the value of the incentive scheme in aligning the goals of the Authority, regulated market makers and commercial market makers.
- 4.11 The proposed change to the rolling exemption days would better meet the goals of the Authority in ensuring market-making services are provided, with simpler implementation and monitoring.

Q4. Do you agree that changing to a rolling 20 trading days exemption scheme will benefit the New Zealand electricity futures market if not why?

Q5. Do you propose an alternative solution to maintaining market-making services through a calendar month?

Inclusion of a refresh obligation

- 4.12 The Authority intends to introduce a refresh obligation for both commercial and regulated market makers. This is a new obligation that does not exist in the current regulated market-making scheme.
- 4.13 Currently, each regulated market maker provides their full volume obligation in one tranche. Once that tranche is traded, the market makers obligation in that contract product is complete, and the market maker is no longer required to provide a buy or sell price.
- 4.14 The current arrangement is an issue for the New Zealand electricity futures market because although market-making services are provided during a 30-minute market-making window at the end of each trading day, market makers consistently enter the window at similar times. This frequently results in significant trading activity happening instantaneously and the majority of trading activity occurring in the first five minutes of the market-making window.
- 4.15 This instantaneous trading is an issue for the New Zealand electricity futures market due to the following reasons:
- (a) In some contract types, a significant number of trades occur in the first five minutes of the trading window. In some circumstances, the trades could be described as inadvertent, where market makers did not intend to trade, but because of simultaneous entry to the market-making window, buy and sell orders intersect.

- (b) These inadvertent trades reduce liquidity as there is less volume for non-market-making participants to trade with and can be costly for market makers as they hold unwanted positions, and may sometimes needing to intentionally reverse transactions pending internal company trading policies. For example, the Authority has observed behaviour where a market maker obtains a position in a contract on one day, and the next day trades out of that product. This trading behaviour when initiated by an inadvertent trade, removes volume from the market over two trading days.
- (c) This loss of volume early in the market-making window also contributes to a weakening of the forward price curve as the intersecting trades reduce the likelihood of buy and sell prices remaining at the conclusion of the trading window for certain products.²⁴
- 4.16 The histogram in Figure 5 shows how a significant number of contracts²⁵ are traded²⁶ at the opening of the market-making window. Subsequently when one side (either buy or sell side) is traded the market maker has then met their volume obligation, the volume on the opposite side is then removed from the market, as shown by the number of cancelled²⁷ trades during the market-making window in Figure 6. Data from August 2021 was used however this is reflective of across most months.²⁸
- 4.17 The Figure 5 and Figure 6 histograms also show the number of traded and cancelled contracts when instantaneous²⁹ trades and cancellations are removed. It can be observed that instantaneously traded contracts contribute to a significant portion of all market made contracts traded in August 2021.
- 4.18 To provide perspective to these charts, there were 22 trading days in August 2021 and four market makers. This is 88 orders for each contract product. Overall, there were 20 market made contract products in August 2021, consisting of 6 monthly products and 14 quarterly products each at Benmore and Otahuhu. This resulted in 3520 total contracts being made available by market makers.
- 4.19 The 1471 active then traded³⁰ contracts within the first minute of being entered represents approximately 42% (1471 out of 3520) of all market made contracts in August 2021.
- 4.20 The 871 instantaneously traded contracts at the time of market opening represents approximately 25% (871 out of 3520) of all market made contracts. When these 871 active and instantaneously traded contracts at the market opening are compared with the total number of active then traded contracts, it represents approximately 59% (871 out of 1471) of all market made and traded contracts in August 2021.

²⁴ The reduction in closing price availability on the ASX platform may also be marginal contributor to increased margin requirements for ASX future products, which has been noted as a barrier to participating on the ASX platform.

²⁵ Each count consists of 30 lot orders with each lot representing 0.1MW. This results in each count being equivalent to 3MW.

²⁶ Traded refers to a buy or sell order which becomes active and is traded (fully or partially)

²⁷ Cancelled refers to a buy or sell order which becomes active but then cancelled

²⁸ Source: Electricity Authority

²⁹ Instantaneous trades and cancellations refer to trades occurring when time is $t = 0$

³⁰ Active then traded refers to a buy or sell order placed by a market maker on the New Zealand electricity futures market which is then subsequently transacted with another market maker or market participant.

Figure 5 Number of contracts active then traded (orange) and active then traded with instantaneous trades removed (blue) for August 2021

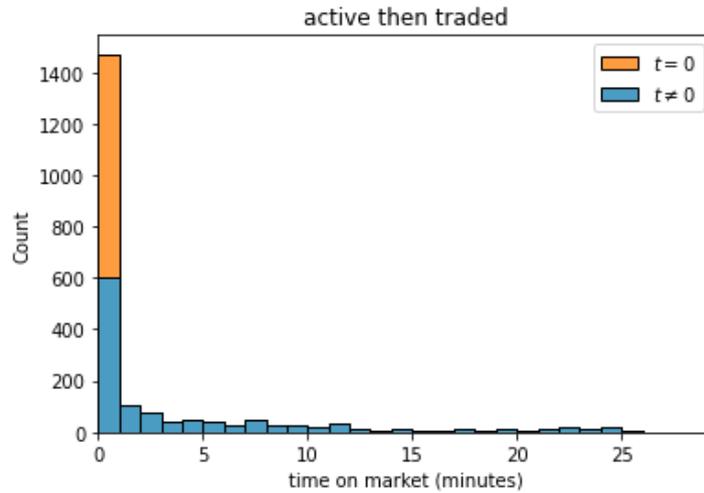
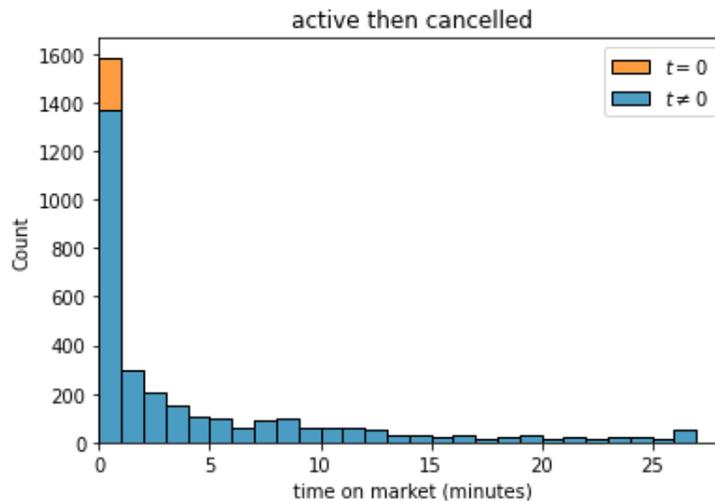


Figure 6 Number of contracts active then cancelled (orange) and active then cancelled with instantaneous cancellations removed (blue) for August 2021

