



Dr Kerry Schott
Chair, Energy Security Board

By email: info@esb.org.au

18 May 2020

Dear Dr Schott,

Two-sided markets

ENGIE Australia & New Zealand (ENGIE) appreciates the opportunity to respond to the Energy Security Board (ESB) on the Two-sided markets consultation paper.

The ENGIE Group is a global energy operator in the businesses of electricity, natural gas and energy services. In Australia, ENGIE has interests in generation, renewable energy development, and energy services. ENGIE also owns Simply Energy which provides electricity and gas to more than 720,000 retail customer accounts across Victoria, South Australia, New South Wales, Queensland, and Western Australia.

ENGIE's overall position on the two-sided market is set out below and responses to individual questions are appended to this letter.

Broad support for the principles underlying two-sided market

ENGIE supports the principles underlying the two-sided market proposal. It represents a market-based solution to a range of challenges being faced, and that are expect to grow, in the NEM. A two-sided market is not a silver bullet, however, and the consultation rightly notes its place as one amongst a range of potential reforms.

The two-sided market relies on strong and clear price signals to drive incentives for end users of all types to offer services to the grid and the market where cost-effective to do so and to shape their load profile where cost-effective to do so. However, customers will reject these incentives if they don't have the ability to respond to them.

The practical ability for most customers to be able to respond will rely on service providers developing customer service offerings and for customers to engage with service providers. This will be an iterative process and will involve trial and error. Service providers will risk capital trying and sometimes failing, so when they succeed, they will need to be able to earn an appropriate return.





This process of iterative innovation is the kind of process that markets are much better suited to than top-down, command-and-control methods. Accordingly, the ESB will need to walk a line between clearly articulating how a two-sided market can work but not becoming overly prescriptive in the details.

Evolutionary, not revolutionary approach

With this in mind and in the context of the high burden imposed on market participants by the current scale of market and regulatory reform, ENGIE expects that the development of a two-sided market will be a progressive, staged transition, rather than a big-bang reform (although as we note in the appendix, to realise the full vision, there will need to be quite radical change to the National Electricity Rules (the Rules) between now and the proposed end point). As a rule of thumb, this looks like a reform process that will play out over at least a decade, and it would be worth the ESB more clearly articulating the time frames over which it expects reforms to take place.

ENGIE considers that the ESB should also make it clear that it is too soon to set all the reforms in stone at this point. In the first instance, the ESB should flesh out the “next steps” and what is required to get to a “minimum viable product” or a prototype two-sided market that sets a platform for further reforms and expansion to a broader range of end users.

These further reforms do not need to and should not be fully fleshed out at this stage. There will be important information revealed from the prototype and through technological and market developments that will iteratively inform the design and timing of further reforms.

There may be value in keeping a high-level concept of the ultimate goal in mind as a light on the hill. This could help evaluate intermediate reforms as to the extent they lead the market towards or away from this ultimate goal. They also assist market participants in understanding the likely direction of reform, although this benefit should not be overstated. The light on the hill does not meet the standard of regulatory certainty, and so participants may be able to commit large tranches of capital on the promise of future reforms yet to be enacted.

The development of the two-sided market will not simply be a question of writing or amending the Rules appropriately. The broader political economy of this reform will be at least as important. An obvious analogy is network tariff reform, where the Rules clearly drive cost-reflective tariff design but where a small minority of customers are on these tariffs. The disconnect here has a range of causes, including government indifference or hostility, limited incentives for supply chain participants to enable and promote further take-up, and limited interest from customers to be exposed to such tariffs.

The development can be supported by a process of trials and tests, where key concepts and approaches can be proved up on a small-scale. Where successful, the ESB and energy market bodies will need to actively promote the outcomes in order to obtain sufficient stakeholder support for further reform. The recent AEMC recommendations to support a regulatory “sandbox” may be useful in this respect. As a key condition for successful development is that consumer response is ‘technically equipped’, this is an area that will need to be explored in greater detail. This could include evaluating the most appropriate technology solutions (market



research on IoT vs blockchain, or something completely different to the technologies used in worldwide DRM markets) that can be cost-effective for the NEM to operate and sustain.

Innovation and regulation

Electricity is in the unique position of both being considered as an essential service and being competitively supplied. This has resulted in the emergence of a set of social norms regarding what electricity supply should look like for customers (especially, but not always only, household customers). Current regulatory practice is to seek to enforce these social norms, primarily through outcome-based regulation. Pricing benchmarks assume that electricity retailing is purely the supply of a commodity rather than a broader service package that may offer customers additional value. These approaches implicitly (and sometimes explicitly) encourage homogeneity of service provision, as consumers are considered to all be equally deserving of the same standards. It also encourages a focus of suppliers' energies on compliance and risk minimisation.

