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Energy Transformation Implementation Unit
Locked Bag 11
Cloisters Square
Perth WA 6850

Submitted by graham.pearson@energycouncil.com.au to energytransformation@energy.wa.gov.au

Issues Paper - DER Roadmap: Distributed Energy Resources Orchestration Roles and Responsibilities

The Australian Energy Council (the “**AEC**”) welcomes the opportunity to make a submission to the Energy Transformation Implementation Unit (“**ETIU**”) on the Issues Paper - DER Roadmap: Distributed Energy Resources Orchestration Roles and Responsibilities (the “**DER Orchestration Issues Paper**”).

The AEC is the industry body representing 22 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 AEC welcomes the release of the DER Orchestration Issues Paper and makes the following comments for your consideration.

Distribution System Operator (“DSO”)

Network support services

The DER Orchestration Issues Paper states that “where an issue on the network emerges, the DSO can enter into contracts with aggregators which can provide network support services if such services have a lower cost than augmenting the network.”¹ It also notes that transparency around the processes and market interactions is required when a DSO obtains network support services.

The AEC supports transparency in this procurement process. The DSO will always have a strong corporate incentive to ensure that all work is undertaken in-house as far as possible – whether this is through a network augmentation or by using their own DER, such as community powerbanks – as this is much easier to manage and boosts the asset base. In this context, to obtain the least cost, most efficient network support service the AEC recommends there is competitive tendering for each network support service that is compared to the DSO’s network augmentation costs or their own DER and the results transparently published.

Additionally, the AEC recommends that strong checks and balances are imposed via ring-fencing to prohibit the DSO from:

- Contracting directly with a retailer’s customers in the provision of DER services; and
- Favouring its own investments in the provision of DER services.

¹ See p22, [DER Orchestration Issues Paper](#)

At a minimum, ring-fencing measures should be applied to the DSO providing its own DER services.

Impact of selecting network support services and integration with the WEM

Beyond incentivising the DSO to engage the most appropriate entity to provide network support services, further consideration should also be given to the broader impact on the WEM. While the network support may solve one issue, it has the potential to create flow-on implications across the WEM and impact network users and WEM participants.

For example, without integration with the WEM, the DSO contracting a large customer or group of customers could expose the customers' retailer to significant costs. The retailer would have hedged their position based on the customer's demand and would be exposed (long or short) where their customers' behaviour changes.

To avoid adverse impacts, the AEC recommends that any new network services that the DSO seeks to deploy or engage be integrated with the WEM and there is an obligation for DSO to consult with AEMO during the process. The integration should either ensure the retailer has an opportunity to amend their position to accommodate their customers' DSO contracts, otherwise the retailer should be reimbursed for a portion of the costs caused by the DSO contracts undermining their position.

Efficient prices for DER services

The AEC is concerned that establishing a market for DER services while many DER owners do not face cost-reflective prices risks creating further cross-subsidies. For example, it would be perverse if DER owners are paid by the DSO to curtail or consume electricity from embedded generation, during low load periods where their energy is worth as little as -\$1000 in the wholesale market. To avoid this outcome, the AEC recommends that the distributed market be structured to ensure DER owners are exposed to the wholesale market price of their energy or services.

Roadmap action 24

The DER Roadmap outlines a range of actions to enable DER participation. Action 24 seeks to develop a plan to establish a DSO and Distribution Market Operator, and identify their roles and functions, which "should include an assessment of the costs and benefits to the system for the establishment of these functions".² The AEC is unclear how the cost/benefit analysis will be undertaken and what the establishment of those functions will be compared against. A comparison against a "do nothing" scenario will invariably lead to a positive cost/benefit analysis but the AEC's view is that this assessment should be more nuanced and also consider alternative options to these roles and functions.

Aggregators

Barriers to DER aggregation

The AEC envisages various barriers to DER aggregation. Notably, the DER Orchestration Issues Paper says that "the management of active DER systems will require them to be communications enabled, typically via a customer's home internet".³

In July 2020, AEMO released its knowledge sharing report on the virtual power plant demonstrations. In this report, AEMO highlighted the challenges of relying on customer's home internet to provide data. Weak internet connections, the shutdown of the 3G network and modems temporarily disconnecting combined to cause communication drop-outs and resulted in around 5-8% of required data missing at any given time.⁴ This communication gap could impact the accurate delivery of an energy market dispatch instruction.