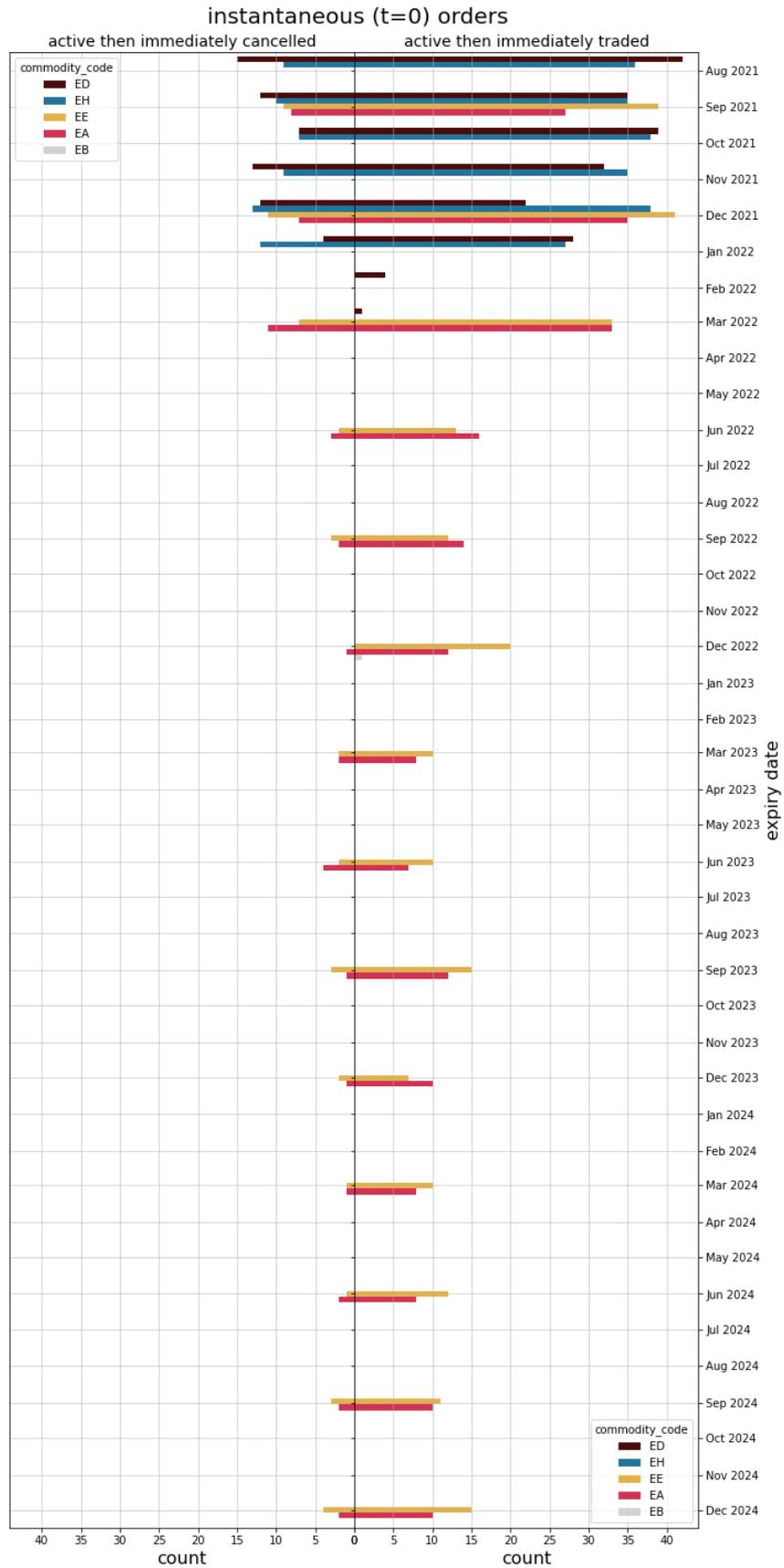


- 4.21 Further breakdown of the active then instantaneously traded contracts indicate that a high number of instantaneous trades are occurring for monthly and near dated quarterly contracts that expire within six months of August 2021.³¹ This is shown in Figure 7.³²
- 4.22 The 549 instantaneous monthly and near dated quarterly contracts traded, represents approximately 63% (549 out of 871) of all active then instantaneously traded contracts in August 2021 and approximately 39% (549 out of 1408) of all near dated quarterly contracts that expire within six months of August 2021.

³¹ There were 22 trading days in August 2021 and four market makers. This is 88 orders for each contract product. Overall, there were 8 near dated market made contract products expiring within 6 months of August 2021, consisting of 6 monthly products and 2 quarterly products each at Benmore and Otahuhu.

³² Source: Electricity Authority

Figure 7 Violin plot of different commodity codes and expiration month for contracts that are active and immediately cancelled or traded³³



- 4.23 A refresh obligation will result in market makers effectively splitting their volume obligation in two, with the second part contingent on whether the first part is traded. The Authority is introducing this obligation because it will likely:
- (i) increase the robustness of the forward price curve
 - (ii) reduce the cost of commercial market-making; and
 - (iii) not impact the total volume of contracts available to trade.
- 4.24 A refresh obligation where market makers are required to initially post half their volume obligation, and must top this up until their volume obligation is met would lower the impact of inadvertent trades.
- 4.25 This will also reduce the amount of volume removed from the market in such trades, require volume to remain in the market post trades and will increase the strength of the forward price curve, without reducing the total volume available to trade.
- 4.26 When counting lots traded under a refresh obligation requirement, a cumulative trading method will be used to monitor volume obligations of market makers. Cumulative trading is the concept that both buy and sell volumes transacted are counted towards a market maker's volume obligation.
- 4.27 This is consistent with the current ASX arrangement with regulated market makers, where a combination of 30 partial buy and partial sell lots in total is adequate to satisfy market maker volume obligation for that specific contract product. This provides market makers with more flexibility in how they fulfil their volume obligations and simplifies the monitoring process for the ASX.³⁴
- 4.28 As per current arrangements, market makers will still be required to meet all service level obligations for at least 25 minutes out of the 30-minute market-making window. Time spent preparing buy and sell trades during the refresh period will not count towards the 25-minute requirement. Market makers will need to ensure the total time spent non-compliant with volume obligations does not exceed five minutes. Practically, this is the time taken to enter the market at the beginning of the trading window plus the time taken to refresh the order once.

Other options considered

- 4.29 During the commercial market-making ROI procurement stage conducted in mid-late 2021, the Authority considered implementing a set time limit to ensure market makers refreshed orders in a timely manner. For example, a market maker after being traded for at least one lot on either buy or sell side would be permitted 30 seconds out of the market to organize the refresh of volume for the contract product traded, in addition to the five minutes permitted to be out of the market currently.

