

19 January 2017

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Dear Claire

APPROACH PAPER: DISTRIBUTION MARKET MODEL

AusNet Services welcomes the opportunity to make this submission to the Australian Energy Market Commission's Approach Paper on the Distribution Market Model. AusNet Services is a leader in distribution network transformation and has undertaken one of the most comprehensive programs of innovation work around distributed energy resources.

The possibilities for distributed energy resources are a key part of the bigger transformation that is underway in Australia's electricity sector. Changes to distribution market design and regulatory arrangements will be important for empowering customers to take up new services and take greater control of their energy future. Increased use of distributed energy resources and a well-functioning distribution market will have lifestyle benefits as well as aiding Australia's economic wellbeing.

AusNet Services has been pleased to support the joint Energy Networks Australia-CSIRO project, the Electricity Network Transformation Roadmap (the Roadmap), which sets out a comprehensive set of actions that will maximise the benefits to the community of the changes that are underway in Australia's energy system. The Roadmap demonstrates the benefits that can be achieved through a set of timely 'no regrets' reforms, and shows that delay in some key areas will be costly and lead to benefits being shared unfairly.

Energy Networks Australia's submission on the Distribution Market Model Approach Paper, which AusNet Services recommends to the Commission, sets out a guide to the Roadmap milestones relevant to the project, including highlighting the intersection between issues of distribution market development with broader electricity sector transformation. In some areas, the Commission's proposed scope is too narrow, or, at least, consideration is needed of how the distribution market is integrated with the broader electricity system.

This submission focuses primarily on the assessment framework that the Commission will apply to future proposals for distribution market and regulatory reforms. Three areas additional to those suggested by the Commission are highlighted as warranting consideration:

- Achieving the best outcome for all consumers;
- Making the transition work, not just the final destination; and
- Acknowledging key differences between transmission networks and the distribution networks of the future.

Further detail on each of these elements is provided in the attachment. Please contact me on 03 9695 6622 with any inquiries. In particular, AusNet Services would welcome the opportunity to meet with the review team, including to discuss our experience with the technical impacts of distributed energy resources.

Sincerely,

A handwritten signature in blue ink, appearing to read 'K Yates', is written over a light grey rectangular background.

Katie Yates
Energy Policy Manager
AusNet Services

The Approach Paper sets out two ambitions for the Australian Energy Market Commission's (AEMC or Commission) Distribution Market Model project:

1. To develop an assessment framework to apply to future rule changes; and,
2. To develop an options paper for future distribution market models with advantages and disadvantages.

This submission is focussed primarily on the assessment framework question.

Options paper

While an options paper can usefully explore potential paths along which electricity networks and services may develop (e.g. to consider the implications of current or proposed regulatory settings), there are risks if the process leads to picking a 'best option' based on anticipating what is thought today to be the most likely scenario. The very nature of the period of transition currently being experienced in the energy sector, and the underlying premise for why a review of the distribution market model is needed, is that there is uncertainty about what can be achieved and a desire for a fair competition of ideas to determine the model or models of future energy services that will prevail.

This is recognised in one of the five limbs of the AEMC's proposed assessment framework, that 'particular technologies or business models should not be biased over others'.

To that end, the options paper should place a high weight on policies and regulatory approaches that provide 'options value'. This has been the approach of the Energy Networks Australia (ENA)-CSIRO Electricity Network Transformation Roadmap (the Roadmap), which identifies a series of 'no regrets' milestones that do not prescribe a given development path for electricity markets, but which nevertheless maximise the benefits to all energy customers from the transformation that the sector is undergoing.

Although details of individual projects are not included in this submission, AusNet Services has extensive experience with distributed energy resources (DER) and is happy to meet with Commission staff to discuss our experience and findings. The following projects and achievements may be relevant to the Commission's work on this review. AusNet Services has:

- Validated Low Voltage load flow modelling against real world data in order to support modelling of local DER impacts;
- Completed a residential battery storage and solar trial;
- Undertaken a grid scale battery storage trial;
- Participated in an electric vehicle trial, one of the very few to test a working vehicle-to-grid prototype;
- Initiated a mini grid project based on solar, battery storage and advanced control system within an existing community, with the aim of testing a comprehensive distribution system operator (DSO) function;
- Been an industry leader in establishing a portfolio of commercial and industrial customer demand management contracts, based on internally developed analytics tools; and
- Operationalised the ability to detect problems in customer solar power systems and to notify customers.

Assessment framework

The Approach Paper's five proposed aspects for consideration in assessing changes to the electricity distribution market or regulatory design provide a strong starting point for the assessment framework.

AusNet Services sees three additional themes as important to promoting the best outcomes for customers through the energy sector transition:

- Consideration of the best outcomes for all consumers;
- Focus on making the transition work, not just the final destination; and
- Acknowledging key differences between transmission networks and distribution networks of the future (with high volumes of DER and a distribution system operator).

The best outcomes for all consumers

The approach paper proposes both that:

- *consumer choice should drive the development of the sector; and*
- *competition should be promoted to the extent possible.*

In many instances these principles will ensure the development of energy markets that serve the long term interest of customers, and that the developments that occur are those that provide the greatest overall value across all customers. However, the addition of a principle to 'promote the best outcomes for all consumers' would ensure this objective is recognised in instances where customer choice and competition cannot be expected to deliver outcomes in all customers interests.

