

18 May 2020



Dr Kerry Schott AO  
Independent Chair  
Energy Security Board  
COAG Energy Council Secretariat  
John Gorton Building  
King Edward Terrace  
PARKES ACT 2600

Dear Dr Schott

**Energy Security Board Moving to a Two-Sided Market discussion paper**

Energy Queensland Limited (Energy Queensland) appreciates the opportunity to provide a submission to the Energy Security Board in response to its *Moving to a Two-Sided Market* discussion paper. The discussion paper provides a high-level summary of the key features of a two-sided market, the benefits and opportunities of moving to a two-sided market and how this work will be coordinated with consideration of an ahead market in the National Electricity Market.

Energy Queensland's comments on the proposed two-sided market and the issues raised in the discussion paper are provided in the attached submission. This submission is provided by Energy Queensland, on behalf of its related entities, including:

- Distribution network service providers, Energex Limited and Ergon Energy Corporation Limited;
- The regional service delivery retailer, Ergon Energy Queensland Limited; and
- Affiliated contestable business, Yurika Pty Ltd including its subsidiary, Metering Dynamics Pty Ltd.

Should you require any additional information or wish to discuss any aspect of this submission, please contact me on (07) 3851 6787 or Charmain Martin on (07) 3664 4105.

Yours sincerely

A handwritten signature in black ink that reads "Trudy Fraser".

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*Encl: Energy Queensland submission to the discussion paper*

# Energy Queensland

Submission to the  
Energy Security Board

Moving to a Two-Sided Market

Energy Queensland Limited  
18 May 2020



## About Energy Queensland

Energy Queensland Limited (Energy Queensland) is a Queensland Government Owned Corporation that operates businesses providing energy services across Queensland, including:

- Distribution Network Service Providers, Energex Limited (Energex) and Ergon Energy Corporation Limited (Ergon Energy);
- a regional service delivery retailer, Ergon Energy Queensland Pty Ltd (Ergon Energy Retail); and
- affiliated contestable business, Yurika Pty Ltd (Yurika), which includes Metering Dynamics Pty Ltd (Metering Dynamics).

Energy Queensland's purpose is to 'safely deliver secure, affordable and sustainable energy solutions with our communities and customers' and is focused on working across its portfolio of activities to deliver customers lower, more predictable power bills while maintaining a safe and reliable supply and a great customer service experience.

Our distribution businesses, Energex and Ergon Energy Network, cover 1.7 million km<sup>2</sup> and supply 34,000GWh of energy to 2.25 million homes and businesses each year.

Ergon Energy Retail sells electricity to 738,000 customers in regional Queensland.

Energy Queensland also includes Yurika, an energy services business creating innovative solutions to deliver customers greater choice and control over their energy needs and access to new solutions and technologies. Metering Dynamics, which is a part of Yurika, is a registered Metering Coordinator, Metering Provider, Metering Data Provider and Embedded Network Manager. Yurika is a key pillar to ensuring that Energy Queensland is able to meet and adapt to changes and developments in the rapidly evolving energy market.

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# 1 Introduction

On 20 April 2020, the Energy Security Board (ESB) published a discussion paper on *Moving to a Two-Sided Market*. The paper provides a high-level summary of the key features of a two-sided market, the benefits and opportunities of moving to a two-sided market and how this work will be coordinated with consideration of an ahead market in the National Electricity Market (NEM).

The discussion paper asserts that the transition to a two-sided market, where all electricity consumers will be able to buy and sell electricity in the wholesale market in response to electricity prices, will lead to significant benefits for the NEM, including the ability to:

- address key system issues related to the integration of distributed energy resources;
- enable end-users to gain greater control over their electricity costs;
- enhance the efficiency and robustness of the market;
- maximise the opportunity for traders to participate in new service markets;
- provide more accurate and up-to-date information on both the supply and demand sides and enhance the ability for market participants to make informed decisions and assist the Australian Energy Market Operator (AEMO) in maintaining the safety, security and reliability of the power system.<sup>1</sup>

The ESB has requested that interested parties make submissions on the questions raised in the discussion paper by 18 May 2020. Energy Queensland's comments are provided in Section 2 and 3 of this submission.

We are available to discuss this submission or provide further detail regarding the issues raised.

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<sup>1</sup> ESB, *Moving to Two-Sided Market*, April 2020, pp. 6-7.

