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Dr Stuart Johnston
General Manager Network Transformation
Energy Networks Australia
Unit 5, Level 12, 385 Bourke St
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Dear Dr Johnston,

Simply Energy welcomes the opportunity to provide comment on the joint Australian Energy Market Operator's (AEMO) and Energy Networks Australia (ENA) initiative Open Energy Networks consultation.

Simply Energy is a leading second-tier energy retailer with over 660,000 customer accounts across Victoria, New South Wales, South Australia, Queensland, and Western Australia. As a growing retailer, Simply Energy supports competition and customer engagement in the market, including the continued uptake and sophistication of Distributed Energy Solutions.

Introduction

Electricity retailers manage the installation of solar photovoltaic systems, battery storage, and other forms of small-scale energy generation at consumer premises, traditionally as stand-alone passive installations. More recently, electricity retailers have developed customer-accessible distributed energy generation and storage services. Simply Energy is working towards delivering residential energy storage systems to up to 1200 Adelaide households, representing 6 MW of residential energy storage as a Virtual Power Plant. A further 2 MW of demand response capacity will be deployed across 10 commercial businesses[1]. Initiatives such as these are integral to the transition of the energy grid from the traditional, centralised, one-way energy flow to the future requiring decentralised two-way energy management. Given this investment in both new technologies and customer education regarding the potential of these technologies, Simply Energy has a strong interest in both the effective transition to and utilisation of Distributed Energy Resources (DER).

Maximising DER Value Potential

Much of the need to understand the constraints within transmission and distribution networks is driven by the need to respond to peaks and troughs in demand, particularly in areas where there is a high penetration of renewable energy generation that is currently passive or unmanaged. These peaks and troughs are created in part by small-scale generation facilities such as rooftop solar panels, and the lack of effective price signals to consumers to encourage them to change their behaviours (shifting usage) to align with times the localised generation is occurring. In order to maximise DER potential most efficiently, mechanisms to shift consumer usage patterns are still required in order to balance network requirements and avoid the need to remain partially reliant

[1] ARENA website: https://arena.gov.au/news/simply-energy-build-8mw-virtual-power-plant-adelaide/

on peaking generation of one form or another to respond to the increased demand at particular times of day.

There are currently no subsidies to encourage the uptake of DER. The existing solar rebates provide a counter-incentive and inflated financial return to early-adapters; this disincentives uptake of supplementary DER such as battery storage, leading to increased likelihood of local saturation. The customer may then be unable to install further DER and be inadvertently penalised.

A change to the consumers' behaviour pattern from one where they are most-benefited by passive exports to the grid at times when locally there is no demand for that export to a behaviour pattern of self-consumption is required to fully release the value of DER installations. A self-consumption behaviour pattern may also incentivise the same customer to consider the installation of ancillary energy storage devices where the customer is not able to maximise the utilisation of their own export at the times it is occurring. This storage capacity would then firm up the reliability of supply in any given area in a manner driven by the market. We also note that achieving this change in behaviour would be even more difficult at sites which currently receive subsidised feed-in tariffs.

These smaller-scale storage installations may also address the concerns presented in the consultation paper that within ten years the South Australian power system will no longer be secure, as advances and greater uptake in these technologies here would partially alleviate the forecast South Australian network instability. [2]

Simply Energy agrees that the most appropriate method to enable effective value release of distributed energy capability is through adoption of dynamic strategies, and that this requires both advanced planning and a stable long-term energy vision.

Frameworks for DER Optimisation

Simply Energy supports the model outlined in figure 16 of the consultation paper (p32) which includes the 'iDSO'. This model removes the potential conflict of interest the distribution networks would face, given the need to keep generation assets (which would include small scale generation assets) and distribution services separate. We are in favour of an iDSO model for the following reasons:

- iDSO standardisation would support consumer confidence in participation in the model, which could then be made more granular inside the iDSO but not consumer facing. This would mean that from an individual consumers' perspective they can port their DER information in a simple and efficient manner to the aggregator or retailer that they consider to offer them the greatest value.
- iDSO does not necessarily need to be an entity; the core requirement is for iDSO to have an aggregator capacity similar to the NEM dispatch and operate outside of existing structures. This would effectively allow iDSO to represent how it should function without being constrained by current structures and approaches.
- The current 1MW minimum to register ancillary services in the NEM presents an issue to the effective utilisation of smaller generation installations. Existing AEMO market and dispatch systems would likely require a major change to accommodate thousands of new generators and constraints. An independent market could effectively have smaller generation bid in under much smaller quantities, and the iDSO could bid in this generation in aggregate in a particular region in 1MW increments. Effectively this would result in the best possible utilisation of all generation in the region to enable operational demand response.
- An iDSO model also allows for greater transparency of the value that the distribution network gets from DER. The current state as well as the options under consideration create an inherent lack of transparency of distribution business operations so that where they see

