



Comments on:
“Improving User Participation in the Australian Energy Market”
A Discussion Paper from the User Participation Working Group
Ministerial Council on Energy Standing Committee of Officials
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Introduction

It is vital to improve end-user participation in energy markets. This is particularly true for electricity where the lack of intermediate energy storage means that demand-side options are of equal value to supply-side options in dealing with short-term (and long-term) constraints in supply-demand balance.

However, appropriate user-response can only occur if some essential conditions are met:

- Interval metering for all end-users, with meters that measure not only interval energy but also power factor and key indicators of availability and quality of supply.
- A standardised network charging regime and retail market design that rewards appropriate end-user behaviour in both the short and long term (i.e. both operational and investment decision-making). The retail market would be structured as ancillary service, spot and derivative markets.
- Adequately resourced support for end-user decision-making.

The first of these conditions could be met by a strategy for the mandatory rollout of interval meters that met an appropriate specification. The second could be met by adapting the NEM wholesale market design for retail market purposes and by developing a compatible network-charging regime that reflected network losses and flow constraints. The third could be met by redefining the retailer function to be an energy service or “end-use facilitator” function. Retail franchises could be retained if circumstances warranted it. It is important to note that present retail arrangements are often so dysfunctional that they are exacerbating industry outcomes, as evidenced by present subsidies to residential and small commercial air-conditioners.

The remainder of this submission responds to the specific issues raised for consultation and the discussion paper itself. Further elaboration of any of the points raised in this submission can be provided on request.

Response to Issues for Consultation

Demand Side Response Market Mechanisms:

- The discussion outlined a number of issues facing the CoAG Review ‘pay-as-bid’ proposal. What solutions might overcome these design and implementation problems? *The ‘pay-as-bid’ proposal should be dropped in favour of an alternative strategy of introducing a standardised, ancillary service, spot and derivative retail market design with enhanced end-user support mechanisms.*

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- Is there scope to consider improvements to existing mechanisms for physical market participation by end users (i.e. as scheduled or market loads)? *Rather than a piecemeal approach, adopt an alternative strategy of introducing a standardised ancillary service, spot and derivative retail market design with enhanced end-user support mechanisms. The retail market design should be fully compatible with the NEM.*
- Do stakeholders regard the aggregation facility as a viable mechanism to stimulate dispatch of otherwise untapped demand side response? *The value of aggregation is limited by difficulties associated with differing retailers and network location. It would be better to improve retail market design and then provide end-user support mechanisms in that context. This would facilitate appropriate forms of aggregation.*
- Is the suggested scope of government involvement with the aggregation facility sufficient to define an appropriate role for government? If not, what other issues warrant consideration? *The most important role for government is to provide an efficient retail market framework, including an ancillary service, spot and derivative retail market design and enhanced support mechanisms for end-users.*
- Are there any overseas demand side bidding models that can be usefully applied in the National Electricity Market? *This is unlikely, due to differences in market design.*
- What are the most appropriate mechanisms for developing and implementing an end-user education campaign to facilitate demand side commercial skills? *There is an on-going need for end-user support mechanisms – ideally, the present retailers would be replaced by energy service companies that have the primary objective of facilitating efficient end-user decision making.*
- What solutions (regulatory and other) might address the market impediments to enhance user participation? Specifically options addressing property rights, market based price signals, customer awareness, and technology. *The most important need is to provide an efficient retail market framework, including an ancillary service, spot and derivative retail market design and enhanced support mechanisms for end-users.*

Interval Meters:

- Do stakeholders support a review of the effectiveness of interval metering for large end users? What are the assessment factors and criteria that should underpin this review? *Interval meters are a facilitating mechanism that should not only record interval energy but also power factor and important measures of availability and quality of supply. The full benefit of interval metering will only be realised in the context of efficient retail market design. Governments should promote the development and implementation of an efficient ancillary service, spot and derivative retail market design and associated end-user decision-making support mechanisms. Specific support policies should be developed for disadvantaged groups.*
- What customer classes/market segments could benefit from a rollout of interval metering technology? Please state the basis for your evaluation. What lower cost metering solutions (if any) should be financially viable to achieve user participation benefits for this customer class? *All end-users would benefit from interval metering in the context of an efficient retail market design. However, implementation should be staged in an appropriate fashion with support for end-user decision-making.*
- Do stakeholders support a remote load control program specifically targeting household air conditioning use, and other technologies that could assist consumers to voluntarily manage their domestic energy use? What cost effective technologies could facilitate an effective program? *Remote load control should not be seen as a substitute for efficient retail market design. However, it should certainly be available as an option in an enhanced retail market.*
- Have stakeholders experienced a trend towards increased use of interval meters and development of cost-reflective tariffs in the retail electricity market? Are there any policy or market impediments that may prevent this trend from continuing? *The main policy impediments are the lack of a uniform retail market design, and an appropriate meter specification and rollout strategy.*