## 2 General comments

Energy Queensland welcomes the ESB's consultation on moving to a two-sided market and the opportunity to provide feedback. However, while Energy Queensland supports the ESB's work on future market design options, we have significant concerns about the timing of this consultation, the timeframe available for submissions and the absence of analysis of key elements of the proposal, including the lack of:

- A sufficiently defined problem statement, rationale for and costs to implement the two-sided market as proposed, including the likely physical changes required at a customer's premise;
- Detail regarding the complexity of changes to the roles and responsibilities of market participants and consumer feedback on the desire to adopt a more complex market at a granular level;
- Recognition of existing regulatory changes that may provide opportunities for managing future risks, many of which have yet to be implemented; and
- An options analysis to determine if other mechanisms may deliver comparable benefits with reduced complexity and costs.

Considering the level of complexity of implementation and impact of the proposed approach, Energy Queensland would expect a more reasonable timeframe for submissions and that the proposal would have been indicated in the ESB's earlier work.

Energy Queensland acknowledges that declining costs, continuous technological development and changing consumer attitudes will continue to drive the uptake of distributed energy resources and an evolution in the way in which our customers interact with energy and provide opportunities to optimise the value of investment in new technologies. We also understand that the growing penetration of distributed energy resources within customers' premises and of grid-connected variable and non-synchronous generation, in conjunction with the future retirement of coal-fired generators, will create significant challenges for the NEM, particularly with respect to maintaining the security and reliability of electricity supply.

However, in addition to Energy Queensland's key concerns as listed above, we have numerous other concerns with the two-sided market paper as presented. To enable stakeholders to provide meaningful feedback, Energy Queensland considers further information and analysis is required, including:

- A detailed explanation of how the two-sided market (with different levels of participation) would be expected to operate in practice, including interdependencies with the proposed day ahead market;
- An assessment of potential barriers that may need to be overcome along with consideration of the implementation pathway, which is likely to be considerably complex given the need to integrate a range of concurrent reforms whilst maintaining system security;

- Justification of the need to fast-track the design of the proposed two-sided market, particularly in light of the other related reform projects currently underway (some of which have not yet commenced or concluded and their effectiveness has not yet been quantified);
- A review of the shift in risk allocation between customers, market participants and AEMO;
- Engagement with consumer groups to determine customers' level of desire for, willingness to participate and likelihood of engaging in such a complex market, particularly as it is likely the majority of customers will continue to prefer simple solutions and services from providers that meet their needs;
- An assessment of the anticipated volume of additional demand side response that is likely to occur beyond that already provided by retailers and large customers (and the proposed new market participant role of demand response service provider), particularly as it is unlikely that the majority of small end-users will be in a position to participate;
- An assessment of the level of additional demand side response information that will be provided beyond that which is already available to AEMO for forecasting purposes, given that providing visibility of behind the meter consumer energy data will be cost-prohibitive for the majority of end-users - with the lack of detail on the degree to which smaller end-users could participate or be willing to participate making it difficult to assess the level of impact of the suggested reform;
- An assessment of the application of existing proven capabilities to manage distributed energy resources, such as load control and demand management, and emerging solutions which are subject to field testing by some market participants, such as dynamic operating envelopes combined with enhanced local network visibility, and their potential to resolve some of the issues identified in the discussion paper, noting that the paper references the joint Energy Networks Australia and AEMO Open Energy Networks (OpEN) project and that this work has not yet conclusively determined future models or the speed at which potential new models will be required; and
- Exploration of alternative solutions to address the system security issues currently being experienced by AEMO and / or the potential to allow a two-sided market to develop organically over time as platforms emerge and retailers and other participants develop new offers and products for customers. Given the different challenges and rates of change across different jurisdictions, a tailored or incremental approach may be more appropriate, especially considering the scale of complexity involved in the recommended reforms and relative uncertainty related to the scale of change.

Based on our assessment of the discussion paper within the limited time available, Energy Queensland's key concerns with respect to the proposed two-sided market are summarised as follows:

- ***What is a two-sided market?***

The discussion paper defines a two-sided market as a “market that promotes direct interaction between suppliers and customers”.<sup>2</sup> However, the two-sided market discussed by the ESB imposes a requirement on retailers and registered market participants that are not generators to bid their demand and be scheduled in the wholesale market, with the majority of end-users participating indirectly through a trader. In Energy Queensland's view, the fact that demand bids will be included in the current wholesale market auction process and customers are not directly interacting with suppliers in it, means that the proposed market is not a true two-sided market but a double auction market, which is the original design of the wholesale market. While, as suggested, some customers could choose to participate directly, this option appears to be an overly complex arrangement given that many customers are likely to favour more simple solutions or services from suppliers (indicated by the lack of customer adoption of complex tariffs).