[2] AEMO & ENA Joint consultation paper 'Open Energy Networks' p.16

value isn't available to third parties. Creating this visibility also ensures that any DER register or DER aggregator provides data of value to third parties, which could ensure the distribution business engages the most skilled and most relevant people or solutions.

Immediate actions to improve DER coordination

In order to generate the greatest value from a future iDSO model, it may be necessary to review the mechanisms through which the distribution businesses have traditionally engaged and been engaged with change. The iDSO will generate high volumes of data that will support a much clearer understanding of consumer needs and preferences. We expect that distribution service providers, as well as retailers and other aggregators, will make full use of this data to manage and make changes appropriate to the consumer needs as this becomes visible through the data.

Additionally, given the source of the data in this case are individual consumers, the wider visibility of this aggregated information to other providers in the sector would greatly enhance the manner in which DER is planned and potentially aggregated. It would allow visibility of areas of network congestion and load instability, and for all stakeholders to meaningfully engage with solving these emergent problems.

Further, existing regulatory penalty regimes create high levels of risk and cost for distribution service providers that cannot in their current form be mitigated by DER to the degree required by what have traditionally been very risk averse businesses. Innovation in the distributed energy space leading to effective load management will require that this risk be at least partially shifted from distribution service providers to third parties. This should be feasible given that in a DER world the landscape will shift so the risk does not represent the same damage outcome as it would in traditional demand-response generation; there would more likely be a cost delta rather than a physical load deficit.

The place of DER in the decentralised energy future is fundamentally owned by consumers, and with this knowledge distribution networks need to ensure they develop standardised products that can be made customer facing, and understood by an actual customer. As such Simply Energy supports distribution businesses engaging with consumers to understand how they envision the energy grid of the future.

Examples from elsewhere

Decentralisation of energy supply and increased reliance on new energy technologies has been a focus for many countries around the world, each devising different solutions to the supply security – low emissions – customer engagement challenge. What is clear from those places where there has been a greater adoption of DER is that alongside the greater coordination and transparency inside the supply chain, political and consumer buy-in to the journey to the distributed energy future is essential.[3]

In some cases, such as in Germany, this buy-in has come in the form of consumer led energy co-operatives, which aim to ensure availability of low-cost more renewable energy to all individuals, and the marriage of different technologies into an accessible consumer product via energy services business.[4] In Japan, South Korea, and to a lesser extent Scotland, the focus has been on the integration of energy technologies across urban areas and the capture of heat (effectively considered a generation waste product), shifting away from traditional generation facilities to

[3] International Energy Agency website: https://www.iea.org/media/workshops/2017/rewpworkshop2017/Stockholm_towards_a_fossil_fuel_free_2040.pdf https://www.iea.org/media/workshops/2017/rewpworkshop2017/Seouls_energy_transition_experiment.pdf

[4] E&E News website: https://www.eenews.net/stories/1060028341 Climatewire: Friday, November 20, 2015

greater reliance on small scale generation installations. In all cases, central to the acceptance and adoption has been consumer buy-in and a mainstream community mindedness regarding the necessity of these DER solutions.

Conclusion

Consumers, to some extent, invest in energy solutions where they see a personal value or payback for doing so. We have seen uptake of energy solutions grow and diminish in response to changes in government subsidies, feed-in tariff rates, the cost of systems, and the complexity of connections processes. Stability and alignment across the sector will build consumer trust in the ongoing benefits available to them from their investment. Of the models for consideration, we consider that the iDSO-aggregator model represents that which will provide the best consumer outcomes with the best possible associated prosumer engagement mechanisms as the transition from passive to active DER unfolds.

Simply Energy are fully engaged with the design of the future energy market, with existing interest in distributed energy solutions. We look forward to continued collaboration with ENA and AEMO in the development and future management of Australia's energy.

If you have any questions or wish to speak to a representative of Simply Energy regarding this submission please contact Courtney Markham on 038 807 1179 or by email at Courtney.Markham@simplyenergy.com.au

Yours sincerely

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