



Review of the regulatory frameworks for stand-alone power systems: Submission to AEMC

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Total Environment Centre's National Electricity Market advocacy

TEC has been involved in National Electricity Market (NEM) advocacy for 14 years, arguing above all for greater utilisation of demand side participation — energy conservation and efficiency, demand management and decentralised generation, storage and trading — to meet Australia's electricity needs. By reforming the NEM we are working to contribute to climate change mitigation and improve other environmental outcomes of Australia's energy sector, while also constraining retail prices and improving the economic efficiency of the NEM — all in the long term interest of consumers, pursuant to the National Electricity Objective (NEO). TEC's energy market advocacy is funded by Energy Consumers Australia.

Introduction and summary

TEC's interest in this review is pursuant to our advocacy related to distributed energy resources (DER), which have the ability to lower greenhouse gas emissions as well as retail electric bills, while also improving consumers' choice and control of their energy supply.

In view of the potential system-wide benefits that could accrue from moving customers to offgrid supply either where it is economically efficient to do so, or where this shift is in accord with customer preferences, this is a review with potentially far-reaching impacts.

This submission follows TEC's submission to the 2017 Western Power (WP) rule change request. The system-wide importance of this reform was well illustrated in that request:

Western Power estimates that [SAPS] could be deployed as a more efficient service to approximately 2,702 Western Power customers over next ten years, resulting in avoided expenditure of \$388m compared to replacing existing network assets.

We assume this might translate into a saving of several billion dollars in the NEM over the same time period.

TEC supports the AEMC's two stage approach to this important issue, addressing network-initiated offgrid transitions before considering customer-initiated offgrid transitions. Recognising that in this first stage of the review the AEMC is focusing on network-led (rather than customer-led) transitions to offgrid supply, in view of our limited resources and time we have chosen to focus on one specific but foundational issue—ie, who should own the stand-alone power systems (SAPS—both individual systems and microgrids) installed as a result of network-led transitions to offgrid supply?

This focus is consistent with the issues paper's invitation to consider “whether it is necessary and appropriate to restrict the ability for DNSPs to earn a regulated return on some or all of the assets specifically associated with the provision of SAPS”, in contrast to the paper's earlier assertion that “there is a case to remove the prohibition on DNSPs being able to provide SAPS to certain customers as a ‘distribution service’ regulated under the NER”.

The central challenge stakeholders face in this first stage of the review is as follows:

How to incentivise networks to take customers offgrid where it is economically efficient to do so, without creating a new monopolistic revenue stream and distorting the market for distributed energy resources (DER)?

In other words, consistent with our approach to the AEMC's 2016 contestability rule change requests, TEC is keen to ensure that (a) networks are incentivised or required to shift customers to offgrid supply where it is economically efficient to do so without compromising on service, reliability and price outcomes, but also that (b) this shift is likely to result in an expansion of the competitive market for DER products and services. While this may result in a net reduction in network assets (RABs), networks could still (following the AEMC's contestability rule change

determination) participate in the market for offgrid products and services via their ring-fenced affiliates.

We would therefore encourage the AEMC to decouple two fundamentally different issues:

- How to determine the economic efficiency of taking some customers offgrid.
- Assessing whether offgrid supply would be more efficiently provided by networks, third parties or customers themselves.

The first issue does not appear to have been comprehensively addressed in the issues paper, and we look forward to working with the AEMC and other stakeholders to develop an appropriate methodology later in the review process. It would appear to require consideration of a range of novel matters including:

- How to value and write down stranded network assets (eg, SWER lines currently serving fringe of grid customers).
- How to compare the value of long-lifespan network assets with shorter-lifespan SAPS assets.
- How to pass through or distribute the cost savings associated with offgrid supply.

Options for offgrid supply

On the second issue, TEC considers that the AEMC should consider at least three models or options for network-led transitions to offgrid supply:

1. Network provision and ownership.
2. Supply provided and owned by a third party via the competitive market.
3. Customer-owned via a one-off capital payment from the network.

The main arguments for **option 1** are that it creates an incentive for networks to fairly compare the economic efficiency of ongrid and offgrid supply; that it may make it easier to guarantee the same level of consumer protections; and that customers themselves are unlikely to choose to go offgrid where they would be faced with the full cost on an ongoing basis.