³³ The commodity code descriptions are provided below :

ED: Otahuhu base load monthly futures

EH: Benmore base load monthly futures

EA: Otahuhu base load quarterly futures

EE: Benmore base load quarterly futures

EB: Otahuhu base load strip futures

³⁴ Australian Securities Exchange Limited

- 4.30 However, it was determined market makers could potentially take advantage of a set time limit method for determining refresh compliance. Market makers could potentially sit out of the market by consistently trading small quantities to accumulate time out of the market for a particular contract product. ie, market maker trades a small quantity > sits out for 30 seconds > market maker trades another small quantity > sit outs for another 30 seconds, repeating this behaviour until their time obliged to market make is exhausted.
- 4.31 Alongside the previous concern, there were indications a set time limit method would be complicated for market makers to manage but also for the ASX and the Authority to implement monitoring and compliance measures.
- 4.32 In addition, the commercial market-making RFI procurement stage conducted in early 2021, an alternative to a refresh obligation was explored however was not preferred. This alternative was introducing market opening provisions ie, facilitating a soft opening. The soft-opening provision would see a wider spread between bids and offers for the first five minutes of the trading period, and permit any volume bought or sold within the 30-minute market-making window to count towards a market maker's volume obligation, provided the relevant volume bought or sold was as a result of on-market bids and offers.
- 4.33 The purpose of this change would be to ease the price discovery process in the opening of the market-making window, and to reduce the loss of liquidity where a tight spread causes market makers to inadvertently trade with each other at the start of a market-making window. Market makers would still be required to provide bids and offers within 3% of each other for 25 minutes in each market-making window, until they meet their volume obligation.
- 4.34 Feedback from the RFI respondents suggested the benefits from market opening provisions were questionable because the ability to place trades for price discovery is already present to a certain extent and the advantage of being the last market maker to enter is difficult to overcome. It was also noted that market opening provisions may encourage the act of spoofing, where market makers place orders with no intention of keeping them.
- 4.35 Greater support was demonstrated for the addition of a refresh obligation compared to implementing market opening provisions. The benefits from implementing a refresh obligation were also better anticipated. For worked examples of the refresh obligation in effect refer to Appendix E.

Q6. Do you agree that introducing a refresh obligation will benefit the New Zealand electricity futures market if not why?

Call for Questions – Refresh Obligation

Call for Questions – Refresh Obligation

The Authority appreciates the proposal for the addition of a refresh obligation is a new concept to the New Zealand electricity futures market. As a result, the Authority invites questions relating to the refresh obligation to be submitted separately during the consultation period.

Questions in electronic form should be emailed to WholesaleConsultation@ea.govt.nz with '*Consultation paper – Commercial Market-Making Scheme Code Amendment (refresh obligation)*' in the subject line.

All delivered questions by 5pm on Friday, 04 March 2022 will be provided a response on the Authority's public website by 5pm on Friday, 11 March 2022.

Webpage for publication of responses:

<https://www.ea.govt.nz/development/work-programme/risk-management/hedge-market-development/commercial-scheme/>

The Authority will acknowledge receipt of all questions electronically. Please contact WholesaleConsultation@ea.govt.nz if you do not receive electronic acknowledgement of your submission within two business days.

5 The Authority's proposal has a positive net benefit for consumers

- 5.1 The Authority is required by the Act and the Authority's Consultation Charter³⁵ to undertake a cost-benefit analysis of Code change proposals. The Authority's full cost-benefit analysis is included in Appendix A.
- 5.2 The Consultation Charter notes that quantitative analysis should be used to assess long-term benefits for consumers but recognises that quantitative analysis is not always possible. The cost-benefit analysis of this proposal acknowledges the inability to quantitatively assess the net benefits of the proposal. However, the analysis makes the assessment that the introduction of a commercial market maker/s will reinforce the bid-ask spread and provide more diversity in the provision of market-making services.
- 5.3 The change to the market-making parameters by the change to the exemption regime and the introduction of a refresh obligation will result in a more robust forward price curve and also result in a lower cost to levy payers.

6 The Authority's proposed Code amendment is set out in Appendix C

COST BENEFIT ANALYSIS AND OTHER REGULATORY REQUIREMENTS

Q7. Do you have any feedback on the Authority's cost-benefit analysis set out in Appendix A?

Q8. Do you have any feedback on the Regulatory statement in Appendix B?

Q9. Do you have any feedback on the Code amendment set out in Appendix C?

7 Next steps

- 7.1 The Authority's Board will consider any feedback received when it decides whether to proceed with the proposed Code amendment in early 2022. If the Authority decides to proceed, the Code amendment will be implemented shortly afterwards and prior to the commencement of the commercial market-making scheme.
- 7.2 A template with the format for submissions is provided in Appendix F.
- 7.3 The Authority's *Hedge Market Enhancements* project will continue progressing the procurement of a commercial provider of market-making services. More detail on the procurement process and its progress is available on the Authority website.³⁶ The commercial market-making RFP will be released to shortlisted suppliers at the same time as the opening of this consultation.

³⁵ Available at: <https://www.ea.govt.nz/assets/dms-assets/14/14242consultation-charter.pdf>.

³⁶ Available at: <https://www.ea.govt.nz/development/work-programme/risk-management/hedge-market-development/>.

Glossary of abbreviations and terms

Authority	Electricity Authority
Act	Electricity Industry Act 2010
ASX	Australian Securities Exchange Limited
Buy side	The participants on the side of the market looking to purchase contracts.
Code	Electricity Industry Participation Code 2010
EMI	Electricity Market Information
Market-making	The act of actively quoting orders for both buy and sell side for a particular security.
NZX	The New Zealand Stock Exchange Limited
Open interest	Open interest is the total number of outstanding contracts that are held by market participants at the end of each trading day. In other words, it represents the number of contracts that have not yet been exercised (in the case of options), offset (by holding a contract with a counterbalancing obligation), or expired.
Price discovery	The process of determining all market participant sentiment at a point in time.
Regulations	Electricity Industry (Enforcement) Regulations 2010
RFI	Request for Information
ROI	Registration of Interest
RFP	Request for Proposal
Sell side	The participants on the side of the market looking to sell contracts.
Service level	The level of performance expected from market makers, usually defined by key performance metrics.
Spoofing	The act of placing trades on the market with no intention of keeping them in an attempt to influence the market.
Spread	The difference in price between the buy order (bid) price and sell order (ask) price, usually expressed as a percentage.
Unadjusted GWh	Energy (unadjusted GWh) is calculated slightly differently to Energy (GWh); the number of hours in the period of expiration is left unadjusted so that it does not account for the fact that the number of hours is diminishing as the period progresses
Volume	The quantity of a security that is transacted

Appendix A Cost benefit analysis

Update of the mandatory backstop

Cost benefit analysis

15 February 2022



1 Executive summary

- 1.1 In August 2020 the Electricity Authority (Authority) decided to pursue an enduring market-making approach that enhances the existing market-making arrangements while improving efficiency, increasing trust and confidence in the market, and facilitating a service-oriented approach.
- 1.2 A commercial market-making scheme will build on the current arrangements, where market-making is provided by Contact Energy Limited, Genesis Energy Limited, Mercury NZ Limited and Meridian Energy Limited (the four regulated market makers).
- 1.3 In this cost-benefit analysis the current arrangement with the four regulated market makers is used as the counterfactual or status quo and will be assessed alongside the proposed commercial market-making scheme.
- 1.4 This cost-benefit analysis focuses on assessing the proposed changes to the Electricity Industry Participation Code 2010 (Code). There are two parts to the assessment; the introduction of commercial market-making and the changes to the scheme design. The scope of this assessment is to determine if the proposed Code amendment consultation results in a net benefit for New Zealand consumers.
- 1.5 The introduction of a commercial market-making scheme, is expected to be a net-benefit to consumers because it will enhance the performance of the New Zealand electricity futures market, which:
 - (a) allows New Zealand electricity market participants to benefit from a robust and liquid forward price curve;
 - (b) allows those that trade in the ASX¹ futures market to benefit from liquidity and price efficiency supported by market-making; and
 - (c) allows for greater competition in the retail and generation markets.
- 1.6 Along with the net benefits provided by the introduction of a commercial market-making scheme the proposed changes to the market-making scheme design are expected to provide additional net benefits.
- 1.7 The two key changes from the existing market-making service levels are the proposal for an exemption regime and the addition of a refresh obligation.
- 1.8 Reduction in service fees for commercial market-making from introducing these two key changes are expected to exceed any costs to market makers, and with the addition of the qualitative benefits, it is expected to be net beneficial. A few of the qualitative benefits discussed in this cost-benefit analysis are the reduction in financial risk for market makers, reduction in market volatility, and improvement in market liquidity.
- 1.9 Although the procurement process for a commercial market-making scheme is ongoing and not all costs and benefits can be fully quantified, the qualitative costs and benefits discussed in this cost-benefit analysis provides a detailed record of expectations.
- 1.10 It is the Authority's view that the proposed introduction of a commercial market-making scheme and changes to the market-making scheme design will overall result in net benefits for consumers.

