Victoria Mollard
Director
Australian Energy Market Commission

19 January 2017

Dear Victoria

Cambridge Economic Policy Associates (CEPA) welcomes the opportunity to make a submission in response to the Australian Energy Market Commission's (AEMC's or Commission's) consultation on its 'Distribution Market Model' project.

CEPA is an economic consultancy with offices in Sydney, Australia, and London, UK. We are very interested in the evolution of distribution network services providers (DNSPs) and the regulatory framework to assist this. Of particular relevance to this topic, we have worked with Energy Networks Australia[1] and CSIRO on their 'Electricity Network Transformation Roadmap', the Office of Gas and Electricity Markets (Ofgem) on its 'Electricity System Flexibility' project, and separately advised a distribution network operator in the UK.

Energy markets are evolving rapidly, and there are features of the current regulatory framework that need to evolve to ensure that it is fit for purpose. We are therefore in support of this initiative by the AEMC to consider what types of change would be consistent with the evolution of the market and be in the long-term interests of consumers. We have set out specific responses to the AEMC's consultation questions in Annex A, however there are two general points that we wish to make upfront.

Firstly, the AEMC is faced with a chicken and egg situation with respect to regulatory framework and market design, namely who carries out what functions. Broadly, the roles of a DNSP could be considered to be:

- network asset owner and operator;
- system operator; and
- providing (future) market services.[2]

The exact scope (and definition) of these roles are evolving and can vary across institutions, however it is clear from experiences in transmission that a delineation across these roles is

[1] Formerly known as Energy Networks Association.
[2] See CEPA, *Future regulatory options for electricity networks,* A report prepared for the Energy Networks Association and CSIRO, August 2016, pages 28-29.

achievable. In future, a DNSP could carry out some or all of these roles, and the regulatory framework will determine which. This will in turn directly impact the market design and other characteristics of the regulatory framework.

As the AEMC says "distribution network businesses [may need] to move from being asset owners and operators to being providers of market platforms … or for other parties to take on this role." [3] The key, as the AEMC allude to on page 16, is for a DNSP and/ or a system operator to be able to send signals in to a market to procure network related services to achieve long-term benefits for consumers. The costs and benefits of the range of options for organising the market for these services need to be assessed. We believe it would assist stakeholders if the AEMC were to provide a clearer definition of what its 'market design framework' covers, a delineation, and definition, of the roles a DNSP could have in the future, and the roles of other organisations in this area.

Secondly, the framing of the consultation paper and the AEMC's specific definitions for distributed energy resources (DER) and distributed generation (DG) indicate that its market design is focused on solving short-term balancing issues. We consider that a new market design could also facilitate better integration of DER for medium- and long-term solutions. In addition, in our view, the focus could be widened beyond the AEMC's definitions of DER and DG to allow for other services to be considered in the market design, such as demand response or non-smart DER and DG. The increased use of demand response, which does not fit the AEMC's current definitions, can result from better availability of data via new information technology systems.

We would be delighted to discuss these issues with the AEMC.

Yours sincerely,

Jonathan Mirrlees-Black

Director

Joel Cook

Principal

[3] AEMC, *Distribution Market Model – Approach paper,* December 2016, page i.

## ANNEX A RESPONSES TO SPECIFIC QUESTIONS

### Question 1

*Do stakeholders agree with these definitions, or have any views on the project scope as a result of these definitions?*

As we have noted above, it appears to us that the AEMC's chosen definitions narrow the scope of the project before due consideration is given to all the changes influencing the evolution of DNSPs. The AEMC's consultation paper's definitions for DER and DG focus on a short-term system operator balancing role rather than using market price signals via a platform for medium to longer term planning purposes. We note that DER in any form, smart or otherwise, requires DNSPs to take a more active role in their networks. While actively controlled DER or DG is a necessary condition for a market of services at the distribution level to be formed, the proportion of DER and DG that is smart does not necessarily affect the need for DNSPs to evolve.

Also, the AEMC says that "with the right incentives from market mechanisms, it will become worthwhile to make passive energy equipment 'smart'" we note that this will depend on consumer responses to the cost (including retrofitting existing equipment with smart functionality) and benefits of doing so. Some 'non-smart' DER may not need to achieve the AEMC's definition of 'smart' to fulfil a role in future distribution market model.

In addition, we are of the view that the AEMC's use of the term 'automatically' may lead to specific connotations for the energy equipment and services that are in scope. Specifically, in suggests that the equipment will respond without intervention. We suggest that the AEMC could use 'actively' instead of 'automatically' to refer to DER that are included in the project's scope. In our view, this better aligns with consumers choosing how they, and their energy equipment, respond to signals (price or otherwise).

As a minor modification, we also suggest that smart DER and DG could be referred as 'SDER' and 'SDG' (or similar), to avoid confusion with the more common usage of the terms DER and DG, which refer to any energy resources and generation connected to a distribution network.

