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Dr Kerry Schott AO
Chair
Energy Security Board
Submitted by email: info@esb.org.au

18 May 2020

Dear Dr Schott

RE: Moving to a two-sided Market

We welcome the opportunity to provide feedback on the consultation paper on *Moving to a two-sided market*.

Enel X works with commercial and industrial energy users to develop demand-side flexibility and offer it into wholesale capacity, energy and ancillary services markets worldwide, as well as to network businesses. We have over 50 demand response programs in 20 countries, which involve altering customers' consumption patterns and controlling onsite generation. In the NEM, Enel X participates in the energy and FCAS markets, offers network support to NSPs, and has developed reserves for AEMO under the RERT framework, including through the ARENA/AEMO demand response trial.

As a demand aggregator, we are pleased the paper recognises the role that demand flexibility can play in reducing overall system costs. Visible and flexible capacity will contribute to greater system security and reliability at a lower cost than investing in peaking generators that only run a few times a year.

We also welcome recognition of the barriers that currently exist to greater demand side participation in the market – particularly as a scheduled participant – and the need to reduce these. In particular, we agree with the need to develop a proportionate reward and penalty system for following or deviating from dispatch targets and for more flexible approaches to telemetry. The aspiration to allow new sets of services to evolve without requiring major rule change processes is an excellent goal.

There are three key areas where the paper could provide greater detail and explanation.

- **A clear articulation of the problem that a two-sided market is intended to solve.** There are a number of reforms and trials currently under way that would go much of the way to achieving many of the benefits of two sided markets. It is not clear from the paper why the additional step of ultimately requiring all load to be scheduled is a necessary or desirable goal in the short to medium term, until these existing reforms are fully implemented and their impact understood. It is difficult to comment on some of the specifics of the paper, such as trade-offs between different options, without an understanding the drivers behind the proposed reform.
- **Identification of the potential costs to customers and market participants.** While the paper articulates a number of the theoretical benefits of implementing a two-sided market, there is no discussion on what the associated costs and risks might be. Requiring all load to be scheduled

will introduce a series of new obligations and risks, the costs of which will ultimately be passed on to consumers. Further, requiring the demand side to provide bids and comply with dispatch targets could have the perverse effect of reducing incentives to provide flexible load.

- **An explanation of the role aggregators and other third party service providers are expected to provide within a two-sided market.** While the paper appears to contemplate a role for aggregators and other third party service providers in a two-sided market, it is not clear how this would work in practice. Requiring all load to be scheduled, combined with only allowing a single trader per connection point, may have the effect of forcing retailers into the business of flexibility to the exclusion of third parties or, conversely, forcing aggregators to become retailers. Providing value to customers by tapping into their flexibility while not disrupting their business or home requires a specialist skillset that retailers have chosen not to pursue to date. Rather than forcing retailers to get into the flexibility business, reforms should focus on allowing those that already have the right skills to enter the market.

The remainder of this submission provides brief views on the questions posed in the paper.

We look forward to continuing to work through these issues with the ESB. If you have any questions relating to this submission, please do not hesitate to contact me.

Regards

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Table 1: Comments on the draft rule

Question	Enel X's view
The move to a two-sided market	
<p>Do stakeholders agree with our characterisation of the benefits of moving to a two-sided market? Are there other areas the ESB should be considering?</p>	<p>In principle, yes. There are certainly benefits associated with allowing consumers to respond to price signals if they have the ability and incentive to do so. While the technology already exist to allow customers to respond, whether they have an incentive to do so will depend on how the two-sided market is implemented and the costs associated with participating.</p> <p>While there are some significant benefits associated with moving to a two-sided market in terms of encouraging flexibility, it is important these benefits are not overstated. There is certainly a lot of latent flexibility in the market at the moment, some of which will be captured through the Wholesale Demand Response Mechanism (WDRM). However, not all load is flexible and there will always be a need for customers to have access to efficiently priced bulk electricity, whether that be self-supplied or supplied via a trader.</p> <p>The paper does not articulate the range of new obligations, risks and costs that may arise as a result of shifting to a two-sided market. A critical risk is around having to meet dispatch targets. The risks and costs associated with this will depend on the penalties for non-compliance. We note, and agree with, the paper's acknowledgement that "the expectation that all scheduled traders can meet dispatch targets in each interval may not be realistic". High penalties for not meeting targets could have a perverse effect of reducing the incentive for customers to provide flexibility, where they are not confident they can always adjust their demand in such a way that meets dispatch instructions.</p> <p>We note there are a range of reforms and trials already underway or being considered that would likely capture many of the benefits of a two-sided market cited in the paper, including:</p> <ul style="list-style-type: none"> • The WDRM, which introduces demand response aggregators as a new type of market participant that is able to offer aggregate load flexibility from large customers. Under the WDRM, the flexible component of load is required to be scheduled, providing AEMO with greater visibility.

