Electricity Price Review - Options paper

ASX submission

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ASX response to issues and options identified in the Electricity Price Review

Thank you for the opportunity to comment on the Electricity Price Review (EPR). The following sections provide ASX's responses to the specific questions posed relating specifically to Section D: Reinforcing wholesale market competition.

Section D: Reinforcing wholesale market competition

EPR observations and issues raised

- Contract prices between buyers and sellers can be muffled when supply becomes unexpectedly tight.
- The contract market is fragile, relying heavily on the four biggest generator-retailers voluntarily quoting buy and sell prices.
- There was limited availability of key market information, such as gas supplies.

ASX response

ASX's comments on contract liquidity are limited to the liquidity observed on the ASX derivatives market, since we do not have access to any data on the OTC market.

Yes, ASX believes that there are liquidity challenges in the NZ Electricity Market (NZEM) contract market. ASX is already working on actions to try to improve liquidity, within the scope of the areas which ASX can influence, and welcomes the regulatory focus on making key market information more transparent.

Since 2011, the provision of market making by the four largest participants (Meridian, Mercury, Genesis and Contact) has underpinned liquidity, enhanced the effectiveness of the forward price signal and in turn reduced risk transfer and credit costs for all market users. Confidence in the forward price signal has enhanced confidence in investment decision making reducing the potential for inefficient or uneconomic investment. Importantly, a liquid forward price has aided competition and innovation – delivering a better outcome for consumers and the NZ economy as a whole.

ASX notes that the forward price curve is of less significance in long-term investment decision making, particularly for large long-term sell-side generation assets. This is because the transparent futures price signal typically only extends out 2-3 years, whereas an investment typically has far longer-dated exposures. The OTC market may provide greater use for very long-term hedging.

As the largest participants in the NZEM, the four market makers are not only the greatest contributors to an economically efficient market but also the greatest beneficiaries in terms of improved investment decision making and therefore profitability.

The benefits resulting from a liquid futures market providing a transparent forward price signal are well documented and understood. The greater the liquidity, the lower the transaction costs for transferring and managing risk. This ultimately produces the most efficient price outcome and informs investment decision-making.

The parties involved in a futures market can be loosely categorised into three groups. Entities in the market can belong to one, two or even three of these groups:

1. End users. In the electricity market, these entities are generators, retailers and consumers. These parties use the hedge market to manage risk and exposure to a volatile spot price. The electricity market is uniquely volatile, so it stands to reason that end users have a strong interest in being able to manage risk in the most cost-effective manner possible.
2. Providers of risk capital. These entities are typically financial market participants such as banks and proprietary trading houses. Providers of risk capital are normally rewarded by end-users for facilitating the risk transfer process through the provision of liquidity.

3. Market makers. Unlike other providers of risk capital, market makers are deliberately incentivised to provide liquidity for end-users. This incentive can be in the form of a priviliged status in the market or financial reward.

In deep, liquid and mature markets, liquidity provision by market makers is not required. In less liquid markets, particularly those that are volatile, providers of risk capital may require incentive beyond simply the bid and offer spread. In the absence of reward, providers of risk capital will have no incentive to support liquidity in the market, resulting in higher costs for end users. This cost is realised in the form of wider bid-offer spreads and less robust and consistent price formation. The costs for managing risk for end-users rise as a consequence.

Why does liquidity matter?

ASX would like to highlight two key issues:

- Clearability: a lack of liquidity can impact a clearing house's ability to offer a clearing service, and thus the availability of a contract market; and
- Increased costs for electricity market participants and ultimately higher electricity costs.

A low level of liquidity has an impact on the clearing house's ability to effectively manage open positions in the electricity contract market, particularly in the event of a clearing participant default.

Less liquid markets can also impact the amount of capital that parties need to hold in order to participate. Recent empirical research (Chen Lin, 2018)[1] indicates that in electricity markets, firms that are located in regions with less liquid derivative markets need to increase cash holdings substantially – particularly if product price volatility is high. Therefore, a significant benefit of a liquid derivative market is that they allow firms to hold less cash on their balance sheets. There is a direct relationship between a more liquid contract market and lower capital costs, which would ultimately be reflected in lower electricity prices.

What are the causes of low liquidity?

Some of the key factors impacting contract liquidity in the electricity market include:

1. Underlying physical market price volatility.
2. The size of a region's generation and consumption.
3. Market participants' level of confidence in their ability to move in or out of positions at reasonable prices in varying market conditions.
4. The range and number of different types of participants in the market – e.g. speculators as well as hedgers.

The first factor – underlying physical market volatility - is related to the second, the generation mix and variability or responsiveness of consumption to price. The greater the volatility in the underlying physical price, the less liquid the associated contract market is likely to be.

'Contract availability risk' increases in line with market price volatility – which links to the third feature, i.e. market confidence in the ability to trade when needed. For traders in the market with no access to physical generation, consumption or load shedding, an inability to obtain hedge contracts when required could be economically damaging. These characteristics make it less likely to attract a large number of market users, traders or speculators, which in turn impacts overall market activity levels.