- Do stakeholders support the retention of load profiling subject to further assessment of the development of cost reflective tariffs? *Load profiling as presently implemented should be an interim measure only. However, similar concepts could be used in developing standard forward contract options for small end-users.*

Retail Pricing:

- What overarching pricing principles would be appropriate to guide regulated price setting? *Tariff design should consider tariff structure as well as price levels. The traditional model of a pre-determined energy price, perhaps coupled with fixed and demand charges, is no longer appropriate and should be replaced by an ancillary service, spot and derivative tariff structure with regulator-determined derivative contracts (forward load and price profiles and call options or load-switching agreements).*
- What methodologies do stakeholders consider appropriate for price cap review? *As indicated above, regulated tariff design needs to become more sophisticated.*
- What intermediate steps could jurisdictions take to ensure consumer price certainty and affordability without instituting price caps? *As indicated above, regulated tariff design needs to become more sophisticated.*
- What cost components need to be included in a consistent approach to setting price caps? Are existing price-setting approaches appropriate to be applied nationally? If not, what improvements can be made? *As indicated above, regulated tariff design needs to become more sophisticated.*
- What do stakeholders consider as an appropriate timeframe for periodic price cap review? *A portfolio approach to derivative contract design would provide a range of contract horizons and thus an opportunity for partial regulatory review on an annual basis, rather than the present full reset on a five-year basis.*
- What criteria are needed to developing a framework for a price cap review? For example, how do we define what constitutes effective competition? *An improved retail market design would allow energy service companies to compete for opportunities to provide real improvements in end-user outcomes given the derivative contract conditions set by regulators. Retail spot prices would flow through from the wholesale market rather than be determined by retailers.*
- What are stakeholder’s views on the establishment of an electricity price comparison website? Who should be responsible for its development and administration? What information and functionality should be included in such a website? *This website would be of little benefit unless the retail market design was improved.*

Specific comments on the discussion paper

Page	Comment
1	“SCO therefore proposes to commission further work to examine the feasibility of an aggregation facility, taking into account the results of the Energy Users’ Association of Australia’s (EUAA) demand aggregation trial”. <i>There may be some difficulties with aggregation. In particular, when an end-user buys from a retailer, the retailer is the buyer in the NEM, thus aggregation may not be appropriate except for the customers of a particular retailer. Also, geographical aggregation may blunt signals related to distribution network flow constraints. There would be less need to formally consider aggregation if retail market design and network tariffs were improved, as pricing signals and ancillary service mechanisms, along with support for end-user decision-making, would then coordinate behaviour when appropriate to do so.</i>
2	“Interval metering technology coupled with appropriate time-of-use tariffs has the potential to deliver a range of benefits to market participants.” <i>Retail market and network tariff structures plays an important role in delivering efficient outcomes. Rather than traditional pre-determined time-of-use tariffs, a pre-determined forward contract (with opportunities for renegotiation) should be combined with non-predetermined spot pricing derived from NEM spot pricing and ancillary service mechanisms as well as network flow</i>