The failure of the demand auction to materialise is due to the inherent nature of electricity supply and demand which is unlike any other commodities traded in double auction markets. However, notwithstanding the physical constraints of trading electricity, the wholesale market has and continues to work efficiently. The hypothesis that requiring traders to submit demand bids into the wholesale market will increase benefits and market efficiency is not at all clear. The only advantage appears to be in achieving a perfect double auction market that reveals the economically efficient value of energy at a point if demand were able to be dispatched precisely. What is unclear is how, in a double auction market, demand in excess of the demand bids at the clearing price will be met and at what price because energy use as opposed to supply is not discretionary and is driven by exogenous events like temperature, weather, cloud cover, and broad and sectorial economic conditions, rather than supply which can be more highly controlled to meet its bid dispatch targets. Traders hedge their pool price exposure and this activity will not change in a double auction market.

Furthermore, Energy Queensland considers that it is likely that a true two-sided market will emerge organically over time in retail electricity markets, as platform providers emerge that enable retail side innovations to develop, offering new products and services to leverage customers' investments in new energy technology for the benefit of customers. Energy Queensland expects innovations will come from the retail side of the market and be reflected back in net through traders in the wholesale market.

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<sup>2</sup> Ibid, p.4.

- ***Unlocking “behind the meter” consumer energy demand data***

The discussion in the ESB’s paper is based on the hypothesis that creating a two-sided market will unlock data on consumer energy demand that is currently hidden behind the meter and used to ensure the reliability and security of the NEM. However, no evidence has been provided to support either element of this hypothesis.

Energy Queensland considers that load and generation from behind the meter technologies, such as solar panels, electric vehicles, energy storage devices and customers’ invisible appliances, will remain hidden without investment in separate metering. To have visibility of separate load and generation data at such a granular level, particularly to enable verification for wholesale market settlement purposes, would require independent metering which would be economically prohibitive for the majority of end-users.

Conversely, Energy Queensland considers that forecasting based on diversity in behaviour enables a reasonable estimation of behind the meter activity and is less costly to measure at the small end-user level. It is therefore unlikely that the proposal for a two-sided market will provide more granular information to resolve the issues AEMO is facing with respect to forecasting and operating a secure and reliable interconnected grid supporting the wholesale market.

The discussion paper suggests that AEMO requires a more granular understanding of distributed energy resources. However, it should be noted that current work, including that relating to the distributed energy resource register and better integration of distribution network level data and forecasts, could improve operational awareness without greater levels of granular data being required. Networks, such as Energex and Ergon Energy, are currently progressively building capability to forecast local distributed energy resource operation and already manage a growing fleet of distributed energy resources on a localised basis. It should also be noted that changing the operation of distributed energy resources on a local basis without understanding the state of the local network and considering a range of factors, including local diversity, could impact significantly on local network operations and distribution networks’ ability to manage (or make it more complex for distribution networks to manage) local network conditions and reliability.

- ***Level of participation in a two-sided market***

It is expected that retailers, large customers and the proposed new role of demand response service provider will soon all be offering demand response services into the wholesale market. In addition, some retailers are currently offering services whereby customers can participate directly in the wholesale market through innovative retail contracts. It is therefore unclear to Energy Queensland whether a sufficiently high volume of additional demand-side participation will occur to justify the expenditure that will be involved in creating the proposed two-sided market.

As noted in the AEMC’s draft determination for the wholesale demand response mechanism, the rationale for excluding small customers from participating in the

mechanism was based on the expected significant increase in complexity and cost while providing “limited additional benefits as small customer demand response is not suited to participating in central dispatch in the short to medium term”.<sup>3</sup>

Further, while the discussion paper considers most consumers are likely to become prosumers in a two-sided market, Energy Queensland highlights that many customers are already prosumers receiving financial reward for exports to the energy system. Although it is acknowledged that improvements are required to balance equity and fairness through ongoing tariff reform, Energy Queensland considers that the ESB’s paper does not accurately characterise the current situation or outline how customers will be impacted if they choose to opt-in or opt-out of more complex pricing frameworks.

- ***Distribution network issues***

The ESB’s discussion paper generally does not recognise the important role that distribution networks have in supporting our customers through managing local network reliability and security or the opportunity that exists to leverage this capability to meet the growing distributed energy resource challenge. Further, Energy Queensland does not agree with the ESB’s view that the proposed two-sided market is necessary to address distribution network issues related to the integration of distributed energy resources.