[1] *Product Price Risk and Liquidity Management: Evidence from the Electricity Industry* by Chen Lin, Thomas Schmid and Michael Weibach, August 2018.

What are the solutions to low liquidity?

If contract liquidity in the electricity market is principally a function of the factors identified above, then improving contract liquidity requires a multi-faceted approach:

1. Reducing underlying physical price volatility through:
    a. adjustments to the generation mix;
    b. improved regional network interconnectivity; or
    c. improved load price responsiveness.
2. Increasing the size of the NZEM's underlying market (generation or consumption). As these are relatively fixed (although expected to grow significantly in the medium to long future as the economy becomes more electrified), the main route for improvement in the functioning of the market would be via greater network interconnectivity between different segments.
3. Market confidence in contract and price availability can be improved through enhanced market making in the futures market, which may be facilitated by regulatory support.

Conclusion: ASX believes that market making is an important element (although not the only one) to improve market price transparency and contract availability in the NZEM. Therefore we welcome EPR's focus on this important topic. It is well understood that a robust contract market, with consistent contract availability, provides very significant benefits for generators, retailers and electricity consumers.

D1 Toughen rules on disclosing wholesale price information

EPR observations and issues raised

1. Information disclosure is inadequate particularly in relation to gas shortages or higher gas costs.

ASX response

Open and transparent access to critical market information is a fundamental foundation for a well-functioning and trusted marketplace.

Asymmetry of key market information can expose trading participants to significant price risk. Market making obligations can help with this to some extent, and regulators also play an important role in ensuring fair access to key information in both the electricity market and other downstream market inputs (such as gas and water availability). Diversity of participants is likely to be improved by ensuring transparency of information.

ASX supports measures to enhance the information available to market participants.

D2: Introduce mandatory market making

EPR observations and issues raised

1. Mandatory market making occurs in the UK and is being introduced in Australia. Its introduction in NZ would reduce the fragility of the wholesale contract market.
2. A mandatory market making arrangement could be introduced relatively quickly and possibly replaced with an incentive-based scheme over time.

ASX response

Mandatory market making is proposed to be introduced in the Australian NEM in the form of a Mandatory Liquidity Obligation (MLO). It should be noted that the MLO is a trigger based mechanism designed to ensure that there is sufficient contract availability in the event that AEMO and AER confirm that there is a capacity shortage to meet expected demand at any time 3 years into the future. The MLO is not a permanent market making arrangement. It is not being introduced in response to the type of issues identified in the EPR.

It should also be noted that the UK's experience with mandatory market making is currently under review. On 6 August 2018, Ofgem issued an open letter announcing a review of the 'Secure and Promote' market making obligation that was implemented in 2014. It notes the significant change to market conditions and states that "*in light of these developments, we intend to review the MMO criteria and other potential mechanisms for delivering market making. We [Ofgem] are also considering whether – as a result of the changes and prospective changes in market conditions – the remaining obligated parties will* ***face disproportionate costs and risks*** *in continuing to meet the licence condition, and whether on balance there is a case for suspending the MMO pending completion of our review*." This highlights that there can be unintended consequences and risks resulting from the mandatory imposition of market making.

Approaches to market making

The are four different approaches to the provision of liquidity through market making. Each of these different approaches has pros and cons and are compared in more detail below.

Approach	Key feature	Comments
1. Do nothing – 'the market provides'.	In this example, a voluntary market making arrangement as currently exists in the NZEM, is trusted to solve issues with market liquidity and any perceived market failure.	The existing ASX-administered voluntary scheme improves transparency by providing bids and offers at set times during the day. However, transparancy is not assured as the arrangement includes the right for a market maker to cease providing liquidity in certain conditions. Competition is enhanced by increased transparency, but the scheme is unlikely to attract professional market makers as the available incentives (in the form of a rebate of ASX fees) are too small to compensate for the potential risks for these entities. The risk of more disruptive regulatory intervention may drive an electricity firms' willingness to be a market-maker. Efficency of investment is enhanced by transparency of longer dated prices.

		Lowest upfront cost; but this approach could still benefit from regulatory encouragement to increase participation and/or narrow spreads.
2. Centralised tender process leading to an incentivised market making arrangement	Market making is incentivised through some form of reward or privileged position in the market.	Strong increase in transparency as bids and offers are provided in a wide range of market conditions. Competition improved by increase in transparency and new participants in the market. Efficiency of investment is enhanced by transparency of longer dated prices. As market makers require a reward for their services, the cost could be high.
3. Trigger-driven obligation in response to capacity gap	Blend of all types of arrangments based on market circumstances	Transparency only improved at certain times (e.g. when a capacity gap is identified at some point in the future). Limited impact on competition, so unlikely to attract new participants. Potentially able to leverage existing voluntary arrangements.
4. Compulsory market making	The provision of liquidity by parties is imposed typically through rules or law.	Transparency is increased as parties are compelled to make prices. Compelled price makers subsidise risk capital providers who take advantage of the liquidity in the market resulting in 'regulatory arbitrage' - the "free-rider" issue. There is the potential for significant unintended consequences. Incentive costs are low, but indirect costs are difficult to quantify and there are likely to be high costs borne by market makers during periods of high volatility. There is significant administration required, which will increase costs. There is the potential for market structural changes if participants seek to be excluded from the scheme.