	<i>constraints. Passing through NEM spot prices to the retail market would cause retailers to focus much more on assisting end-users to respond to those prices and otherwise manage risks associated with high spot prices. This would assist the transition from retailer to energy service company or demand-side facilitator.</i>
2	<i>“A wide scale mandatory rollout of interval metering across all customer classes may be premature at this stage of market development” Interval meters should be phased in via a new and replacement policy. It may be possible to justify a faster rollout under some circumstances. Also, interval meters should record power factor and important indicators of supply availability and quality, which can be done at very low additional cost. This additional information would support the measurement of ancillary service delivery and facilitate end-user participation in the provision of ancillary services.</i>
2	<i>“SCO considers that a robust assessment framework is needed to underpin periodic review of the need for ongoing retail price regulation where full retail competition has been introduced” The approach to implementing full retail competition should be re-thought. In particular, competition should occur within a specified retail market design that is compatible with the design of the NEM spot and derivative markets and ancillary service arrangements. Retailers should evolve towards functioning as end-user facilitators rather than wholesale/retail market intermediaries. As discussed above, this transition would be promoted by passing through NEM spot prices to end-users as well as network tariffs that signalled times of network flow constraint.</i>
5	<i>“For example, end users require timely and accurate price signals to stimulate consideration of demand side response.” This is the heart of the issue. Timely and accurate price signals should be presented in the form of network tariffs, and ancillary service, spot and derivative tariff structures that are specified as part of a retail market design process.</i>
6	<i>“Yet these amounts are often not considered reliable or firm and are generally not of sufficient magnitude to impact on energy spot prices.” Accurate price signals are important in their own right regardless of whether end-users respond (providing that the tariff structure is correctly designed and price signals are efficient, it should be left to end-users and their advisers to decide whether it is cost-effective to respond). ‘Reliable or firm’ implies guaranteed demand-side response, which should probably be categorised as an ancillary service rather than a market process. Ancillary services should be discussed separately from the issue of efficient pricing.</i>
9	<i>“the free-rider issue minimises incentives for participation as response providers may only capture between five-ten percent of the value of their response”. There are risks in this argument, which relate to the distinction between a ‘price-taker’ and a ‘price-maker’. The idea that a group of demand side participants cooperate to force down market price might be regarded as a form of collusion. Thus the impact on price is not the key issue, rather it is correct presentation of price information to end-users along with mechanisms to manage the associated price risks.</i>
9	<i>“the day-ahead market performs a hedging function”. The day-ahead market can be thought of as a derivative market in the context of the NEM. The original version of the National Electricity Code sent to the ACCC for authorisation included a day-ahead derivative market and it can be argued that it was deleted (at the request of the ACCC) for the wrong reasons. Consideration should be given to reinstating a compulsory short-term forward market in the NEM.</i>
10	<i>“The returns to providers of contingency reserve are considerably larger than for the economic response programs”. Contingency reserve is better thought of as an ancillary service than a market-based process because a guaranteed response is required. It should be considered separately.</i>
10	<i>“SCO is not proposing to undertake additional work to investigate the feasibility of a pay-as-bid mechanism”. A pay-as-bid mechanism would not be compatible with the NEM design nor with economic efficiency considerations. Retail electricity markets should be</i>

	<i>formally designed to be compatible with the NEM design, implying a spot and derivative tariff structure. This would allow participating end-users to capture appropriate benefits for responding to spot price signals.</i>
10	<i>“SCO considers the concept of delivering improved demand side response via a secondary financial market mechanism, such as a third party aggregator, is worth pursuing”. It would be better for the SCO to consider the question of formal retail market design.</i>
11	<i>“SCO recognises that end users must be equipped with the skills and opportunities to understand and engage in demand side response activities.” This should occur in parallel with formal retail market design.</i>
11	<i>“It will be important to integrate this work in regard to the use of embedded generation assets in demand response strategies.” The introduction of a formally designed retail market would facilitate investment in cost-effective embedded generation. The issue of reliability and quality of supply should be considered at the same time, including the question of liability for poor availability and quality of supply, which is in itself an important barrier to consideration of the appropriate role for embedded generation.</i>
12	<i>“...the fact that small consumers are relatively unresponsive to a change in price (i.e. inelastic demand.” This claim has not been adequately tested because the opportunity has yet to be presented to end-users in an appropriate fashion. There is evidence that they can respond in programs such as the 20/20 program conducted in California.</i>
12	<i>“The introduction of interval meters for small consumers, particularly the domestic market, is less developed and has not yet progressed across the NEM.” Interval meters are particularly important for small end-users because of distribution network issues and in particular the lack of local diversity for loads such as air conditioners and, in some cases, poor load power factor. Interval meters should record power factor and important indicators of supply availability and quality as well as interval energy, which can be done at very low additional cost.</i>
13	<i>“...the difficulties consumers have in responding to complex price offers including a lack of understanding of demand management and the benefits of different price structures”. Retail market and network tariff designs should be standardised and end-user support provided to deliver the benefits possible from interval metering.</i>
13	<i>“...the potential negative economic and social impacts of an interval meter roll-out and the methodological assumptions of the cost-benefit analysis”. Concerns about impacts on disadvantaged end-users are legitimate but should be balanced against the negative economic and social impacts that arise from not introducing interval metering. The issue of the cost of the meter should be separated from the issue of what it is used for and appropriate assurances on data privacy should be given. “For example, the ESC has estimated that the cross-subsidies between those domestic consumers that do not have air-conditioning and those that do, could be as much as \$200 per annum per consumer” (page 15). Thus there is evidence that those that do not have air conditioners are subsidising those that do.</i>
13	<i>“...the full benefits of interval metering would only be harnessed if both distribution and retail charges were based on time-of-use data and the wholesale electricity market settled on the basis of this information”. Agree but there is a further requirement. A standardised ancillary service, spot and derivative retail tariff design is needed to support both short and long-term decision-making.</i>
13	<i>“gains achieved by an interval meter roll-out to all consumers would be minimal” This view has been made obsolete by the growing penetration of residential air conditioning, which is now a major driver for investment in networks and peaking generation capacity. Greater reliance on wind energy or other time-varying renewable energy resources would further increase the value of interval meters.</i>
14	<i>“a reduction in peak demand could also be achieved through the introduction of low cost,</i>