	<ul style="list-style-type: none"> • AEMO’s Virtual Power Plant (VPP) trials. The objectives of this trial include providing AEMO with operational visibility to help AEMO consider how to integrate VPPs effectively into the NEM and assessing the impediments to allowing VPPs to participate in energy and FCAS markets. • Multiple Trading Relationships, which would allow more than one market participant to access the energy market at a single connection point. This would greatly reduce the costs associated with third party providers offering new services to customers. <p>These reforms, if fully implemented, will reduce barriers to new business models, provide AEMO with greater visibility of changing demand, and allow customers to opt into different services where energy service businesses can demonstrate the value. In doing so, they will capture many of the benefits of a two sided market.</p> <p>Each of these reforms is being considered or has been implemented to resolve an identified problem – typically a barrier to customers being able to extract the full value of their energy assets and demand flexibility. It is not clear from the paper what additional barriers or problems a two-sided market is intended to resolve. The paper’s definition of the two-sided market includes all participants responding to price, which the original NEM design envisioned would be done by scheduled loads. In addition to more clearly stated objectives, the design for a two-sided market should also address reasons why this approach to price responsiveness was unsuccessful in the past.</p>
<p>Key concepts for two-sided market design</p>	
<p>What considerations should be taken into account in determining the rights and obligations that attach to a connection point in a two-sided market (in relation to end users, traders and the market operator)? How should these differ from the current arrangements?</p>	<p>Under current arrangements, there can only be a single financially responsible market participant (FRMP) at a connection point. While this provides a clear and simple line of responsibility, it also creates a barrier to third parties being able to offer market-based services to customers. While not explicit, the paper appears to suggest this one-to-one relationship would continue.</p> <p>Under the Small Generator Aggregator (SGA) framework this issue was addressed to some extent by allowing SGAs to be the FRMP at a connection point. However, this requires setting up a new connection point at the customer’s site. In other words, a customer must have a separate connection point in order to access a set of services that their retailer did not provide. Setting up a new connection point is</p>

	<p>not a costless exercise, and in many instances the cost can outweigh the benefits from accessing the new services.</p> <p>Further, any new load at that connection point must be supplied by the FRMP acting as a retailer. Without allowing different entities to supply load and other services at a single connection point requires either retailers choosing to provide those other services such as flexibility, or requires other service providers to become a retailer. Either way, customers will lose the benefits that come from allowing specialist business models to focus on providing unique services.</p> <p>If the framework continues to require a single trader per connection point, then there is a risk that existing problems with the framework that create barriers to customers accessing new services will continue.</p>
<p>Under the current market rules, traders of different kinds (eg retailers and small generation aggregators) have different obligations to the market operator, end users and other market participants. To what extent (if any) would it be helpful for a two-sided market design to distinguish between different types of traders, or between traders in different services?</p>	<p>In considering the distinction between different types of traders it is helpful to remember why different types of participants have eventuated in the first place with different sets of obligations. SGAs, Market Ancillary Service Providers (MASP) and the proposed Demand Response Service Providers (DRSP) have been implemented to allow someone other than the retailer to provide services that customers value, either by avoiding the need to be the FRMP for that customer (e.g. MASP, DRSP) or, as discussed above, by setting up a separate connection point (SGA).</p> <p>The different types of obligations these participants are required to meet recognise that that imposing the same obligations as retailers and generators would be highly costly and would unnecessarily restrict the ability of service providers to operate. The value of those services, such as offering demand response to provide frequency control ancillary services or allowing customers to access the wholesale market, outweigh any costs associated with relaxing some of the rules that would otherwise apply.</p> <p>If aggregators and other third party service providers are to remain a feature of the NEM, which we believe they should, it will be important to continue to recognise the value they provide, the limitations on their ability to comply with certain obligations, and any inherent advantage that retailers and generators may have due to their easier and incumbent access to the market and ability to access customer information.</p>

