Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

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20th January 2016

Distribution Market Model Approach paper

The Australian Energy Council (the Energy Council) welcomes the opportunity to make a submission to the Australian Energy Market Commission's (the Commission) on the Distribution Market Model (DMM) Approach paper (the Approach Paper).

The Energy Council is the industry body representing 21 electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia and sell gas and electricity to over 10 million homes and businesses.

The Commission's initiative to canvass stakeholder views on this topic is timely. At the time the National Electricity Rules were developed the supply chain was entirely characterised as a market whereby a one-way flow of electricity from large, centralised generators was transported through the transmission and distribution systems to be consumed by the end user. The conventional market model is predicated on electricity generated at a wholesale level with transmission and distribution networks controlling the conveyance through their respective networks to end users.

However, technological, regulatory and commercial developments are now challenging how this model operates. Distributed energy resources (DER) have grown significantly. With the considerable uptake of distributed energy resources such as solar PV expected to increase and investment in storage assets such as batteries and electric vehicles becoming economically viable it is highly unlikely that the conventional market model described above will remain in its existing form long-term.

The Energy Council supports the guiding principles proposed by the Commission on customer choice, competition, technology neutrality and its intention to take a broad view of potential solutions to the opportunities and challenges presented by increasing penetrations of DER.

Given a distribution network service provider's (DNSPs) monopoly status, its primary role should be to provide an open-access, neutral grid platform that facilitates transactive energy flows. We recognise that DNSPs will have an interest in procuring network support services from DER owners, but there is likely to be a need to regulate their procurement of network support services, given the market power they have as monopsony buyers of network support services in each of their own distribution service areas. DNSPs should continue to provide access to the distribution system on an open access basis continuing their current role as asset owners and operators. Networks will continue to have an important role in enabling the physical transfer of electrons necessary to settle such markets in a safe and secure manner.

To the extent that mechanisms such as trading platforms to facilitate the exchange of network services emerge, this does not require that DNSPs are the operators of these market platforms.

Defining DER

The Energy Council notes that the Commission proposes to limit the project to a consideration of DER that is co-located with consumer load. However, grid-connected distributed generation and DER may also have a material impact on the operation of the distribution system and thus its role and system interactions should also be considered through this review.

Level 14, 50 Market Street
Melbourne 3000
GPO Box 1823 Melbourne Victoria 3001

P +61 3 9205 3100
E info@energycouncil.com.au
W energycouncil.com.au

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The Commission has also excluded equipment that operates passively because these are limited in their ability to promote efficient co-ordination across all elements of the supply chain. However, it should be noted that behind a connection point, there may be a combination of 'smart' and 'passive' elements that in combination produces an interaction with the grid that is intelligent and controlled. This can conceptually be viewed as a behind-the-meter system interacting with the distribution system. The Energy Council submits that the Commission's review should be broad enough to include this kind of configuration as DER.

The Commission may also wish to give some thought to the future opportunities that owners of passive equipment may have to render them "smart". As the market develops and price signals for the value of smart equipment become more widespread, there will be incentives to convert passive equipment.

We recognise the value of the implicit assumption in the Commission's definition that counterparties are likely to specifically value "firm" DER, and load control is an obvious way of delivering this firmness. We would note that financial "firmness" via contractual obligations may provide a viable alternative to load control.

Defining the Distribution market

In considering the market for DER services, it is useful to consider all services that may be provided, even if the Commission has no expectation at this stage that all such services will require consideration of additional regulation (indeed some may benefit from deregulatory reforms). Firstly, DER may be used to supply energy (i.e. kWhs). In principle this could occur via aggregated participation in existing wholesale markets. There are already aggregation rules for mid-sized embedded generators, and retailers essentially function as aggregators. Ancillary services could potentially be provided to the wholesale market in the same way. Alternatively a market for energy supply from DER could occur via peer-to-peer trading, facilitated by a retailer or by a third party market-maker. This may entail the creation of new trading platforms. There appears no compelling reason at this stage for the NER to mandate a single trading platform to be run by a designated operator, or to intervene in other ways, given that there will be multiple buyers and sellers of these services. Other peer-to-peer services may also emerge in this way. Such services may not require load control to be effective.

Secondly, there is a class of services that may be of value to DNSPs, i.e. network support services, which may include network demand response, local voltage control and so on. As set out in the Energy Council's rule change proposal on network contestability[1], we consider there are a range of amendments to the rules that would assist in the effective procurement of such services by maximizing the competitive supply of such services through ensuring a level playing field

Assessment Framework for Assessing Different Market Designs

The Energy Council supports the Commission's proposed market design principles which promote the efficiency of electricity supply in the long-term interests of consumers which include:

- Consumer choice should drive the development of the sector;
- Promoting competition where feasible;
- Regulation to address market failure, only when a clear market failure exists, and the benefit from regulation exceeds the impact from the market failure;
- Regulate to safeguard the security and reliability of energy;
- Promotes price signals that encourage efficient investment;
- Ensures technological neutrality; and
- Promotes simplicity and transparency.