	automated load management equipment”. <i>A correctly designed network tariff and ancillary service, spot and derivative retail tariff design would support a range of automated response options including direct load control.</i>
15	“An alternative to interval metering tariffs, are seasonally based tariffs”. <i>Pre-determined TOU tariffs (daily, weekly, seasonal, etc) would not be an economically efficient alternative to a coherently designed retail market framework including ancillary services, spot and derivative tariffs.</i>
15	“SCO is concerned that the full benefits from existing interval meter stock in the NEM may not have been realised”. <i>An interval meter is an enabling technology, not an end in itself. A standardised network tariff and ancillary service, spot and derivative retail tariff design, along with measurement of power factor and key indicators of availability and quality of supply, is required to deliver the full benefits of interval metering.</i>
16	“Benefits for the small domestic user may instead be achieved through the application of low cost metering solutions, such as those equipped to deal with broad time-of-use tariff structures”. <i>Broad time-of-use tariff structures would not be economically efficient in the context of continued adoption of air conditioning and the introduction of time-varying renewable energy generation.</i>
16	“Despite this emerging trend, SCO is seeking comment as to whether there are particular policy or market impediments that are preventing the market continuing to develop in this way”. <i>The retail market should be formally designed to be compatible to the NEM. This would result in standardised ancillary service, spot and forward tariff structures, which would in turn facilitate the development of appropriate automated response options. Network charges should be enhanced in a similar fashion.</i>
17	“in the absence of fully effective retail competition, regulated energy pricing should seek to balance the provision of commercial viability for retailers with consumer protection goals” <i>Regulation of network charges and retail markets may always be required. With appropriate network charges and retail market designs, effective retailers should be commercially viable as energy service companies.</i>
17	“...regulated energy price setting has the potential to conflict with, and impede efficient market outcomes if prices are not set at cost reflective levels”. <i>The problem is not so much regulation per se, as inefficient retail tariff structures. The traditional approach of a regulated price regardless of timing or volume of consumption is not economically efficient and no longer appropriate with the introduction of large, varying loads such as residential air conditioning. Regulation would be more efficient in the context of standardised network charges and an ancillary service, spot and forward retail market design.</i>
18	“Electricity retailing methodologies aggregate four key cost components in setting retail tariff levels” <i>This is not the way to design efficient tariff structures. Note also that Government imposed hedging arrangements such as NSW ETEF can have distortionary impacts on retailer behaviour such as encouraging them to sell air-conditioners.</i>
19	“Deregulation promises to yield greater benefits for the consumer” <i>This cannot be taken for granted as indicated by the experience in California.</i>
19	“The progressive introduction of full retail contestability has the potential to accelerate the emergence of innovative and flexible demand side products” <i>Such innovation would only be beneficial if it were to be based on efficient network charges and retail market design.</i>