<p>If, in an eventual two-sided market, distinctions between different types of traders should be removed or significantly reduced, what interim steps would help to progress the market in that direction while minimising commercial disruption to existing traders?</p>	<p>It is difficult to comment on this without a clearer picture of what the framework would look like. However, two critical points:</p> <ul style="list-style-type: none"> • It will be important to be very clear on the transition process, including what obligations apply and when. • Services will need to be clearly identified and mapped to existing market participant roles.
<p>Section 3.3.3 outlines the ways in which end users and traders may interact in a two-sided market, and Appendix B provides more detailed examples. Are there other types of interactions which the two-sided market design should accommodate?</p>	<p>Both section 3.3.3 and Appendix B indicate a one-to-one relationship between a trader and a connection point. For reasons explained above, it's not clear how aggregators or other third party service providers fit into this framework.</p> <p>Customers should be able to easily choose different service providers for different energy management services, with low transaction costs associated with having multiple providers (i.e. they shouldn't have to set up a separate connection point for each service). Further, there shouldn't be any interdependencies between service providers. For example, if a customer decides to switch retailer, there should not be any consequence for providers of other services unless the customer also chooses to switch those services.</p> <p>Many distributed energy resources and appliances, including EV chargers and heat pumps, have (or could have) built-in meters. These cannot currently be used to provide metering data for the purposes of settlement. Allowing such features to be utilised would provide a low cost means to facilitate multiple service providers.</p>
<p>Should some types of interactions (eg between traders and vulnerable residential customers, in respect of certain services) be restricted or prohibited, or will appropriate consumer protections address the concerns while allowing full end user choice in participation?</p>	<p>This is likely to depend on the nature of the services being offered. As under the existing arrangements, there will probably need to be greater customer protections for small customers and, in particular, vulnerable residential customers.</p>
<p>What considerations should be taken into account in designing a two-sided market that allows innovations in technical standards and services?</p>	<p>The intention seems to be that the process for accommodating innovation and new services should be more flexible and have the ability to evolve without major rule change processes. This is an excellent goal. One of the problems of the current rules framework is its rigidity, which can create impediments to the development and provision of new services and business models.</p>

Scheduling and bidding	
<p>What components of scheduling and dispatch should be expanded in the move to a two-sided market? That is, what processes should we expect more participation in out of MT-PASA, ST-PASA, pre-dispatch and dispatch?</p>	<p>While requiring all load to participate in dispatch may be a goal, it is not clear from the paper how this is expected to be achieved in practice, particularly at the residential level. While visibility of price responsiveness is an achievable goal, it is less clear how visibility of consumption intentions can be achieved without severely curtailing customers’ abilities to use electricity as the need arises.</p> <p>It is likely to be very difficult to provide accurate consumption information in the MT-PASA timeframes. Under the second draft determination for the WDRM, DRSPs will not be required to participate in this process, but rather will provide information through the demand side participation information portal. This will provide a useful test of whether this is sufficient.</p>
<p>To what extent can self-submitted forecasts replace the need for centrally determined forecasts?</p>	<p>It may be possible for self-submitted forecasts to replace the need for centrally determined forecasts for some customers over shorter timeframes. Important aspects to consider include whether there would be penalties and rewards for being close to the forecast and what other incentives may exist for providing accurate forecasts.</p> <p>Other markets, such as in Great Britain, require all participants, including retailers, to submit forecasts some days ahead which they can continue to update until gate closure, one hour ahead of the delivery. However, in practice the System Operator relies on its own forecasts which it considers to be more accurate.</p>
<p>What is an appropriate mechanism for encouraging dispatch targets to be followed and complied with?</p>	<p>As acknowledged in the paper, the expectation that all scheduled traders can meet dispatch targets in each interval is not realistic. Therefore compliance mechanisms must be sufficiently forgiving to cater for the features and capabilities of the demand side.</p> <p>As such, any incentives for complying with dispatch instructions should be smooth and assessed on an aggregated basis. A good example of this is the ISO-NE capacity market’s “pay-for-performance” scheme, which features a symmetric scheme that rewards resources for over-performing and penalises them for under-performing relative to their obligation on a MWh basis.</p>