Distribution network service providers have for some time been actively supporting customer choice by identifying solutions to address the impacts that the rapidly increasing penetration of distributed energy resources are having upon their networks. Energy Queensland’s distribution networks, Energex and Ergon Energy, have enabled a smooth transition to increased small and large-scale distributed energy resources through combining innovative solutions, progressive standards and well-established capability such as demand management.

Energex and Ergon Energy are currently enabling the highest penetration of solar photovoltaic (PV) systems in the country and are supporting a large volume of two-way energy flows across the distribution system. In doing so, the distribution networks have developed a range of approaches to address the high volume of distributed energy resources, including:

- Implementing a range of innovative demand management solutions, such as direct load control of customers’ hot water systems and demand response enabling device-based air-conditioning load management, to manage peak demand and soak up excess solar PV;

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<sup>3</sup> AEMC, *Draft Rule determination: National Electricity Amendment (Wholesale Demand Response Mechanism) Rule 2020, National Energy Retail Amendment (Wholesale Demand Response Mechanism) Rule 2020*, 12 March 2020, p. iv.

- Progressing field deployment of enhanced local network visibility through network state estimation, which is a foundation technology for dynamic operating envelopes to support higher levels of distributed energy resource integration;
- Progressing dynamic export control concepts to remove the need for fixed or nil export agreements and enable greater customer choice whilst managing network risks;
- Implementing innovative connection standards after extensive testing, trialling and validating of dynamic inverter modes, including connection standards for fault ride through at the request of AEMO to ensure system security; and
- Trialling the use of customer batteries and inverters under multiple operational and tariff scenarios to determine the customer benefits and impacts of utilising customer technology to manage network conditions.

Initiatives such as these not only demonstrate Energy Queensland's commitment to integrating distributed energy resources into Queensland's networks but also highlights that the evolution of distribution system operation is well under way and such capability combined with other reforms (such as tariff reform and recommendations from related programs such as DEIP) could help to address broader challenges as they emerge.

We recognise that AEMO is facing a range of challenges in integrating distributed energy resources with broader dispatch of large-scale generation, but caution that the implementation of the proposed two-sided market has a range of impacts on distribution networks that have responsibility for local network conditions and reliability. Energy Queensland notes that the challenges outlined in the discussion paper seem to centre around emerging challenges in South Australia without considering the different load, generation, demand management and network capability mix in other areas. Energy Queensland expects that different challenges will emerge in different locations at different times and cautions whether such an immediate large-scale solution is required concurrently across the NEM. Further, there is significant potential that the system security issues identified by the ESB will be resolved through emerging capabilities such as dynamic operating envelopes and other initiatives that are already being field-tested by several distribution network service providers throughout the NEM.

As the ESB would be aware, extensive consultation and assessment has been undertaken by Energy Networks Australia and AEMO on how best to integrate distributed energy resources into Australia's electricity grid through the OpEN project. Energy Queensland strongly recommends that the ESB considers the recommendations made in the recently released Energy Networks Australia OpEN position paper which highlights that there is no determination of a conclusive future model or the speed at which potential new models will be required to deliver the best outcomes for customers (who will pay for such transformation and system implementation). It further indicates that, given the uncertainty, it is not in the best interests of consumers to lock in a particular framework today and concludes that

collaboration between AEMO, distribution network service providers and stakeholders is required to explore the best approach incrementally.

Work is also currently underway by the Australian Renewable Energy Agency (ARENA) and the Australian Energy Market Commission (AEMC) on the Distributed Energy Integration Program (DEIP) to facilitate new approaches to access and pricing regimes. Further consideration is therefore also required as to how this work may assist in addressing many of the energy flow and customer challenges noted in the ESB's discussion paper.

Energy Queensland suggests that the challenges of integrating a growing range of distributed energy resources can be addressed with enhanced capabilities and development and adoption of new standards alongside ongoing tariff reform. This approach will enable customer choice for the adoption of a range of complementary technologies to manage their energy usage. Further consideration of the OpEN and DEIP programs is important to consider how such reforms address both the local and global challenges of integrating high penetrations of distributed energy resources and non-synchronous generation sources.