We offer some further thoughts on these principles below.

Consumer choice is at the heart of the emergence of a viable DMM. As noted above, there are multiple services that may be provided by DER and ideally the market will co-optimise the value of these services. The best way

[1] *Amendments to Chapters 5, 6, 6A and 7 of the National Electricity Rules*
In the implementation of Demand Response and Network Support Services, letter to John Pierce, 13 October 2016

for this to happen is to start from the recognition that the *customer* is the owner of their load and of any other DER behind their meter. They have the right to "sell" control of DER to the party/parties that value it most. In practice most customers are likely to do so via an agent, such as their retailer. In this paradigm it can be seen that static legacy systems such as off peak timed hot water that are currently under the control of DNSPs will ultimately need to be unwound, although this may not be the initial priority.

Competitive markets are best placed to facilitate the advancement of customer preferences and to encourage innovation around products and services and the development of new technologies. We therefore endorse the Commission's statement that "*without consumer choice, there is no way for these preferences to be revealed and no way for the market to act on this knowledge. A market with consumer choice therefore promotes innovation and efficiency."*[2]

Consumers benefit where they have access to competitive markets. Competitive markets develop and thrive where participants are able to compete on an equal footing in the provision of products and services. In order to achieve this, the concept of competitive neutrality is paramount. Ring-fencing and other regulatory tools should be designed ensure no regulatory advantage (economic or legislative) is bestowed on any market participant.

Competitive markets flourish best under a suite of supporting general legislation and regulation that facilitate contracting between parties, trust between market participants, respect for property rights and so on. The case for further industry-specific regulation is typically less clear. While we agree that appropriate regulation can enhance competition by addressing market failure, care must be taken to only do so when it is clear that such intervention will efficiently address an identified market failure, resulting in delivered benefits for the market & consumers.

Similarly, attributes such as simplicity and transparency are not ends in themselves, but they may be effective means to the overall end of supporting effective choice and competition. In particular, in the case where both parties to a transaction are knowledgeable and sophisticated, they may legitimately choose complexity and opacity (in the sense of maintain confidentiality of the transaction between themselves.

Technical Impacts of DER

The Commission has identified a number of key technical impacts that an increased uptake of DER can have on a distribution system that it will consider when assessing different market design models. The key technical impacts include market stability, frequency stability, harmonics, flicker, power factor, thermal overload equipment, islanding and reclosing and protection. Although the Energy Council agrees with the Commission's potential technical impacts the approach is incomplete without the consideration of passive distributed generation which will also experience such impacts. Part of the overall market for providing power system security services would be exposing all distributed generator owners to costs they impose on the system.

The Role of the Distribution Network

Given a network's monopoly status, its primary role should be to provide an open-access, neutral grid platform that facilitates transactive energy flows. This should not prevent a network from sourcing DER or other services for the purposes of network optimisation, however, given that the regulatory framework requires that customers pay for the costs of these services, it is imperative that these services are acquired at least cost over the long term. Prima facie, this is most likely to occur under a competitive market for supply of these services.

Where DER can be used to provide network services or network support (including from a behind-the-meter installation), that these services are procured from a third party or ring-fenced business operating in the competitive market, rather than provided by the DNSP itself. This framework is most likely to maximise both customer choice and economic benefit by promoting the most efficient investment in DER. In practice, much

[2] AEMC, 2016, Distribution Market Model Approach paper

of the interaction between networks and DER is likely to be managed on the customer side by their retailer (or other aggregator).

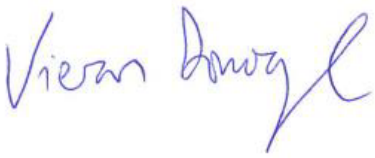
Next Steps

The continued uptake of DER will present a number of key challenges around how the market(s) will operate in practice; who should assume responsibility for its/their management and coordination; and what rules and regulations need to be in place to support its/their operation. A number of policy agencies and industry bodies have commenced projects to identify their preferred market design models to accommodate DER.

The Commissions' Approach Paper is a useful addition to these. We request that should the Commission set out a range of possible distribution proposals that it seek further stakeholder consultation before making a final decision.

Any questions about our submission should be addressed to Panos Priftakis, Policy Adviser by email to panos.priftakis@energycouncil.com.au or by telephone on (03) 9205 3115.

Yours sincerely,



Kieran Donoghue
General Manager, Policy & Research
Australian Energy Council