² See p8, [DER Orchestration Issues Paper](#)

³ See p29, [DER Orchestration Issues Paper](#)

⁴ See p9, [AEMO Virtual Power Plant Demonstrations](#)

Beyond that, the knowledge sharing report points to the potential cyber security risk when relying on household internet and connectivity through public telecommunication networks.

AEMO also outlines in its report how there is a degree of customer education required during the onboarding process.⁵ Customers need to have an understanding of what a Virtual Power Plant (“VPP”) is, be willing to participate in the VPP, and then hand-over some control of their DER to the VPP operator and share data.

These issues could similarly appear during the Project Symphony trial and should be considered further by ETIU.

Third-party aggregators: retailer liability

It is noted in the DER Orchestration Issues Paper that retailers are well placed to become an aggregator and, equally, an aggregator might be a third-party other than the customer retailer.

This raises the issue of how third-party aggregators participate in the linear relationship between the distributor, retailer and the end customer, and what happens if a third-party aggregator’s actions affect retailer liability.

The current arrangements allow third-party aggregators to effectively ‘free ride’ and avoid paying any connection costs or taking on the responsibilities and liabilities that fall to retailers. The involvement of third-party aggregators also raises the prospect of unintended consequences for retailers.

One of the most serious implications is the responsibility that retailers (as FRMP) have for the technical performance of any equipment located on their customer’s premises. If equipment installed or operated by a third-party aggregator causes problems, the distributor may seek to address the issue through the FRMP retailer according to the ETAC but the retailer might not have any contractual responsibility to the customer for the issue, no authority to act and, quite likely, be totally unaware of the problem.

A further issue is potentially raised if there is a dispute between the third-party aggregator and the end customer, or the retailer and the end customer. For instance, a third-party aggregator who is in dispute with an end customer and seeks to suspend the full supply of services will impact the retailer and, equally, there would be a similar issue if the retailer suspends supply leaving the third-party aggregator unable to meet their obligations to the customer.

This issue has not been addressed in the DER Orchestration Issues Paper, the Draft Code of Practice for Behind the Meter Services or the Electricity Networks Access Code 2004. It remains a significant gap and the AEC strongly encourages ETIU to address this matter as part of the development of the DSO, DMO and aggregator roles.

Third-party aggregators: one bill for consumers

It is critical that customers understand their DER arrangements and are given adequate protections. One way to achieve this is for the customer to have a single bill for their DER services and electricity consumption to give them clear visibility about the impacts of orchestration on their electricity usage and costs. After all, there could be various scenarios where orchestration could increase a customer’s electricity costs, either unintentionally or to leverage the DER services. In this context, it may be more efficient for the aggregation to be performed by the customer’s retailer so the aggregator, retailer and customer are aligned, but the AEC suggests that this topic should be considered further.

⁵ See p9, [AEMO Virtual Power Plant Demonstrations](#)

Customers

The DER Orchestration Issues Paper asks whether a customer with new or upgraded DER should be required to participate in an aggregation scheme.⁶ The AEC's position is that all customers should be able to opt-in to an aggregation service but that it cannot be mandatory. Forcing a customer to participate in an aggregation service sends the wrong signals to customers and is not conducive to a positive experience. Customers should instead be incentivized through tariffs and other mechanisms to invest in DER and voluntarily participate in aggregation schemes.

Mandatory customer involvement in aggregation schemes also raises questions about whether the onus is on the customer to secure an aggregator and what happens if the customer is unable to engage with an aggregator. Some customers and systems simply aren't suitable for aggregation and others may be unappealing to aggregators (noting that aggregators will likely target DER assets which optimize their portfolio). It is unclear who ETIU proposes to be the aggregator of last resort in this scenario.

Consultation

The DER Orchestration Issues Paper brings to the fore a range of issues about the roles and responsibilities of the DSO, DMO and aggregators, and how they will interact. The AEC encourages ETIU to conduct further consultation on these matters before a position is finalised, and when there is deeper understanding of the potential value and services DER can provide via projects including Project Symphony, the overall structure of the distributed market be revisited through further consultation.

Conclusion

The AEC appreciates this opportunity to provide feedback on the DER Orchestration Issues Paper and encourages ETIU to consider the issues raised above.

Any questions about our submission should be addressed to Graham Pearson, Western Australia Policy Adviser by email to graham.pearson@energycouncil.com.au or by telephone on 0466 631 776.

Yours sincerely,

Graham Pearson

Policy Advisor, Western Australia
Australian Energy Council

⁶ See p34, [DER Orchestration Issues Paper](#)