¹ Australian Securities Exchange Limited

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2 Introduction

- 2.1 The Authority's *Hedge Market Enhancements: Market-Making project*² (HME) purpose is ensuring market-making services support a robust forward price curve and enable efficient risk management for the long-term benefit of consumers.
- 2.2 In August 2020 the Authority decided to pursue an enduring market-making approach that secures the benefits of the current arrangements while enhancing efficiency, improving trust and confidence in the market, and facilitating a service-oriented approach.³ The enduring market-making approach:
- (a) transitions, over a period of years, to an incentivised market-making arrangement where market-making services are performed by providers compensated on commercial terms by all generators and purchasers (including the existing market makers); and
 - (b) ensures the integrity of market-making services is maintained in the transition period through a combination of regulated market makers and commercial providers.
- 2.3 The current regulated market-making service level and associated parameters are in Part 13 of the Electricity Industry Participation Code (2010) (Code), and acts as a mandatory backstop for market makers.
- 2.4 The current arrangement was derived from an urgent Code amendment to insert a dormant mandatory market-making scheme into the Code temporarily in January 2020, to address the reduction in market-making performance in the New Zealand electricity futures market during (and after) gas outages in 2018 and 2019, and in preparation for a anticipated supply pressures in 2020.
- 2.5 This temporary measure was implemented in accordance with section 40 of the Code and existed from February 2020 to November 2020. As part of the Authority's enduring approach to market-making the Code was amended to address the backstop's expiry, by making the mandatory backstop permanent in April 2021.⁴
- 2.6 This cost-benefit analysis informs the proposed change to the mandatory market-making backstop Code, to introduce commercial market makers and to ensure alignment between the service levels for commercial and regulated market makers.

3 Scope of work

- 3.1 This cost-benefit analysis focuses on assessing the proposed changes to the Code. There are two parts to the assessment; the introduction of commercial market-making and the changes to the scheme design. The scope of this assessment is to determine if the proposed Code amendment consultation results in a net benefit for New Zealand consumers.
- 3.2 As noted by the cost-benefit analysis conducted for the introduction of a permanent mandatory backstop, data limitations continue, particularly around the details of benefits

² Information on this project is available at: <https://www.ea.govt.nz/development/work-programme/risk-management/hedge-market-development>.

³ Information on this project is available at: <https://www.ea.govt.nz/assets/dms-assets/27/27289Market-making-decision-summary.pdf>.

⁴ Information on this project is available at: <https://www.ea.govt.nz/assets/dms-assets/28/Decision-paper-on-permanent-mandatory-market-making-backstop.pdf>.

to participants. The Authority has relied on information gathered from prospective market makers during the still active procurement process to inform the policy development. As a result of the procurement process still being active, the Authority considers the detailed information gathered is still commercially confidential. Therefore any information presented is a summarised version.

Problem and opportunity definition

- 3.3 New Zealand consumers indirectly benefit from market-making as these services allow retailers to manage future price risk through hedging. Without these services, electricity consumers would likely face higher prices as retailers would face less efficient methods of managing the price risk.
- 3.4 In October 2018 there was an unscheduled outage at Pohokura gas field, which caused price volatility and large increases in near-term electricity futures contract prices. Spreads in the New Zealand electricity futures market widened significantly, and trading volumes reduced. Following the events of October 2018, market-making activities took significant time to restart following the period of high volatility.
- 3.5 Although the Authority amended the Code to include temporary, and subsequently permanent provisions for a mandatory market-making backstop to address previous and to deter future instances of poor performance, the Authority determined future changes were required to address two key issues:
- (a) *a lack of confidence by some stakeholders in market-making and the market for exchange traded contracts. Confidence can be addressed under an approach if it allows for increasing the number and diversity of market makers, and has strong incentives for services to be provided.*
 - (b) *the current arrangements are not 'service-oriented' and so consumers and beneficiaries of market-making services cannot signal a desire for service level change (including improved reliability) and their willingness to make the necessary trade-offs (such as meeting the costs of improved reliability).*
- 3.6 The Authority intends to introduce commercial providers to market make alongside the existing regulated market makers. For market-making to succeed the regulated market makers and commercial market makers, must both operate under the same service levels in the Code.

4 Introduction of commercial market-making

- 4.1 The Authority will replace 20% of the mandatory market-making obligation with commercial market maker(s). The costs of introducing a commercial market maker will be an increase in the Electricity Authority levy. However, the Authority views the change in the levy as a wealth transfer. The Authority's treatment of a wealth transfer is set out in the Authority's interpretation of the Statutory objective:

Competition limb

2.2.1 In regard to competition the Authority notes that:

- (c) *the benefits of competition refer to efficiency benefits, not wealth transfers, arising from price movements, but it includes any efficiency effects that may arise from wealth transfers*

- 4.2 Under a full mandatory scheme the costs of market-making are incurred by the mandated market makers, and are ultimately borne by the generation and purchaser arms of the market maker. The costs of the commercial scheme will be borne by all generators and purchasers. This transfer of costs is a wealth transfer, and is not a cost. However, there are efficiency gains from a situation where market-making is mandatory to one where it is commercially determined.
- 4.3 Currently, only some generator and purchasers bear the cost of market-making, albeit a significant portion of the cost. Allocating the cost of market-making to all generators and all purchasers will be a more efficient outcome.
- 4.4 A commercial process to determine a market maker allows for more efficient (lower-cost) suppliers to be introduced to provide market-making services. The existing market makers may be the most efficient at providing services, however without a market-based assessment, this is uncertain.
- 4.5 A further advantage of the introduction of the commercial scheme is the ability for levy payers to influence the level of service provided. In 2021, the Authority conducted a levy consultation.⁵ This allowed levy payers the opportunity to note their preferences for the level of service provided. Under a mandatory scheme, this formal feedback is not available, and the most optimal level of service may not be known.
- 4.6 The introduction of commercial market-making may have a new market maker provide services. This will increase the diversity of market makers. A greater diversity in market makers would see new entities providing market-making services. This would mean firms who are not currently physical market participants (as defined in the Code), such as banks, trading houses or other financial service providers may enter.
- 4.7 Accessing a wider pool of market makers will introduce more information to the forward price curve, contributing to greater reliability and greater confidence in the forward price curve. The Authority notes that discussions with stakeholders saw widespread support for the proposition that introducing a more diverse set of market makers would increase confidence in futures prices.
- 4.8 The Authority notes the option value of the decision to initially create 20% of the market-making obligation for a commercial scheme. With all choices to change the market design, there is implementation risk. The Authority has chosen a deliberate step towards a full commercial scheme, with specific and deliberate decisions to change the mix between mandated and commercial. Should the introduction of a commercial scheme not prove in the long-term benefit of consumers, the Authority notes the implementation of fully mandated market-making would be less risky under the proposed stepped change.