- ***Implementation approach***

Energy Queensland notes that the ESB is eager to expedite further thinking on the two-sided market and that it intends to determine "a transitional pathway for what will be a significant change to the market"<sup>4</sup>. We also note that the ESB has missed several significant milestones originally identified in its workplan and that the release of the discussion paper on moving to a two-sided market is not in line with the ESB's original scope of work. However, while Energy Queensland acknowledges that the Council of Australian Governments (COAG) Energy Council has an overarching responsibility to ensure the safety, security and reliability of the NEM, we caution that further careful consideration of the development and implementation of a new market design is required. As already noted, it is important that the case for change is proven, alternative options are explored and that any final recommendation on a preferred framework is supported by extensive consultation and economic analysis.

Energy Queensland recommends that detailed implementation planning should not proceed ahead of further clarification, analysis and justification being provided to underpin the options analysis supporting the two-sided market as the preferred option to address challenges in the NEM. The issues described in the discussion paper are complex and interlinked with other work currently underway. Extensive consultation will be required with government, industry and consumers to deliver a framework that is

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<sup>4</sup> ESB, *Moving to a Two-Sided Market*, p. iii.

in the best interests of consumers and the ESB should be cognisant of stakeholders' ability to engage meaningfully, especially under current circumstances.

Energy Queensland considers that an incremental approach to market reform may be preferable, given the inconclusive demonstration of costs and benefits of the different frameworks and an unclear view of customer impacts and preferences (as outlined in the OpEN position paper). Prematurely moving to a large-scale and complex solution while the implications of such change are uncertain could potentially prove costly and result in poor customer outcomes, particularly as the impact of distributed energy resource deployment is highly variable within current distribution networks and between regions. There is no market solution that is applicable to all situations and which supports the current incremental approach being taken by distribution businesses in investing when and where required. An incremental approach would deliver optionality to support future decisions while minimising the risk that consumers must incur higher costs now for uncertain future benefits.

- ***Costs and benefits of creating a two-sided market***

It is clear from the discussion paper that a shift to a two-sided market would involve a significant overhaul of the current regulatory framework, requiring a substantial investment in new market and participant systems and retro-fitting or replacement of customers' existing systems and equipment, potentially resulting in increased electricity prices for customers. Notwithstanding the costs, the ESB considers that the contribution of household energy technology will add immense value to the market.

However, a comprehensive cost-benefit analysis does not appear to have been undertaken, nor does it appear that an analysis of alternative options for integrating distributed energy resources into the market that may be more cost-effective been considered. Further, it is unclear whether there is sufficient customer intent or desire to participate in such a market at scale. As the proposed changes are complex and likely to be costly and challenging to implement, Energy Queensland considers that a detailed analysis is fundamental to underpinning such a significant market reform.

Additionally, the discussion paper does not clearly articulate the exponential level of complexity and potential costs which would arise as a result of the implementation of a two-sided market as the market framework moves from generation, to transmission, to distribution, to the customer's premises. As the penetration of distributed energy resources will continue to grow at different rates in different locations, Energy Queensland believes an incremental approach to exploration of potential solutions should be considered to test different solutions as the need emerges gradually on a localised basis. Such considerations could identify simpler solutions that can be scaled appropriately as the need arises. These incremental solutions could potentially be delivered at a lower cost, with greater benefits to customers over time and with reduced risk to the customers who ultimately pay for large-scale changes.

- ***Introduction of a day ahead market***

Energy Queensland understands the concerns regarding AEMO's ability to control the grid in the face of increasing penetrations of distributed energy resources and variable and non-synchronous generation. However, it is unclear from the ESB's paper on day ahead markets as to how the day ahead market and two-sided market will interact in practice. Further, Energy Queensland considers the proposed introduction of a day ahead market may be premature given there are a number of other market reforms in progress that may deliver the required outcomes. Further detailed information and analysis on the proposed day ahead market and interdependencies with the proposed two-sided market is also therefore required.

Finally, Energy Queensland takes this opportunity to reiterate our concern regarding the short timeframe being afforded to stakeholders to respond to this complex reform. Contrary to other regulatory agencies who are assessing timeframes for the implementation of market reforms so as to ease the pressure on industry in responding to the impacts of COVID-19, the ESB is progressing with this transformational market reform. In our view, a market reform of this magnitude requires a greater level of transparency and consultation than that currently provided so as to gain the support of industry. Energy Queensland therefore considers it important that the ESB releases a detailed impact assessment, outlining proposed timeframes and cost-benefit impacts for existing market participants, as a second stage consultation prior to delivering its final report to the COAG Energy Council. Given current circumstances, it may not be realistic for the ESB to provide its final report by the end of 2020.