Accordingly, it is inimical to innovation and diversity of service provision, even where these are in the interests of meeting customers' needs and wants (since customers are, in fact, diverse) more efficiently and effectively. This means that the full benefits of a two-sided market are unlikely to be realised under current regulatory approaches.

Should you have any queries in relation to this submission please do not hesitate to contact me on, telephone, (03) 9617 8415.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "Jamie Lowe".

Jamie Lowe

Head of Regulation



Appendix: Responses to specific questions in the consultation

Questions for stakeholders

Q1: 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?

ENGIE considers that the characterisation of the benefits is broadly correct.

Additionally, there are also efficiency gains to be made from streamlining the regulatory framework if the ESB follows through fully on its vision.

There is also the ability to better address “missing money” concerns associated with the energy-only market design. This is because a two-sided market may allow reconsideration of the appropriate market price cap. This point is expanded on further below.

Key concepts for two-sided market design

Q1: 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?

The key concepts imply that the typology of participation in the market could be greatly simplified compared to the current arrangements.

In the long run this would necessitate a wholesale rewrite of the Rules, which are currently predicated on very clearly defined roles and types of market participants. ENGIE does not expect that the ESB is proposing such a rewrite imminently. Evolutionary progress is achievable with modifications to the existing Rules.

However, the ESB and specifically the AEMC will need to consider whether current trends in regulatory design are oriented towards solving emerging challenges through the creation of new types of participants with their own rights and obligations, and if so whether this will make it harder to move towards the two-sided market framework set out in this consultation. In this respect, ENGIE notes AEMO’s recent rule change proposal (yet to be initiated) to create a new participant category for storage devices.

By equating consumers and suppliers as both being examples of end users and noting that an individual connection point may be both, the consultation flags an interesting question on how the National Electricity Objective (NEO should be interpreted). The NEO is clear that the goal of the NEM is always to serve the long-term interests of consumers. Does this goal only apply to the activity of consumption, or is DER ownership and operation by consumers also part of their “long-term interest”? If the latter, it could drive anomalies in regulatory treatment depending on whether an asset that contributes services to the grid is consumer-owned and operated or not. It would be timely for the ESB to articulate how it and the individual energy market bodies are interpreting the NEO in this respect.

Given the modular and thus scalable nature of some key technology types (solar PV, batteries) two-sided market design should avoid where possible creating major differences in rights and obligations purely on the basis of size

of the resource. Otherwise there is a risk of creating a perverse incentive to stay below a given, arbitrary-size threshold

Note also that the proposal for self-trading of connection points implies that customers, including small customers could engage with the market without a retailer. If that is the case, the ESB should consider the implications for network billing of NUoS charges. Accordingly, this concept needs further development by the ESB so stakeholders can evaluate the practicality of it.

Q2: 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?

It's not obvious that they should be treated fundamentally differently. Factors that need to be considered include: the scale of resources (supply or demand side) subject to the caveat above, an appropriate prudential regime and contractual approaches: i.e. mass-market standardised contracts between traders and end users versus bilaterally negotiated contracts. However, the principle of treating different participants in equal ways where possible should apply.

Q3: 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?

As a general principle, interim steps should move towards the end goal rather than be a side-track. An example of the latter is the proposed wholesale demand response mechanism (DRM). While it may stimulate more active demand response, which superficially assists the development two-sided market, the concept of baselines for example has no place in a two-sided market. Logically the DRM will need to be sunsetted. There is an important signalling role for the AEMC to acknowledge this in its material accompanying the final rule, so that demand response providers know the risks of locking in a specific business model predicated on a baseline approach.

Q4: 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?

Appendix B remains appropriately a highly conceptual presentation of the types of interaction. These will progressively emerge as specific business models and contractual arrangements over time, and the ESB should monitor such development to see if the concepts in Appendix B are added to. Potentially an individual user at a single connection point may wish to engage either the market through different traders and/or on its own account for the provision of different services. This could add a degree of complexity and entail additional costs (e.g. creating multiple FRMPs, which may require alternative physical metering arrangements) and so is not the kind of development that should be mandated but should not be prohibited either.

Q5: 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?