5 Market-making scheme design changes

- 5.1 Regulated market-making is currently provided entirely by four integrated generator/retailers, Contact Energy Limited, Genesis Energy Limited, Meridian Energy Limited and Mercury NZ Limited.
- 5.2 The current regulated market-making key service levels will be used as the counterfactual or status quo and are as follows:

⁵ Available at <https://www.ea.govt.nz/development/work-programme/risk-management/hedge-market-development/consultations/#c18887>

- (a) total volume of 12MW per contract with each regulated market maker providing 3MW per contract each
 - (i) 30 lots (3MW baseload equivalent) per side
- (b) spreads no more than the greater of 3% or \$2
- (c) covering the front 6 months of monthly contracts, and all available quarterly baseload contracts
- (d) each market maker has five discretionary exemptions from providing services each calendar month
- (e) no refresh obligation for contracts offered.

5.3 The future market-making key service levels are as follows:

- (a) total volume of 12MW per contract with each regulated and commercial market maker providing 2.4MW per contract each
 - (i) 24 lots (2.4MW baseload equivalent) per side
- (b) spreads no more than the greater of 3% or \$2/MWh⁶
- (c) covering the front 6 months of monthly contracts, and all available quarterly baseload contracts
- (d) each market maker has five discretionary exemptions from providing services each rolling 20 trading days
- (e) inclusion of a refresh obligation (with half of total volume posted upfront with continued top up until volume obligation is met).

5.4 The key change in service levels are the change in exemption regime and the change in the refresh obligation.

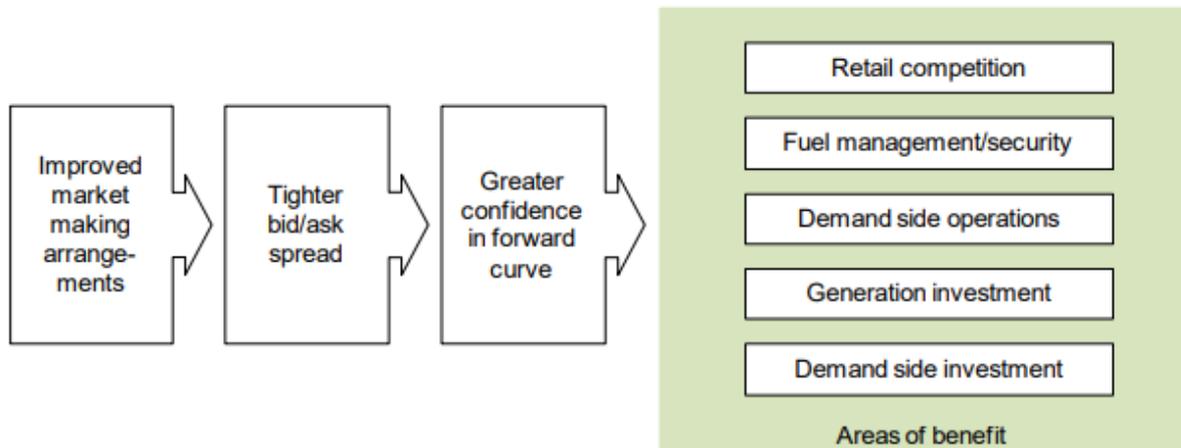
Impacts of proposed commercial service levels

5.5 The Authority's cost-benefit analysis⁷ in 2011 for introducing market-making obligations, provided a high-level summary of the benefits from improved market-making arrangements. The diagram in Figure 1 provides the linkage between market-making and economic benefits.

⁶ The financial cost-benefit trade-off for spread cannot be determined until price schedules are provided in the next stage of procurement (Request for Proposal - RFP

⁷ Information on this project is available at: <https://www.ea.govt.nz/assets/dms-assets/12/12085CBA-Paper-Market-Making-Obligations.pdf>.

Figure 1 Linkage between market-making and economic benefits



5.6 The 2011 cost-benefit analysis also provided the following explanation for each of areas of benefits:

- (a) *stronger retail competition, because parties entering or expanding their presence in the retail market are able to better manage their exposure to price risk;*
- (b) *improved fuel management (hydro and thermal fuels) decisions because parties have a more robust indicator of expected future conditions;*
- (c) *improved demand-side operating decisions, such as whether to commit to a production order or buyback contract, because they have a more robust indicator of expected conditions and greater confidence to enter into contracts;*
- (d) *improved generation investment decisions leading to stronger generation competition, because parties have a more robust indicator of expected future conditions; and*
- (e) *improved demand-side investment decisions, such as whether to expand production facilities or develop demand response capacity, because they have a more robust pricing benchmark for the future.*

5.7 The following are the identified costs and benefits to industry stakeholders from implementing the proposed service levels in the Code for commercial and regulated market-making, when assessed against the counterfactual or status quo.

5.8 The assessment intentionally includes all industry stakeholders and not only hedge market participants because all industry stakeholders are indirectly impacted by the proposed changes.

Table 1 Cost-benefit impacts for each market-making service provision

<p>Exemptions: Each market maker has five discretionary exemptions from providing services each rolling 20 trading days.</p>	
<p><u>Benefits</u></p>	<p><u>Costs</u></p>
<ul style="list-style-type: none"> • Reduces volatility due to concentration of exemptions taken by market makers at the end of calendar month. This will be especially pronounced around the December/January holiday period where market-making would not currently occur for over three weeks. • Reduces financial risk for market makers because the probability of being a sole market maker on a given trading day is less likely. • Reduces the financial risk for market participants in increasing the likelihood of being able to transact at the end of the month. • Participants will benefit from a more accurate forward curve at the end of each month, reducing volatility in settlement prices at month end. 	<ul style="list-style-type: none"> • There will be some costs to monitoring of the exemption regime, however these costs are minimal. • Market makers may face increased costs from market-making on days at the end of the month. However, these costs are expected to be minimal as days with high cost would see an exemption day taken anyway.
<p>The benefits of the change in exemption obligation are significant to levy payers. Indications from the procurement process, while ongoing, suggest the majority of potential market makers see the change in exemption regime resulting in a reduction in service fee of greater than 5%. This could result in a lower fee for market-making of at least \$500,000 per annum. This reduction in service fee is considered to exceed any costs to market makers, and with the addition of the qualitative benefits noted, it is expected to be net beneficial.</p>	

Refresh obligation: Inclusion of a refresh obligation (with half of total volume posted upfront with continued top up until volume obligation is met).