Analysis of other jurisdictions is helpful in identifying potential pitfalls and costs.

1) The UK's mandated market making scheme reports costs for participants that fluctuate significantly with market conditions. This highlights the difficulty in forecasting the costs associated with such a scheme.

2) Singapore has introduced an incentivised market making scheme which has seen new participants enter the market. This scheme highlights the benefits of an incentivised scheme, but also the potential order of magnitude of incentives required to attract new participants to the NZEM.

3) As discussed above, the Energy Security Board in Australia is likely to introduce a Mandatory Liquidity Obligation in the NEM. Compliance with this obligation is likely to mirror a concurrently introduced voluntary ASX market making scheme for the NEM regions of QLD, NSW, VIC and SA. The proposed ASX market making obligations for the NEM are attached in Appendix 1. It should be noted that the ASX scheme proposed for the NEM has significantly different arrangements in relation to the ability of a market maker ceasing to provide prices.

4) Traded volumes and open positions in the NZEM have increased significantly over the last 4 years and ASX understands that market making has been one of the drivers. However, New Zealand market makers have expressed significant concerns around costs to them in periods of steady price increases, and there is some risk

to the current arrangements. There is work underway with the Electricity Authority to consider how to put the arrangement on a more sustainable footing including:

- Greater regulatory pressure applied to market makers. This could include market makers being more transparent as to the reasons why they declare "portfolio stress" and cease contributing prices; and
- Limiting the number of times a market maker could declare "portfolio stress" over a month.

ASX has undertaken considerable work in developing an incentive based market making arrangement resolving many of the key issues from introducing such an arrangement. These include:

1. The parties to any contracting arrangement;
2. Term of any incentive arrangement;
3. Definition of parameters for market making requirements;
4. Determining the quantum of the incentive;
5. Allocation method of any incentive to market makers;
6. Monitoring of market maker performance against agreed parameters; and
7. Penalties for non-performance by market makers.

There are a number of key issues which it is not possible for ASX to resolve. It is ASX's view that these are best resolved by the Electricity Authority. These include:

1. Regulatory and competition issues (if any); and
2. Funding the incentive 'pool' – identifying those contributing.

Should an incentive driven market making arrangement be introduced, ASX recommends that any tender be conducted on an annual basis with the amount of incentive being subject to competitive pressure each year. A shorter term allows the market makers to adjust the cost of market making relative to the market's perceived future risk. Having a shorter term also allows the structure and size of penalties for non-compliance to be more onerous, thereby further encouraging liquidity provision in periods of market stress. The cost of any incentive scheme is directly correlated to the obligation and compliance arrangements. The greater the obligations and harsher the compliance penalties, the higher the cost.

Conclusion: Analysis of the pros and cons of the four models suggests that some form of incentive-driven model is likely to deliver the most sustainable and positive outcome for the market and its participants, however any decision will need to carefully weigh up the cost/benefit of the incentive that is required to support such an arrangement. ASX has undertaken substantial work already in the development of both voluntary and incentive market making arrangements. As noted above, any incentive or mandatory arrangement requires regulatory resolution. The practical implementation of an incentive scheme (once the funding model is determined), can be delivered by ASX in a relatively short time-frame.

D4: Monitor contract prices and generation costs more closely

ASX has no comments on this section.

D5: Prohibit vertically integrated companies

ASX has no comments on this section.

Appendix 1 – Summary of the proposed ASX market making obligations in the NEM

Contracts – Base Load Futures for Quarter 2 to Quarter 8 (e.g. no requirement to make markets in the spot quarter).

Sessions – Two trading sessions per day, these being 11:30-12:00 and 3:30 to 4:00 each Business Day.

Size of Bids and Offers – 5 lots per session (NSW Qld Vic) 2 lots per session (SA). Note that the contract size for ASX Australian Electricity futures contracts is 1 MWh compared to 0.1 MWh for NZ contracts.

No reload/refresh requirement – once the size is traded, there is no further requirement to post bids and offers for that session.

Requirement to place bids and offers – 35 sessions per month except January and December where the requirement is for 25 sessions per month. This approach allows for public holidays, trading halts, periods of low activity so no need for additional reasons for not being able to market make.

Daily Limit after which no further price making is required for that session – as per session sizes of Bids and Offers above.

Maximum Allowable bid/offer spread – No requirement for spreads that are less than $1

5% for swaps in NSW, Qld and Vic

7.0% for swaps in SA