It's unlikely that any regulatory framework can achieve both these goals fully. Tight consumer protections will constrain effective customer choice. So, it is best to consider how to target vulnerable customer protections. The logic of a two-sided market is that there are consumers who will accept lower consumption at certain times (ideally with full preservation of amenity) in return for lower costs or a revenue offset on their bill. But in practice there may be ambiguity over whether consumers are giving up amenity and if that amenity should be considered a basic right or a discretionary amenity. If the ESB is not prepared to accept that consumers are capable of making appropriate decisions in this respect, then they will never get the choice. This is an example of a sensitive area of reform where trials with safeguards may help ascertain how far and fast reforms can go.

Q6: What considerations should be taken into account in designing a two-sided market that allows innovations in technical standards and services?

That there is a trade-off between regulation, especially prescriptive regulation, and innovation. Innovation requires risky investment and so needs high returns when it is successful. Regulatory authorities and governments have in recent times made it clear they wish to regulate away high margins.

It's not clear, for example how price regulation would work in this world, which appears to lend itself to innovative service offerings such as all-in fixed price bills in return for load control with appropriate safeguards. This would give the customer certainty on costs but gives no certainty that an arbitrary threshold of c/KWh of electricity supply is not exceeded, especially if other services are explicitly or implicitly included (e.g. reactive power control, voltage protection). Furthermore, the boundaries between different services may blur as electricity supply gets offered as a package with electric vehicles, home management systems, telecommunications or other hybrid service plans.

Scheduling and bidding

Q1: 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?

Q2: To what extent can self-submitted forecasts replace the need for centrally determined forecasts?

The paper states that "as the forecasts become longer term, it becomes more difficult for the traders of residential load (for example) to provide meaningful estimates. There will be a tipping point at which a top-down forecast (i.e. a central AEMO forecast) will become more valuable than bottom up forecasts". This is a strong statement and not necessarily the case. There is a well-known phenomenon dubbed "the wisdom of crowds" where decentralised forecasting or estimation can be more accurate than a single "expert forecast". Consider the global oil market – the IEA's long-run forecast of oil demand and supply is authoritative, but it is not definitive. Other parties produce long-run forecasts too, and major participants in the market have to form their own view. In this respect, the oil market benefits from deep and liquid futures markets as well as long-term supply contracts for those who wish to lock in a price, so forecasts can be backed up with financial commitments. While the NEM is



not the same scale, futures markets and contracts should also be encouraged as ways to reduce reliance on a single forecast. AEMO will likely always have a role in producing forecasts, but it does not need to be the single source of them.

Q3: What is an appropriate mechanism for encouraging dispatch targets to be followed and complied with?

In the context of a two-sided market, especially in the earlier stages, load is unlikely to be so finely tuned as to precisely follow dispatch targets. In aggregate, stochastic variations of individual end users will largely net out. But, say, temperature-driven consumption (cooling/heating) will vary with the actual ambient temperature. So, temperatures that differ from the ex-ante expectation will cause a systematic departure of load from its expected level. The further ahead the market is settled the more material this issue is likely to be.

Already, some supply-side resources that are also weather-driven face the same issue. The design of the two-sided market should avoid simply exempting end users with these characteristics (or others that make it hard to commit to a specific dispatch level of load to supply) from accountability. For example, the onus is currently on AEMO to accurately forecast the contribution of semi-scheduled plant. Such plant could instead be made accountable for its own forecasting, while still being allowed to choose to subcontract the actual forecasting back to AEMO if the plant operator considered AEMO was best placed to do so. This would create the incentive for the plant operator to seek the best forecast possible whether by developing its own capability or procuring the forecast from AEMO or a third party.

A penalty/reward regime based on the scale of departure from dispatch targets and reflecting the costs of balancing the system to compensate for such departures appear more appropriate than a binary compliance/non-compliance regime. The regime should apply to all resources.

Q4: 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?

The best ways to increase the level of participation are to: require end users to participate in bidding and dispatch where practicable for them to do so, while simultaneously making it easier and therefore cheaper to participate. Given it would be counterproductive to have too much segmentation of classes of end users by different bidding and dispatch requirements, the goal should be to “level down” where possible.

Who should participate?

Q1: 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?

Q2: The paper suggests that 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?

Q3: 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?



A more specific answer on costs and timeframes would follow from a clearer articulation of what the end state is and the transition path. Currently, market participants are devoting significant resources to implementing reforms such as five-minute settlement. They may also have to make changes for COGATI, the Wholesale DRM and an ahead market. Unlike networks, competitive market participants currently have no direct means to recover these fixed costs, although logically, over time, these costs are likely to flow through to end user prices.

Q4: Are there any other additional elements to participation that should be explored in the next phase of work?

Cost reflective network pricing is not readily available to small consumers (i.e. primarily a demand charge with smaller fixed variable charges). To incentivise small customers to respond, cost reflective pricing must be in place as the existing arrangement is less sustainable with increasing levels of small-scale DER.