To illustrate why this principle is beneficial, consider the following examples of ways that customer choice and competition could fail to deliver outcomes that are best from a whole-of-community perspective:

- Imperfect price signals see some parties benefit by transferring costs to others rather than through the creation of additional value.
- A new service is best suited to a single provider (i.e. natural monopoly).
- Protection of community service obligations and other policy objectives.
- Promotion of innovation through collaboration.

Price signals – Tariff reform will be critical to maximising the community benefits of DER. Price structures that are largely volumetric (i.e. most existing electricity tariffs) do not provide sufficient reward to owners of DER for behaviour that lowers costs to all customers. Conversely, they provide insufficient penalty for behaviour that imposes additional costs on all customers. This is acknowledged in the approach paper:

"The Commission considers that consumer choices should continue to drive the development of the energy sector, but that market design and regulatory frameworks may need to be modified to better align individual decisions with the long-term interests of consumers more generally."

Promoting tariff reform across the National Electricity Market (NEM) is central to delivering the best outcomes from electricity system transformation. However, there are real-world hurdles to implementing tariff reform. Where limits are placed on network businesses in relation to tariff reform, regulatory frameworks should allow for alternative approaches to ensuring general consumer interests are promoted.

Natural monopoly – some services have network or other economic characteristics that mean the efficiencies of a single (regulated) provider will outweigh the benefits of competition. Historically this has been the case for distribution networks. Markets do not always provide the most efficient services or the services with the greatest economic value, and the Commission’s assessment framework should not preclude the development of new monopoly services which provide significant value to customers.

Community service obligations and other policy objectives – The history of the development of electricity networks and the nature of electricity as an essential service has meant that electricity distribution networks are used as a tool for delivering social policy. For instance, the principle of universal access to the electricity market is achieved through obligations on distribution network service providers with respect to customer connections, and limitations on location-based pricing. Obligations also enshrine minimum reliability standards, and arrangements for life-support customers. More recently, distribution charges have been used to fund incentives for the installation of solar PV.

The model for achieving public policy objectives may need to change as the Distribution Market Model develops, particularly if network delivered energy services shrink as a share of the overall electricity services market. Consideration of the ways in which developments in electricity distribution markets affect the delivery of community services or policy outcomes that are currently achieved through regulation of distribution network service providers must occur as part of any reforms to the distribution market model. Failure to do so will increase the risk of abrupt removal of various social policy measures, which could lead to undesirable political intervention.

Collaborative innovation – Opportunities for development of the distribution market will come from innovation in technology and in business models. Like other sectors of the economy, innovation can also be expected from collaboration between parties in different parts of the electricity supply chain. Regulatory frameworks will influence the degree of collaboration that is possible or likely. Where limits are placed on regulated parties in order to promote competition, consideration should be given to what incentives exist to encourage collaboration with new services providers or to facilitate the entry of new service providers.

Making the transition work

Transition issues are likely to be important to the evolution of electricity distribution markets. This is a key message of the ENA submission, which identifies that the transformation of the energy system is likely to happen in progressive stages.

From an innovation and change perspective it is desirable to allow considerable flexibility for parties to trial and test new service models and technologies. While it may be too soon to implement a new NEM-wide regulatory framework or market model, or to remove some of the existing service obligations and customer protections, there may be benefits to an exemption framework or some other arrangement that allows different ideas to be assessed. A flexible approach would also make the system more resilient to the increasing pace of change in the sector.

Another side to the transition period is dealing with markets that are immature. It is important not to introduce regulatory arrangements that rely on greater capability from new services than has been achieved by those markets. For example, DER is already being used to provide network support, but some of the network support services that it is envisaged that DER will be able to provide are still largely theoretical (e.g. aggregated dynamic response from small customers). There is incomplete understanding of how economic and technically capable different forms of DER are in

their ability to provide network support when it is needed. Network's requirements are also location-specific, and we cannot presume that DER can be procured to manage all network constraints. Regulation needs to reflect the real world reality of the state of DER markets, while also supporting those markets to develop and become ever more reliable.

As noted above, implementing effective tariff reform has been difficult. Ensuring regulatory frameworks can facilitate a staged transition to more efficient pricing is important. Tariff reform is an early example of a challenge that is likely to recur in multiple areas – reform from current state to an ideal state cannot occur in one step, a series of smaller steps will be required.

Differences between future distribution networks and transmission networks

There are limitations to the AEMC's analogy between future distribution markets and current transmission markets that alter the policy issues involved and will need to be addressed separately for electricity distribution.

Metering data, which has potential value to multiple markets (not just to energy service providers), is a key attribute of distribution networks that does not have an analogue in transmission. Data (or information) has some unique economic characteristics, which will need to be considered in future reforms to the Distribution Market Model.

More broadly, the direct relationship to residential customers in distribution networks completely changes the policy implications of different options for market arrangements. This may be particularly the case when considering rights or obligations applying to generators on the transmission network. From a technical perspective the numbers involved for distribution regarding data, assets and connections are orders of magnitude greater than for transmission, while technical designs are highly standardised rather than customised.