<u>Benefits</u>	<u>Costs</u>
<ul style="list-style-type: none">• Reduces inadvertent trading at market opening between market makers i.e. improve liquidity• Reduces financial risk for market makers because they will hold less unintended inventory due to inadvertent trading• It is expected that reducing these inadvertent trades will increase liquidity and contribute to a strengthening of the forward price curve as it may increase the likelihood of buy and sell prices remaining at the conclusion of the trading window	<ul style="list-style-type: none">• Market makers will require one-off alterations to their trading system• ASX / The Authority will require one-off alterations to existing exemption monitoring and compliance
<p>The benefits of the change in refresh obligation have the potential to be significant to levy payers. Indications from the procurement process, while ongoing, suggest some potential market makers see the change in refresh obligation regime resulting in a reduction in service fee of greater than 10%. This could result in a lower fee for market-making of at least \$1,000,000 per annum.</p> <p>This reduction in service fee is considered to exceed any costs to market makers, and with the addition of the qualitative benefits noted, it is expected to be net beneficial.</p>	

6 Conclusion

- 6.1 The introduction of a commercial market-making scheme, is expected to be a net-benefit to consumers because it will enhance the performance of the New Zealand electricity futures market, which:
- (a) allows New Zealand electricity market participants to benefit from a robust and liquid forward price curve;
 - (b) allows those that trade in the ASX⁸ futures market to benefit from liquidity and price efficiency supported by market-making; and
 - (c) allows for greater competition in the retail and generation markets.
- 6.2 Along with the net benefits provided by the introduction of a commercial market-making scheme the proposed changes to the market-making scheme design are expected to provide additional net benefits, such as reducing financial risk for market makers, reducing market volatility, and improving market liquidity.
- 6.3 As the procurement process for a commercial market-making scheme is ongoing the quantitative costs and benefits are yet to be fully determined, however the Authority in this cost-benefit analysis have detailed the expected qualitative costs and benefits.
- 6.4 It is the Authority's view that the proposed introduction of a commercial market-making scheme and changes to the market-making scheme design will overall result in net benefits for consumers.

Appendix B Regulatory statement

Objectives of the proposal

- B.1 The objectives of the proposal are to ensure market-making is enduring and fit for purpose. Market-making services will support a robust forward price curve and enable efficient risk management by addressing the key issues of:
- (a) the apparent lack of confidence in the market for exchange-traded futures in general, and in market-making services in particular;
 - (b) the desire to increase the reliability of market-making services; and
 - (c) the importance of market-making being service-orientated, where the level of service provided is informed by those that use and contribute to the cost of provision.

The proposal's benefits outweigh its costs

- B.2 The Authority has analysed the costs and benefits of the proposal and has determined that the proposal's benefits outweigh its costs. This analysis is set out in Appendix A.

The Authority has not identified other suitable means of addressing the objectives

- B.3 The Authority assessed some options to address the objectives. However, the other options were not suitable for addressing the objectives. The selected proposal was best suited to address the objectives.

The proposal complies with section 32(1) of the Act

- B.4 The Authority's objective under section 15 of the Act is to promote competition in, reliable supply by, and efficient operation of the electricity industry for the long-term benefit of consumers.
- B.5 Section 32(1) of the Act says that the Code may contain any provisions that are consistent with the Authority's objective and are necessary or desirable to promote one or all of the following:

Table 2: How the proposal complies with section 32(1) of the Act

a) competition in the electricity industry;	The proposal supports competition in the electricity industry because it would enhance the performance of the electricity futures market, allowing parties to effectively manage their price risk, encouraging greater levels of competition in the retail and generation sectors.
b) the reliable supply of electricity to consumers;	N/A
c) the efficient operation of the electricity industry;	The proposal supports the efficient operation of the electricity industry because it would enhance the robustness of the electricity forward curve, allowing

	market participants and others to make more efficient investment and operational decisions.
d) the performance by the Authority of its functions;	The proposal does not impact the performance by the Authority of its functions.
e) any other matter specifically referred to in this Act as a matter for inclusion in the Code.	The proposed amendment would not materially affect any other matter specifically referred to in the Act for inclusion in the Code.

The Authority has given regard to the Code amendment principles

B.6 When considering the proposal, the Authority has complied with its Consultation Charter³⁷ and has had regard to the following Code amendment principles, to the extent that the Authority considers that they are applicable.

Table 3: Regard for Code amendment principles

Principle	Comment
1. Lawful	The proposal is lawful because it is consistent with the Authority's statutory objective and with the empowering provisions of the Act.
2. Provides clearly identified efficiency gains or addresses market or regulatory failure	The proposal is consistent with principle 2 because it improves the confidence and reliability of the futures market which requires a Code amendment to resolve.
3. Net benefits are quantified	The extent to which the Authority has been able to quantify the benefits of the proposal are set out in Appendix A. The Code amendment principles recognise that quantitative analysis is not always possible. This is the case with the Authority's proposal. However, the Authority is confident the benefits of the proposal outweigh its costs.

³⁷

Available at: <https://www.ea.govt.nz/assets/dms-assets/14/14242consultation-charter.pdf>.

Appendix C Proposed Code amendment

Electricity Industry Participation Code Amendment (Hedge Market Arrangements) 2022

Relevant Part 1 defined terms (and associated proposed amendments)

bid-ask spread means—

- (a) if expressed as a dollar value, the dollar value that represents the difference in price between a **quote** to buy a **NZ electricity future** and a **quote** to sell a **NZ electricity future** of the same type on the same **exchange**; or
- (b) if expressed as a percentage, the percentage calculated by dividing the difference between the price of a **quote** to buy a **NZ electricity future** and the price of a **quote** to sell a **NZ electricity future** of the same type on the same **exchange** by the price of the **quote** to sell a **NZ electricity future**

exchange means an exchange included in a list **published** by the **Authority** on which New Zealand electricity base load futures contracts are available for trade

NZ electricity future means a New Zealand electricity 0.1 **MW** base load equivalent futures contract in respect of the Otahuhu reference **node** or the Benmore reference **node** available for trade on an **exchange**

NZEF market-making agreement means an agreement between a **participant** and an **exchange** that imposes obligations on the **participant** in relation to the **exchange's** daily settlement market-making scheme for **NZ electricity futures**, in the form of agreement used on the **exchange** for this purpose that is satisfactory to the **Authority**, having regard to its inclusion of the requirements set out in clause 13.236L and of the permitted exemptions from the performance of market-making services

NZEF market-making period means from 1530 to 1600 New Zealand time on each **business day** on which **NZ electricity futures** are traded

quote means an offer to buy or sell a **NZ electricity future** on an **exchange**

Proposed new defined terms to be inserted in subpart 5B of Part 13, for application to subpart 5B only

order means a **quote**, or a bundle of **quotes** (at the same price) in relation to a particular month and particular node simultaneously, placed on an **exchange** by a **participant** referred to in clause 13.236K(1)

total required maximum volume means 2.4 **MW** base load equivalent of **NZ electricity futures**, taking into account traded **NZ electricity futures** across both buy **quotes** and sell **quotes**

total traded NZEF means the cumulative total amount of buy **quotes** and sell **quotes** traded by that **participant** as **NZ electricity futures** up to the start of the current **volume refresh period** in that **NZEF market-making period** in relation to the applicable reference **node** (Benmore or Otahuhu) and for the particular month or calendar quarter referred to in clause 13.236L(1) for the **participant** to which the **total traded NZEF** is being applied

volume refresh means the requirement in accordance with clause 13.236L(3) to refresh the number of **quotes** provided by that **participant**

volume refresh period means, for a particular **volume refresh**, the time period from the time the most recent buy or sell **quotes** were traded as **NZ electricity futures** until the time the **volume refresh** is completed

Substantive provisions of subpart 5B of Part 13, including proposed amendments

13.236J Contents of this subpart

This subpart provides for an active market for trading financial hedge contracts for **electricity** by specifying requirements for certain **participants**.