### Question 2

*Do stakeholders support this project scope? Is there anything that has not been flagged for consideration that should be? Is there anything that should be excluded from the project scope?*

We support the project scope. We agree with the AEMC that the interaction between any market that might be formed at the distribution level and existing or new markets at the transmission level is a critical part of the review.

As noted in the AEMC's final report on the integration of energy storage, DER may be able to generate multiple value streams from different markets (for example, storage may be able to

offer network support services, dispatch energy into the wholesale market, and/ or be used to optimise consumer load against time-of-use tariffs).[4] Therefore, DER may receive price signals from competing uses, which would need to be considered in the distribution market design.

### Question 3

*Are there any other elements of a DNSP's role or current responsibilities that should be considered?*

The collection and sharing of data will be a key aspect of any market framework design, and thus should be considered as part of the project scope. For instance, if a central control institution were put in place it would need data from the DNSPs to be able to carry out its role effectively.

### Question 4

*Are there any aspects of the regulatory framework that are not set out in sections 2.3 and 2.4 but which should be considered through this project?*

As noted in our broad response above, we consider that demand side response and the role of aggregators should also be included in the regulatory and market framework aspects that are considered. The data provision requirements placed on different operators should also be in scope.

### Question 5

*Should the coordination of distribution systems with distributed energy resources be centralised under the direct control of one body? Or should it be devolved and performed in a tiered manner?*

This is a complex question and a full options analysis is required to be able to decide on what arrangements would be most appropriate. In particular, the decision is dependent on whether the system operator would be separate from the network asset owner and/ or the market operator. In addition, it may also be the case that different aggregation options might be applicable across the NEM e.g., a central system operator might an effective solution for NSW, but independent system operators might be more appropriate for Queensland.

The questions that would need to be considered include:

- Should the role of system operator be separate from the network asset owner?
- Should the role of market operator be separate?

[4] AEMC, *Integration of Energy Storage*, December 2015, page iii.

- Are the challenges and opportunities sufficiently complex that they are best dealt with at the local level?
- How will distribution system operators' price signals be reconciled with wholesale (transmission level) market signals?
- Can a single central system operator be incentivised to meet customers' needs?
- Would there be a single market operator, that provided localised markets, or separate market operators feeding information to each other?
- What transaction and other costs, and efficiencies or inefficiencies are created from the different arrangements?

### Question 6

*Do stakeholders agree with the Commission's framework and these principles of good market design? Is there anything that the Commission has missed, or is unnecessary?*

We broadly agree with the AEMC's market design principles; however, more details on the framework for assessing the opportunities and challenges (presumably including those listed in Section 4.9) from increased DER is required. The section, as currently set out by the AEMC, focuses solely on the assessment of the market design.

Separately we have the following points:

- In our view the principles of 'promoting price signals' and 'simplicity and transparency' mean that a separate principle of 'facilitating consumer choice' is not required. The two former principles would achieve the AEMC goal of promoting consumer choice.
- We strongly believe that Principle 2 should be '**Promote competition when it is in the long-term interests of consumers**', not 'where feasible'.
- We suggest that Principle 3 be expanded to include text along the lines of: the market design should allow for effective incentives to be placed on regulated businesses to deliver services customers value in an efficient way. This helps to evaluate market design options where it may be difficult to incentivise a natural monopoly, for example in a case where the business is 'asset light'.

We would also suggest that the 'facilitate effective consumer choice' principle does not explicitly promote innovation and efficiency. While this may be a by-product, it is not a necessary condition arising from this principle. Consumers may well choose to exercise their prerogative to 'do nothing'.

As an aside, it is important that stakeholders are made aware that New York has a fundamentally different regulatory structure from Australia, particularly that it allows for vertically integrated distribution operators. Therefore, while REV certainly provides useful concepts, its relevance to the NEM must be put in the context of the underlying regimes. Other jurisdictions, with regimes more closely aligned to Australia, are also considering the

same issues as the AEMC. These include: Ofgem, and its 'Electricity System Flexibility' project; the Agency for the Cooperation of Energy Regulators (ACER) and its 'Bridge to 2025' work; and the Council of European Energy Regulators (CEER) work on the 'Future role of DSOs'.

### Question 7

*Are there any other issues the Commission should have regard to in considering possible market design options?*

As noted above, the decision around the integration or separation of roles will have a direct impact on the market design options. In addition, the AEMC should have regard to how the distribution networks are integrated with the transmission network.

### Question 8

*Do stakeholders agree with the Commission's assessment of the technical impacts of distributed energy resources set out above in sections 4.1 to 4.8?*

No comments.

### Question 9

*Do Stakeholders agree with the Commission's preliminary assessment of these opportunities, and possible solutions to address the technical impacts of distributed energy resources?*

We consider that the ability of DER to offset future network reinforcement would be a key opportunity. This may well be facilitated by a market at the distribution level that allows distribution system operators to better access the available resources.

### Question 10

*Do stakeholders have any initial views on who should be responsible for managing these opportunities, or implementing possible solutions to the technical impacts?*

Please see out response to Question 5.