Notwithstanding the above, Energy Queensland has provided high-level comments in section 3 of this submission on the issues raised in the discussion paper.

### 3 Specific comments

Energy Queensland provides the following comments on the specific questions raised in the discussion paper:

ESB Question	Energy Queensland’s Response
<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>Energy Queensland suggests further analysis is required to substantiate the benefits to be gained from the proposed creation of a two-sided market as described in the discussion paper. Requiring traders to submit bids for their loads will only result in most traders with a net load position bidding at the market cap (as is pointed out on page 20 of the ESB’s discussion paper).</p> <p>Energy Queensland notes that the benefits characterised in the discussion paper are potential only and based on assumptions which have not yet been proven through supporting evidence or economic analysis. For instance, it is assumed that benefits will be achieved from customers actively engaging in the wholesale market, while the realisation of those benefits is highly reliant on widespread adoption of technology throughout the NEM and customers’ willingness to engage.</p> <p>The proposed two-sided market proposal is very complex and Energy Queensland is concerned it will be costly to implement and challenging for customers to interact with. Customers may find that to participate in the wholesale market is cost-prohibitive or they may instead prefer to participate through existing or less costly mechanisms.</p> <p>Further, it is important to note that there are already a number of market reforms in progress which may provide some of the benefits that are intended to arise from the creation of a two-sided market. Energy Queensland considers that time should be allowed for those reforms to be embedded and the outcomes assessed before progressing with more significant reforms.</p>

ESB Question	Energy Queensland's Response
	<p>Energy Queensland also notes the ESB's previous intent to consider and consult on several options and requests clarification on whether other options have in fact been considered.</p>

### Key concepts for two-sided market design

<p>1. 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>Energy Queensland considers that the current market structure, characterised by a central wholesale market with multiple traders offering services to end-users, remains fit-for-purpose for end-users who wish to trade directly in the wholesale market or via products provided by traders. The evidence to date is that most end-users do not trade directly and instead prefer simpler products provided by their retailers and traders. We have seen no evidence that there is a high level of interest from small end-users in particular to actively engage in the wholesale market.</p> <p>However, if the creation of a two-sided market does proceed, a comprehensive analysis of rights and obligations will need to be undertaken. Consideration will need to be given to issues such as:</p> <ul style="list-style-type: none"> <li>• Fundamental rights of access (import and export and any limits);</li> <li>• How access will be priced and how changes to legacy models will be communicated and understood;</li> <li>• Balancing customer obligations with protections, noting the need for an even playing field;</li> <li>• The ability for customers to opt-in and opt-out and how new pricing frameworks will impact customers who choose not to participate more actively;</li> <li>• The extent to which the expansion of the scope of the market operator's role aligns with the market's establishment;</li> </ul>
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ESB Question	Energy Queensland's Response
	<ul style="list-style-type: none"> <li>• Consequences of deeper access to customers' electricity demand and supply for broader market benefit and customers' willingness to consent to this access; and</li> <li>• The apparent assumption that existing market participants are hindering better outcomes.</li> </ul>
<p>2. Under the current market rules, traders of different kinds (e.g. 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>Obligations on traders are, to a large extent, determined by their ability to control production of or demand for energy. As a general rule, generation is more controllable and therefore predictable than demand, although in reality both generation and demand are on spectrums of controllability and predictability. There are many diverse and often uncorrelated factors that affect the level of generation or demand controllability and, as such, it is appropriate to apply different standards in meeting the requirements for participation in the wholesale market.</p> <p>Added to the technical ability to control and predict, there are also financial considerations that distinguish different producers and consumers.</p> <p>It may therefore be necessary to have different obligations placed on traders based on both technical and financial considerations, noting that it will be necessary to ensure a level playing field.</p>
<p>3. 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>To the extent that it makes sense to remove distinctions, there are technical and financial distinctions that will determine the obligations that should be enforced.</p> <p>Perhaps the simplest view of end-users and traders is that they are a "black box" defined by their transfer function, i.e. they supply and use services from their customers and provide or obtain services from the wholesale market.</p>
<p>4. Section 3.3.3 outlines the ways in which end users and traders may interact in a two-sided market, and Appendix B provides</p>	<p>Section 3.3.3 describes the interactions between end-users and traders and provides a generic description of the nature of those interactions as provision of products and services that might emerge in a two-sided market.</p>