13.236K Application of subpart

- (1) Subject to subclause (2), this subpart applies to the following **participants**:
 - (a) Contact Energy Limited;
 - (b) Genesis Energy Limited;
 - (c) Mercury NZ Limited;
 - (d) Meridian Energy Limited.
- (2) This subpart applies to a **participant** specified in subclause (1) if that **participant**—
 - (a) is not a party to a **NZEF market-making agreement** that includes the requirements set out in clause 13.236L; or
 - (b) does not perform market-making services in accordance with the **NZEF market-making agreement** on three or more separate occasions in a period of 90 days, and that non-performance is not permitted by an exemption or otherwise under the **NZEF market-making agreement**.
- (3) A **participant** to whom subclause (2) applies is relieved of its obligations under this subpart when the **Authority**—
 - (a) is satisfied that the **participant** has complied with its obligations under this subpart for a period of 90 days; and
 - (b) has given written notice to that effect to the **participant**, which the **Authority** must do within 5 **business days** of being satisfied as to compliance.

13.236L Requirement to quote

- (1) Subject to subclauses (2) to (6), the **participant** must, for a minimum of 25 minutes in every **NZEF market-making period**, provide **quotes** for up to—
 - (a) 24 monthly **NZ electricity futures** for each of the Otahuhu reference **node** and the Benmore reference **node** (being 24 buy **quotes** and 24 sell **quotes** for each reference **node**) for the current month and each of the five months following the current month; and
 - (b) 24 quarterly **NZ electricity futures** for each of the Otahuhu reference **node** and the Benmore reference **node** (being 24 buy **quotes** and 24 sell **quotes**

for each reference **node**) for each quarter that is available for trade on an **exchange**.

- (1) The **participant** must not provide a **quote** under subclause (1) with a **bid-ask spread** that exceeds the greater of 3% or NZ\$2. For the avoidance of doubt, where there are multiple buy **quotes** and sell **quotes** for a particular reference **node** for a particular month or calendar quarter in a **NZEF market-making period**, the requirement in this subclause means the **bid-ask spread** between the lowest priced buy **quote** and the highest priced sell **quote** (across those multiple **quotes**) must not exceed the greater of 3% or NZ\$2.
- (2) Under subclause (1) for each **NZEF market-making period**, the **participant** must provide a quantity of initial **quotes** and (as applicable) **volume refresh** its **quotes** until it has traded the **total required maximum volume** for each of the Otahuhu reference **node** and the Benmore reference **node** in relation to each particular month and calendar quarter as follows:
 - (a) when first placing **orders** at or after the start of the **NZEF market-making period**, the **participant** is required to place buy **order(s)** of 12 **quotes** in total and sell **order(s)** of 12 **quotes** in total;
 - (b) if all 12 buy **quotes** or all 12 sell **quotes** are traded then that **participant** must **volume refresh** its **order(s)** such that where the amount of the **total traded NZEF** up to that point in time in the **NZEF market-making period** is—
 - (i) 12, then at the end of the **volume refresh period** the buy **order(s)** must comprise 12 **quotes** and the sell **order(s)** must comprise 12 **quotes**;
 - (ii) greater than 12, then at the end of the **volume refresh period** that **participant** must ensure that the number of **quotes** comprising each of the buy **order(s)** and sell **order(s)** respectively is equal to X , where—
$$X = 24 \text{ quotes} - \text{total traded NZEF}$$
 - (c) once the **participant** has traded the **total required maximum volume** it may withdraw any remaining **quotes**.
- (3) If the **participant** withdraws a buy **order** or a sell **order** (of at least one **quote**), in whole or in part, that has not been the subject of a completed **NZ electricity future** trade, then such withdrawn **quote** is not to be counted for the purposes of the **total traded NZEF**.
- (4) A participant required to **volume refresh** in accordance with clause 13.236L(3)(b) may also carry out any other changes not inconsistent with their obligations under this subpart 5B that the **participant** chooses to make to any other **order(s)** for the particular month or calendar quarter and particular reference **node** that is the subject of the **volume refresh**.
- (5) For the purpose of determining whether a **participant** has met the minimum time requirement of 25 minutes under clause 13.236L(1), a **quote** will not be treated as being provided during a **volume refresh period**.

13.236M [Revoked]

13.236N Exemptions from requirement to quote

- (1) The **participant** is exempt from the requirements in clause 13.236L in the following circumstances:
 - (a) for a **NZEF market-making period** if—
 - (i) the **participant** cannot comply with a requirement in clause 13.236L in that **NZEF market-making period** because an **exchange** trading platform is disrupted or unavailable; or
 - (ii) in the reasonable opinion of the **participant**, entering into a contract for a **NZ electricity future** in that **NZEF market-making period** may cause the **participant** to breach an applicable law;
 - (b) in addition to the exemptions in paragraph (a), for up to two **NZEF market-making periods** each month at the **participant's** discretion.
- (2) To avoid doubt, if the **participant** meets the criteria for exemption in subclause (1)(a)(i) or (1)(a)(ii) in relation to a **NZEF market-making period**, that **NZEF market-making period** will not count towards the **participant's** two exemptions in subclause (1)(b).
- (3) If the **participant** relies on an exemption under this clause 13.236N from the requirement to **quote**, the **participant** must immediately notify the **Authority** of the exemption it has relied on and the basis for the exemption.

Appendix D Incentive Scheme

Incentive scheme background

- D.1 An incentive scheme (where performing market makers are compensated by non-performing market makers on a daily basis) was first brought to the Authority's attention through a joint proposal by the ASX and regulated market makers in 2018.
- D.2 An incentive scheme also featured in the design of a commercial market-making regime proposed by an industry forum in 2020. This was considered by the Authority as a way of incentivising commercial and regulated market makers to provide services under the same conditions. As noted in the consultation paper, this is not the preferred option.

Incentive scheme details

- D.3 Below are the details of the incentive scheme as provided to suppliers during the Request for Information (RFI) stage.
- D.4 The incentive scheme aimed to have non-compliant market makers face a cost of their decision not to participate, and improve the payoffs for market makers remaining in the market. The anticipated additional cost facing the compliant market makers in a session would form the basis for transfer payments from the absent market maker/s to the remaining market makers. These transfers compensate the remaining market makers in the incentive scheme for the additional risk they bear as a consequence of absent market makers not providing services. The compensation from the transfer payment would encourage a greater degree of participation amongst the remaining market makers, and may have the potential to encourage greater provision of market-making services in volatile market periods than the alternative where there is no incentive scheme.
- D.5 Accordingly, on all trading days where a market maker does not provide compliant market-making services, that market maker is required to make a transfer payment to the incentive scheme. The level of this transfer payment (the Daily Incentive Fee (DIF)) would be the equivalent of the daily service fee the commercial market maker would have received if they had been compliant on that day.
- D.6 The DIF applying to a specific market maker would reflect their volume obligations. The DIF for the regulated market makers would be aligned with the DIF payable to the commercial market maker/s by weighting them to take into account any difference in volume obligations between parties (a market maker with half the volume obligation of another market maker would face a DIF half of what the other market maker would face). Therefore, the prevailing DIF would vary across market makers in a linear fashion as a function of their MW volume obligations. The DIF per MW volume obligation would change for all members of the incentive scheme as there are changes in the tender values when a commercial market maker's contract is retendered.
- D.7 Commercial market makers make payments to the incentive scheme on Trading Session Exemption Days. The payments would also apply to a regulated market maker.
- D.8 The total transfer payment from non-compliant parties for a trading session would be paid out to the compliant market makers prorated with respect for the volume obligations of the compliant parties (a compliant market maker with half the volume obligation of another compliant market maker would have receive half the transfer payment of what the other market maker would receive).