	<p>This approach works better than cliff-edge penalties, whereby a single penalty applies for non-compliance. As long as consumers participate through an aggregator, performance should be assessed in aggregate.</p>
<p>What transitional approach should be taken with moving to a two-sided market? How can we increase the level of participation in bidding and dispatch?</p>	<p>The paper very rightly states that the cost of technical requirements, including telemetry, is a barrier to entry for smaller participants, and suggests trials to test out the right level of visibility. We agree that telemetry requirements must be relaxed so that the costs associated with moving to a two-sided market are not excessive.</p> <p>Unnecessarily onerous telemetry requirements are one reason why there is likely to be a cap on the amount of demand response that is provided under the WDRM. Under the mechanism, AEMO will allow demand response to be provided up to a certain level of capacity in each region without requiring SCADA. Once the threshold is reached, additional demand response is unlikely to be provided without a relaxation in this requirements. Bringing down these costs will allow greater participation.</p>
<p>Who should participate?</p>	
<p>Two approaches are presented for selective participation under a two-sided market – differentiating on size of customer or size of retailer. What are the relative benefits or costs of each approach? Are there any other approaches to selective participation that should be considered?</p>	<p>Differentiating based on customer size is likely to create more opportunities for participation and competition. We also note that if customers are unlikely to be responsive to the spot market price, there is unlikely to be any significant detriment in excluding them under the selective participation phase.</p> <p>Splitting by retailer size is unlikely to be a realistic option given that it would imply retailers would not be competing on a level playing field.</p>
<p>The paper suggests that the all three options could be adopted as a transitional pathway. What are the relative benefits or trade-offs of a longer transition? Are there other options that should be considered in the transition? Are there any parties that should be priorities to transition first?</p>	<p>We agree there should be a transition. The introduction of the WDRM can be seen as the first step in that transition, and will provide a useful opportunity to test some of the concepts set out in the paper.</p> <p>While it is helpful to have an end state in mind, we consider that as part of the transition it is worth conducting a stocktake at each stage before moving on to the next stage of the transition to ensure that the costs of moving to a full two-sided market do not outweigh the benefits. It may be that there are diminishing returns</p>

	to moving further down the path towards requiring all load to be scheduled, or insurmountable impracticalities.
Over what timeframes could the move to a two-sided market be implemented over? Specifically, what are the potential costs that would be incurred in the transition?	As noted above, there should be an assessment at each stage of the transition to ensure the benefits of moving to a full two-sided market outweigh the costs. As such, it is difficult to put a timeframe on the transition.
Are there any other additional elements to participation that should be explored in the next phase of work?	No comment.
Charging for access to the two-sided market	
Do you think locational marginal pricing would encourage behaviours to help manage congestion in distribution networks? Are there other options that would be preferable?	We agree that locational marginal pricing is likely to be a necessary feature of a two-sided and formal ahead market. However, it is important that the risks of moving to nodal pricing can be appropriately managed by the parties best able to manage them, and that they do not impose unnecessary costs on customers.
What do you think is the most efficient method for recovering network costs to support a level playing field for participants in a two-sided market?	These issues are being addressed through other processes. While there may be interlinkages to consider, it is not clear why this issue should be explicitly addressed as part of the two sided market discussion.
Interactions with ahead markets	
Recognising the scope of design options being considered for an ahead mechanism, how significant are the interlinkages with a two-sided market?	<p>The ahead mechanism is being considered as part of a separate process and it is not clear how the ESB proposes to examine marry the two together. Further, it is difficult to comment on the specific nature of the linkages without having greater clarity on the nature of each market. However, we would note that:</p> <ul style="list-style-type: none"> • It is important to consider the two markets together as the design of one will influence behaviour and outcomes in the other. • We wouldn't want burdensome obligations in one market to deter participation in the other. • The paper suggests one option is that only the ahead market is two-sided, with the real time market used to true-up all differences between target and actual energy flows. This potential approach would be acceptable provided that demand response can still be used in the real-time market.

	<ul style="list-style-type: none"> It's important to think about interlinkages between an ahead mechanisms and a two-sided market not only in terms of the end state, but also in the transition.
Which form of ahead mechanism would best complement a two-sided market?	As above.
Are there any interactions between an ahead mechanism and a two-sided market that weren't identified in the chapter?	As above.
Incentives for reliability	
Do stakeholders agree with our characterisation of reliability under a two-sided market noting this would be a long-term goal for an ultimate two-sided market?	We agree that consumers' reliability preferences expressed through energy bids can be used to reduce system costs. In other markets, this is a voluntary action. It's not clear from the paper if response would be enforced so that consumers would not be able to override their previously stated preferences and consume in real-time anyway. Clearly defined long-term goals would be necessary to determine how to best use this information.
New risks for customers	
In a two-sided market, what are the risks consumers are exposed to and not covered from under the current consumer protection frameworks (NECF and the ACL)?	We agree it's important to ensure appropriate consumer protections are in place, particularly for those that may be less able to participate in the wholesale market and those that may be facing hardship.