Network tariffs based on time of use are less effective and are not cost reflective (it is a “soup” of wholesale pool signals and network charges which are incompatible). The current TOU tariffs are simply just another way of network cost recovery. In addition, it can be suggested that cost reflective network charges must be mandated and not left up to retailers to “sell”.

Localised marginal pricing may also assist to manage network congestion and could be extended to other services such as voltage control etc. Further, feed in tariffs present specific challenges if not aligned with the cost reflective network pricing and energy and related services. The current situation where regional prices are negative and local generation is encouraged via premium feed in prices may be undesirable.

Charging for access to the two-sided market

Q1: Do you think locational marginal pricing would encourage behaviours to help manage congestion in distribution networks? Are there other options that would be preferable?

In principle LMP is conducive to providing strong price signals. In practice, there are considerable practical barriers to implementing it. Not least is that there appears to be limited appetite amongst end users of all types to move significantly away from the current postage stamp approach where prices are determined on a regional or distribution network level.

Note that if the implied ability for customers to bypass having a retailer materialises, it will strongly limit any ability retailers have to mitigate the distributional effects of LMP.

Q2: 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?

Cost reflectivity is undoubtedly the most economically efficient way to promote efficient use of the network. This could have multiple components: time, location and type of service (e.g. connection, electricity supply, system security services). In practice the rules already specify that use of system charges should be cost reflective.

Interactions with ahead markets

Q1: Recognising the scope of design options being considered for an ahead mechanism, how significant are the interlinkages with a two-sided market?



Q2: Which form of ahead mechanism would best complement a two-sided market?

Q3: Are there any interactions between an ahead mechanism and a two-sided market that weren't identified in the chapter?

It's not clear that the potential merits of an ahead market are dependent on a two-sided market or vice versa. There appears to be some speculation that some sources of demand response may be more inclined to provide it if they can settle at an ahead price – this was a view expressed during the Voluntary Day Ahead Market rule change process - but this is yet to be proved up.

Nonetheless the primary rationales given by the ESB for developing an ahead market is to support system security. Specifically, this reflects the fact that several elements of system security (inertia, system strength, frequency control to a degree) are currently highly dependent on the proportion of synchronous plant in the supply mix. These are all supply-side resources; even if grid-forming inverter-based resources become more prevalent and are able to assist with these – or non-energy providing assets such as synchronous condensers or flywheels, these are still all likely to be at utility scale and not customer assets. So, the two-sided market in itself is not likely to be a material contributor to system security. Conversely if some form of ahead unit commitment is considered necessary for system security this is likely to be applicable under most future market scenarios.

Nonetheless, if the ESB is minded to proceed with each of two-sided market, ahead markets and LMP then the sequencing of reform should be considered carefully to minimise system change costs and to manage the interactions between them. However, there is a risk that if all these major reforms are presented as being inextricably linked and predicated upon each other to be successful then the political will to push them through will dissipate.

Incentives for reliability

Q1: 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?

It is not plausible at this stage to consider that a two-sided market will obviate the need for periodic investment in utility-scale dispatchable capacity. So, in one sense a two-sided market does not address ongoing concerns about investment for reliability, which relate to the bankability of such capacity.

It does open up an opportunity, though. One of the key reasons for the level of the market price cap (MPC) to be does calibrated in the way it currently is, is the concerns of the Reliability Panel that demand is typically unable to respond dynamically to high price signals and so the MPC must be set to limit market participants' exposure to prices that could threaten the viability of a prudent market participant. This concern could be substantially mitigated by an effective two-sided market and so the MPC could be set closer to the true value that an average consumer places on reliability.

This would in turn allow market signals to better support new investment in rarely required dispatchable capacity to meet the highest peaks of demand for dispatchability. Academic modelling has indicated that in a high renewables NEM, the MPC may need to be three to four times its current level to attract sufficient dispatchable capacity.



New risks for consumers

Q1: 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)?

Focussing only on “new risks” is likely to elicit recommendations for a new layer of regulation over and above what is already there. To maximise the benefits of a two-sided market in the long run, including innovation in services, a root-and-branch review of NECF and other regulatory protections is required to understand what is genuinely necessary in a two-sided market. Whatever is necessary should be defined in terms of what regulations are needed for the service provided, rather than regulating specific business models or service providers. It should also be defined in terms of type of customer. Large customers are better able to negotiate their own terms of service than small customers who will typically be offered standardised contracts. There may need to be some further targeted protections for vulnerable customers.