D.9 The size of the daily transfer pool would be an increasing function of the MW volume obligations of the non-compliant market makers, which has the effect of increasing the benefit per MW of volume obligation of the compliant market makers. For example, assume a market-making scheme (and associated incentive scheme) with 12 MW as its total cumulative volume and five market makers, each with 2.4 MW obligations, and each facing a DIF of \$100. The additional return a compliant market maker may receive under a range of participation circumstances is set out in Table 1 below. A compliant market maker is one that provides market-making services and a non-compliant market maker is one that does not provide market-making services in a trading session.

Table 1: Example of possible returns for a Market Maker (MM) under the incentive scheme

Number of Compliant MMs	Number of Non-Compliant MMs	Total Pool (based on DIF of \$100)	Compliant MMs' share of Pool	Compliant MM's additional return per MW
5	0	\$0	\$0	\$0
4	1	\$100	\$25	\$10.42
3	2	\$200	\$67	\$27.78
2	3	\$300	\$150	\$62.50
1	4	\$400	\$400	\$166.67
0	5	\$500	0 ^[1]	N.A.

D.10 To fund the daily transfer pool it is proposed:

- (a) For commercial market maker(s), the DIF foregone on a day it is non-compliant would be paid into the incentive scheme as the commercial market maker's DIF.
- (b) For regulated market makers, they would have to make a contribution equivalent to their DIF into the incentive scheme on trading days they are non-compliant.
- (c) In the scenario where all market makers are non-compliant the entire transfer payment is foregone by the market makers and held over by the Authority. This is appropriate as no price formation or market-making contracts are provided. In these circumstances, the incentive would be used to offset the costs of future commercial market-making.

Appendix E Refresh Obligation Worked Examples

Worked examples of the refresh obligation in effect are provided below:

- E.1 The Authority has presented a set of scenarios below to demonstrate the intent of the refresh obligation. This is to provide an indication of how market makers may choose to manage their trading to meet service level obligations.
- E.2 n denotes the accumulative number of lots traded prior.

Scenario one – 12 lots traded in one transaction prior to the refresh obligation period

Example contract offered					
Transaction Number	Buy Side	Sell Side	Volume Traded	Trade Type	Commentary
1	12	12	0	Placement on Buy and Sell Sides	Initial placement of 12 lots on each side
2	12	0	12	Trade on Sell Side	12 lots traded on sell side
3	REFRESH OBLIGATION PERIOD		12	None	Market maker will now prepare to place refresh volume of $24 - n$ lots traded
4	12	12	12	Placement on Sell Side	Minimum 12 lots are placed on sell side to meet refresh obligation
5	12	0	24	Trade on Sell Side	12 lots traded on sell side
6	0	0	24	Withdrawal on Buy Side	Market maker has now met required total volume obligation of 24 lots traded and may remove remaining lots from the market if desired

Scenario two – Partial lots traded in multiple transactions prior to the refresh obligation period (total volume required met)

Example contract offered					
Transaction Number	Buy Side	Sell Side	Volume Traded	Trade Type	Commentary
1	12	12	0	Placement on Buy and Sell Sides	Initial placement of 12 lots on each side
2	9	12	3	Trade on Buy Side	3 lots traded on buy side
3	9	4	11	Trade on Sell Side	8 lots traded on sell side
4	9	0	15	Trade on Sell Side	4 lots traded on sell side
5	REFRESH OBLIGATION PERIOD		15	None	Market maker will now prepare to place refresh volume of 24 – <i>n</i> lots traded
6	9	9	15	Placement on Sell Side	Minimum 9 lots are placed on sell side to meet refresh obligation
7	9	0	24	Trade on Sell Side	9 lots traded on sell side
8	0	0	24	Withdrawal on Buy Side	Market maker has now met required total volume obligation of 24 lots traded and may remove remaining lots from the market if desired

Scenario three – Partial lots traded in multiple transactions prior to the refresh obligation period (total volume required exceeded)

Example contract offered					
Transaction Number	Buy Side	Sell Side	Volume Traded	Trade Type	Commentary
1	12	12	0	Placement on Buy and Sell Sides	Initial placement of 12 lots on each side
2	9	12	3	Trade on Buy Side	3 lots traded on buy side
3	9	4	11	Trade on Sell Side	8 lots traded on sell side
4	9	0	15	Trade on Sell Side	4 lots traded on sell side
5	REFRESH OBLIGATION PERIOD		15	None	Market maker will now prepare to place refresh volume of 24 – <i>n</i> lots traded
6	9	9	15	Placement on Sell Side	Minimum 9 lots are placed on sell side to meet refresh obligation
7	4	9	20	Trade on Buy Side	5 lots traded on buy side
8	4	4	25	Trade on Sell Side	5 lots traded on sell side
9	0	0	25	Withdrawal on Buy and Sell Sides	Market maker has now exceeded required total volume obligation of 24 lots traded and may remove remaining lots from the market if desired

Scenario four – 12 lots traded on both sides prior to the refresh obligation period

Example contract offered					
Transaction Number	Buy Side	Sell Side	Volume Traded	Trade Type	Commentary
1	12	12	0	Placement on Buy and Sell Sides	Initial placement of 12 on lots each side
2	0	12	12	Trade on Buy Side	12 lots traded on buy side
3	0	0	24	Trade on Sell Side	12 lots traded on sell side before the market maker is able to refresh
4	0	0	24	None	Market maker has now met required total volume obligation of 24 lots traded and is not obliged to provide refresh volume

Appendix F Format for Submissions

Submitter		
Question		Comment
Q1.	Do you have any feedback on the Authority's proposal to align regulated market-making obligations with commercial market-making obligations?	
Q2.	Do you agree that the total volume should remain at 12 MW per contract, if not why?	
Q3.	Do you agree that the spread between bid and offer prices should remain at a maximum of 3% if not why?	
Q4.	Do you agree that changing to a rolling 20 trading days exemption scheme will benefit the New Zealand electricity futures market if not why?	
Q5.	Do you propose an alternative solution to maintaining market-making services through a calendar month?	
Q6.	Do you agree that introducing a refresh obligation will benefit the New Zealand electricity futures market if not why?	
Q7.	Do you have any feedback on the Authority's cost-benefit analysis set out in Appendix A?	
Q8.	Do you have any feedback on the Regulatory statement in Appendix B?	
Q9.	Do you have any feedback on the Code amendment set out in Appendix C?	