ESB Question	Energy Queensland's Response
<p>more detailed examples. Are there other types of interactions which the two-sided market design should accommodate?</p>	<p>However, in section 3.3.1, the paper states that energy provided or used by end-users is already catered for at the efficient price. In Energy Queensland's view, this does not represent a two-sided market because the underlying assumption is that a kWh of energy is fungible and the efficient price has been revealed by auction.</p> <p>In a two-sided market a producer and consumer would have a direct relationship and agree the product and the price. In the case of energy there are already products supplying green energy, such as wind and solar PV, and "regular" energy (i.e. the mix of fossil fuels and renewable energy). An end-user might seek to obtain some or all of their energy from green sources and from a particular supplier. This would result in a true two-sided market for energy, where buyers and sellers directly interact without a clearing auction.</p>
<p>5. Should some types of interactions (e.g. 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>In Energy Queensland's view, the role of the market is not to provide consumer protections. Traders should be subject to similar consumer protection obligations as apply to other participants in other commercial enterprises. The key issue raised here, in our view, is whether there is a need for a body (or bodies) that can direct pricing for particular classes of end-users.</p> <p>Development of any consumer protections should avoid preferential treatment of some participants over others, e.g. share trading platforms. Acknowledgement will be required that there will be obligations that apply to all traders regardless of size.</p>
<p>6. What considerations should be taken into account in designing a two-sided market that allows innovations in technical standards and services?</p>	<p>Consideration should be given to moving away from focussing on the wholesale market, which is an energy only auction, and instead investigating the potential for creating true two-sided markets for other services like frequency control ancillary services and system inertia. Ultimately, it may then be possible to transition the energy only auction into a true two-sided market, offering differentiated energy, such as green energy or energy sourced from particular suppliers based on criteria agreed between the parties.</p>

ESB Question	Energy Queensland's Response
<b>Scheduling and bidding</b>	
<p>1. 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>The answer to this question will depend on how the issues raised in questions 2 and 3 in <i>Key concepts for two-sided market design</i> are addressed.</p>
<p>2. To what extent can self-submitted forecasts replace the need for centrally determined forecasts?</p>	<p>In Energy Queensland's view, self-submitted forecasts cannot replace the need for centrally determined forecasts due to the requirement for due diligence. Forecasts are typically based on assumptions and algorithms. Were self-submitted forecasts to replace centrally determined forecasts, those prepared by each party would likely be based on different assumptions and algorithms, depending on the purpose of the forecast. The quality of those forecasts will therefore vary.</p>
<p>3. What is an appropriate mechanism for encouraging dispatch targets to be followed and complied with?</p>	<p>The answer to this question will depend on how the issues raised in questions 2 and 3 in <i>Key concepts for two-sided market design</i> above are addressed.</p>
<p>4. 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>Refer to the answer to question 6 in <i>Key concepts for two-sided market design</i>.</p> <p>It should also be noted that new reforms being progressed, such as the wholesale demand response mechanism, have not yet been finalised and / or implemented. The OpEN and DEIP projects are also still underway and will result in further changes to current arrangements that may address higher penetrations of distributed energy resources and could offer solutions not yet considered in this consultation. It may therefore be prudent to delay further consideration of the two-sided market until those reforms have been embedded and their effectiveness has been assessed.</p>

ESB Question	Energy Queensland's Response
	<p>The benefits of adopting an incremental approach to reform include:</p> <ul style="list-style-type: none"> <li>• preserving the existing investment in a market already subject to transformation, while enabling the outcomes of recent, or soon to be implemented, reforms to be realised and assessed; and</li> <li>• enabling the rapidly developing market for energy technologies time to mature, potentially providing stronger evidence upon which to base future decisions about the market.</li> </ul>
<b>Who should participate</b>	
<p>1. 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>The answer to this question will be dependent on answers to questions 2 and 3 in <i>Key concepts for two-sided market design</i>.</p>
<p>2. 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>Energy Queensland does not consider that option 3, i.e. full participation, is viable and should not be considered (at least at this time). For option 3 to succeed the NEM would need to move from net metering to gross metering and would require end-users to allow third parties to control their appliances or processes.</p> <p>Further information is required to assess the viability of options 2 and 3, including details of how they would operate in practice, an understanding of incremental measures required and associated timeframes as well as a comprehensive cost-benefit analysis.</p>