On this last point: if the true total cost of the network component of a single rural or remote customer's supply is calculated to be \$100,000 for the next 10 years (reflecting the cost of replacement capex and opex), but the customer currently only pays \$1000 pa in network charges, under current arrangements they would be cross-subsidised by other customers to the tune of \$9,000 pa. The network could afford to spend \$50,000 on an offgrid system, plus say \$1000 pa for opex, and still come out \$40,000 ahead over 10 years without charging the customer any more or less.¹

The argument goes that under option 2, if transitioned offgrid that customer would be exposed to the full cost of their supply—ie, ten times what the network might charge them. This makes the argument for network ownership of the SAPS seem like an economic no-brainer.

However, that is not necessarily the case. In our view (as discussed above), the economic case for transitioning to offgrid supply should be considered quite separately from the issue of who provides that supply. Networks should be required to identify on an annual basis (in annual planning reports) any fringe of grid customers who might be more economically supplied offgrid.

The potential advantages of **option 2** are that it could result in cost savings to customers through competition for the supply and operation of the offgrid system, and a gradual shrinking of network asset bases which are effectively paid for on an ongoing basis by all network customers via tariffs.

¹ This is a simplified example that ignores factors such as the network's rate of return and depreciation on its regulated asset base (RAB).

In a competitive market, the annualised cost saving should be passed through to the consumer by the network. In the example above, the network could pass through the \$4000 dollars pa net saving either to the third party or directly to offgrid consumers to ensure that the latter's network charges remain at the same level (ie,\$1000 pa). If necessary, networks could receive a financial incentive—a share of the net benefit—to ensure they undertake this annual review without bias. In order to avoid increasing the net cost (tariffs) to customers, this network benefit could be factored into the case for transitioning to offgrid supply. On the other hand, if a third party could provide offgrid supply for less than the network (say \$50,000 rather than \$60,000 over 10 years), this saving should be passed through to network customers.

The main advantage of **option 3** is that it greatly simplifies future ownership, control and tariff issues for the offgrid system. Given the risks, however, customers should not be forced onto this solution; it should be an alternative for those customers willing to take more risks around future costs and reliability in return for a one off payment with a buffer for future opex to cover maintenance needs. For instance, in the above example, a customer transitioning to offgrid supply could be given a majority of the \$100,000 benefit as a single upfront payment, and invest the difference between that upfront payment and the \$50,000 dollar capital cost of the offgrid system to allow for a future capex and opex needs, at their own risk.

The adoption of options 2 and/or 3 have the added advantage that they do not require amending the definition of the terms “distribution service” in the NER and “electricity network service” in the NEL, since SAPS would not be owned by networks. However, we repeat our previous observation that the most problematic definition is that of a distribution system in the NER, and in particular its reference to a network requiring the *connection* of one system to another—which obviously does not apply in the case of offgrid systems.

The other legal issue requiring review concerns the right to connect. We understand that currently, if a new customer makes a request to a DNSP to supply them with connection services, the DNSP is required under the NERL to provide those services in accordance with a customer connection contract. Should option 1 be adopted, this would not need to change, since offgrid customers would still be regarded as being connected to a distribution service. However, should option 2 and/or 3 be adopted, the right to connect will need to be replaced by a right to be supplied, say, on terms broadly equivalent to those pertaining to a grid-connected customer.

Finally, again should models 2 and/or 3 be adopted, it will be necessary to consider how networks should be incentivised or required to identify customers who would be cheaper to serve with offgrid systems, even though under these models these customers would not continue to be supplied by the network with assets which it owns. In other words, a RIT-D-like process (with a much lower materiality threshold—say \$100,000) may be required to ensure that networks consider the viability of keeping fringe of grid customers connected to the network. This might conceivably be added to the requirements for annual planning reports (DAPRs), using a methodology to be developed by the AER.

Recommendations

1. The AEMC should decouple the issue of assessing the economics of offgrid supply from the issue of who should own SAPS.
2. The AEMC and/or the AER should develop a methodology for assessing the economic efficiency of transitioning fringe of grid customers to offgrid supply.
3. Because many of these customers' avoided network costs would be less than the RIT-D threshold of \$5 million, the above methodology should become part of the NER as a “RIT-D lite”.
4. Networks should be required to publish annual data on the economic viability of transitioning fringe of grid customers to offgrid supply (independent of ownership).

5. The AEMC should give more detailed consideration to the potential benefits of third party and/or customer ownership of network-led SAPS.

For more information please contact Mark Byrne, Energy Market Advocate, markb@tec.org.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'JA Angel', written in a cursive style.

Jeff Angel
Executive Director