ESB Question	Energy Queensland's Response
	<p>It is noted that options 2 and 3 are significantly more interventionist than previous broad scale market reforms, such as Power of Choice, which relied heavily on the market (voluntarily) responding to take advantage of opportunities.</p>
<p>3. 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?</p>	<p>Energy Queensland considers an incremental approach, depending on how technology develops and emerges in end-user choices, would be realistic. This approach recognises that existing generators are scheduled to remain in service until the mid-2030s and existing investments in small-scale renewable energy will be replaced, enabling technology costs for the anticipated new market to become more affordable.</p> <p>There are likely to be very significant costs associated with the move to a two-sided market, including costs relating to changes to market and participant systems and processes, as well as costs for customers to retro-fit their existing equipment.</p> <p>It should also be noted that rapid transformation may potentially result in the need for decisions on design made in the early years to be unwound or the requirement for further reform in response to unanticipated scenarios.</p>
<p>4. Are there any other additional elements to participation that should be explored in the next phase of work?</p>	<p>Energy Queensland recommends that there should be extensive engagement with participants and end-users across all energy segments to obtain their insights into the proposed changes, including with respect to:</p> <ul style="list-style-type: none"> <li>• The level of support for the proposed two-sided market and willingness to participate;</li> <li>• The technology required to implement the two-sided market (both with respect to market and participant systems and behind the meter technology);</li> <li>• Costs to implement the two-sided market; and</li> <li>• Capacity to implement this major market reform.</li> </ul>

**ESB Question****Energy Queensland's Response****Charging for access to the two-sided market**

1. Do you think locational marginal pricing would encourage behaviours to help manage congestion in distribution networks? Are there other options that would be preferable?

There are a number of other pricing options that could emerge in a true two-sided market. For example, network service providers could contract on the market platform for network support services directly with counterparties able to provide those services at a particular network location (which, in a distribution network, would most likely be for voltage and thermal control services). Networks are already contracting directly with customers through load control tariffs and demand management programs in Queensland which allows networks to manage controllable loads to optimise local network conditions and reduce costs for customers.

Careful consideration is required in relation to locational pricing and impacts on current principles of fairness and equity for customers accessing the electricity system. Suggestions such as locational marginal pricing potentially expose customers to sharp and complex price signals. There is insufficient information in this proposal to consider the impacts on customers and potential complexity.

2. 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?

Under the proposal, it will be challenging to balance the distribution network service provider's largely fixed costs against recovering the allowed revenue for providing network access and operational costs of managing the network voltage and thermal limits. Ultimately, there will be a trade-off in contracting for services and making (or removing) network investments to manage the voltage or thermal limits.

**Interactions with ahead markets**

1. Recognising the scope of design options being considered for an ahead mechanism, how significant are the interlinkages with a two-sided market?

The proposed ahead markets appear to be in response to the wholesale market being a real time energy only market and the issues AEMO has in controlling the dispatch of generation that provides currently unvalued ancillary services required for the good operation of the interconnected transmission system. The issues have

ESB Question	Energy Queensland's Response
	<p>primarily emerged in one region of the NEM and the indications are that those issues will emerge in other regions at various points in the future (mainly tied to the retirement of large synchronous generation).</p> <p>In a true two-sided market, these unvalued services should be able to be offered or sought by parties (refer to our answer to question 6 in <i>Key concepts for two-sided market design</i>). In the longer term, the ahead markets should be able to merge with real-time energy markets where the parties trade across the platform, with the energy only auction market being just one more service or product offered alongside other energy only services and products transacted across two-sided market platforms. In the meantime, it would be wise to develop a framework for ahead markets against the time it might take for a true two-sided market to emerge (if at all).</p> <p>However, Energy Queensland does not consider that the development of ahead markets should be prioritised as a matter of urgency, given that the pace of ongoing technological development may provide solutions to the issues. The fact that AEMO is intervening in the region is a sign to the market to provide solutions and, while an ahead market may relieve AEMO from the need to intervene, there is no evidence to suggest that the proposed ahead markets are the optimum approach.</p>
<p>2. Which form of ahead mechanism would best complement a two-sided market?</p>	<p>Please refer to our response to question 1 above.</p>
<p>3. Are there any interactions between an ahead mechanism and a two-sided market that weren't identified in the chapter?</p>	<p>No comment.</p>

ESB Question	Energy Queensland's Response
<b>Incentives for reliability</b>	
1. 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?	No comment.
<b>New risks for consumers</b>	
1. 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)?	The current customer protections framework was not designed in such a context and, while adaptable to some developments, it is likely to be ill-equipped to deal with a two-sided market. A comprehensive review will therefore be required.